Color & Comfort

DIC REPORT 2020

The DIC Group Integrated Report

Color & Comfort

Complete Version

DIC Corporation

The DIC WAY

Mission

Through constant innovation, the DIC Group strives to create enhanced value and to contribute to sustainable development for its customers and society.

Vision

Color & Comfort by Chemistry

Spirit

Drive, Integrity, Dedication, Collaboration, Harmony

Color & Comfort

Making it Colorful

DIC helps make life colorful

Innovation through Compounding

DIC brings innovation to society through its core compounding technologies

Specialty Solutions

DIC draws on its expertise and comprehensive strengths to offer solutions

Connecting the DIC Group and its Stakeholders

DIC Group Communications Tools

The DIC Group uses a variety of tools to promote communication with its many stakeholders to encourage greater awareness of the Group's activities. More detailed sustainability-related information and data can be found on the DIC website.

Printed/PDF-Form Publications

Reports on activities

DIC Report (summary version)

Summary integrated report (published annually) (printed publication)

DIC Report (complete version)

Complete report (published annually) (PDF-form publication)

DIC Report Financial Section

Report on results of operations and financial condition (published annually) (PDF-form publication)

DIC Global Website

Real-time information

WEB https://www.dic-global.com/en/

Umbrella website providing information to the global public about the DIC Group and reports on its various activities; updated as necessary

About this Report

In previous years, the DIC Group published a combined corporate profile and sustainability report with the aim of presenting a clear, easy-to-understand picture of the Group and its sustainability initiatives. Since 2017, the Group has published the DIC Report as an integrated report, which combines financial information, encompassing consolidated operating results and corporate strategies, and nonfinancial (sustainability) information. The Group has published a simplified summary version of the report (printed), which focuses on key highlights, and a more detailed complete version (PDF), which contains extensive quantitative data.

DIC Report (Complete version) (PDF-form publication)

WEB https://www.dic-global.com/en/csr/annual/

Note: As used herein, the term "Asia–Pacific region"—a geographic designation that, like "Europe and the Americas" and "Greater China," represents a grouping of companies overseen by a regional headquarters—refers to Asia (excluding Japan and Greater China) and Oceania. The term "Asia and Oceania" refers to Asia (excluding Japan) and Oceania.

Link with the DIC Website

The (WEB) mark indicates that more detailed information and/or data can be found on the indicated page of the DIC global website.

DIC global website WEB https://www.dic-global.com/en/

Scope of Reporting

In principle, this report provides information on DIC Corporation and consolidated DIC Group companies worldwide. For information on the scope of reporting for ESH-related initiatives, please visit the pertinent page of the DIC website.

WEB https://www.dic-global.com/pdf/csr/environment/dic_report_scope_en_2020.pdf

Reporting Period

Fiscal year 2019 (January 1–December 31, 2019)

Date of Publication

June 2020 (The next report is scheduled for publication in June 2021.)

Guidelines Referenced

Guidelines referenced in the preparation of this report were ISO 26000, the International Organization for Standardization's standard for social responsibility, released in 2010; Japan's Responsible Care Code; and the Global Reporting Initiative (GRI)'s GRI Standards.

Contents

Cover Design

The cover of this year's DIC Report derives its inspiration from the DIC Group's "Color & Comfort" brand slogan, employing bright colors that evoke the efforts of the Group, a global powerhouse, to enrich and add vibrancy to society and the lives of people everywhere.

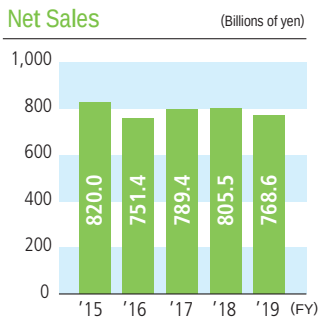
The DIC Group: A Global Powerhouse

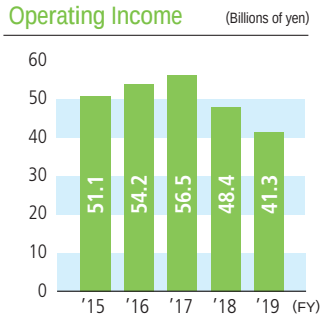
Corporate Data

Registered name:	**DIC** Corporation
Corporate headquarters:	DIC Building, 7-20, Nihonbashi 3-chome, Chuo-ku, Tokyo 103-8233, Japan
Date of foundation:	February 15, 1908
Date of incorporation:	March 15, 1937
Paid-in capital:	¥96.6 billion
Number of employees:	20,513 (Nonconsolidated: 3,321)
Number of subsidiaries and affiliates:	174 (Domestic: 32, Overseas: 142)

Corporate headquarters (Tokyo)

Note: Corporate data is as of December 31, 2019. Net sales and operating income are for fiscal year 2019.

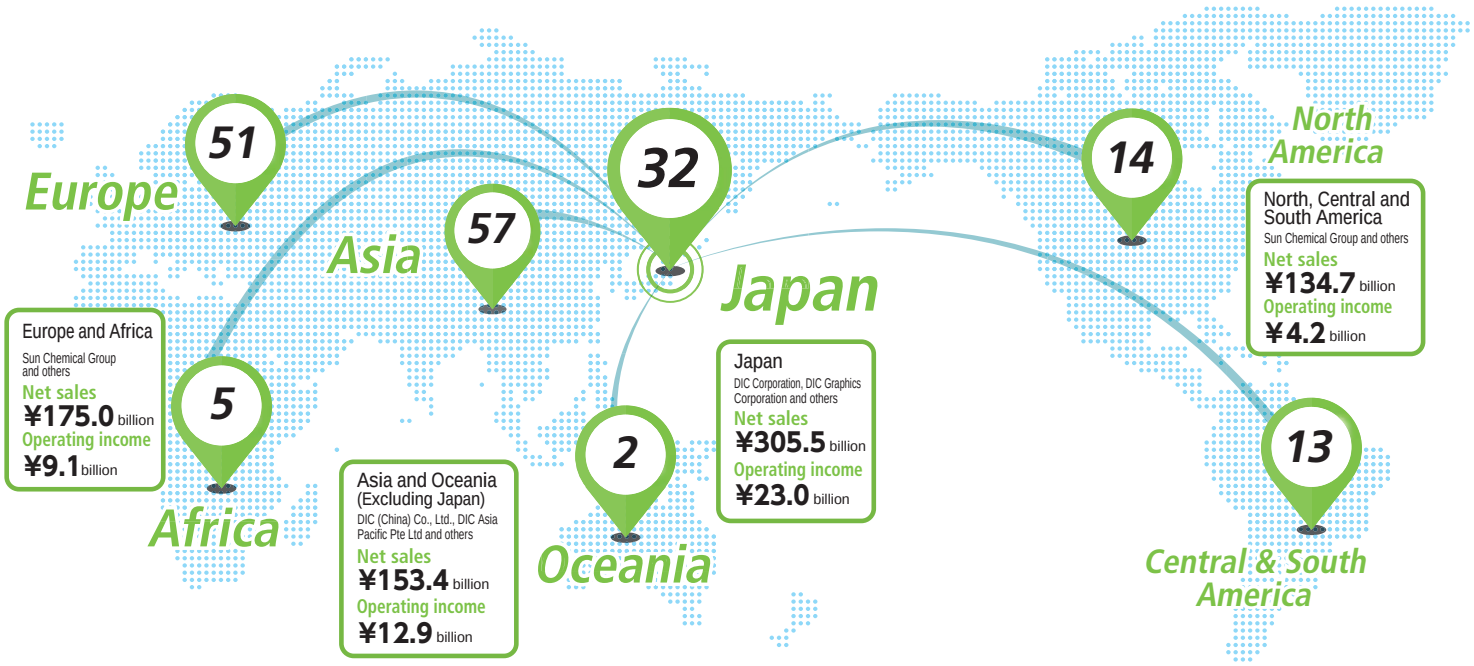




Global Network

DIC has 174 companies in 64 countries and territories around the world.

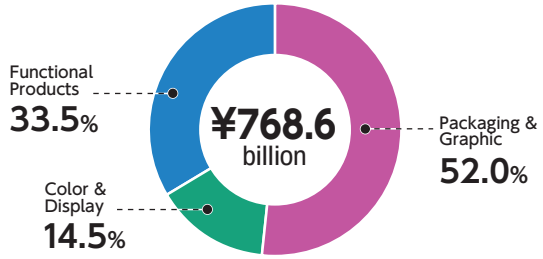
Sun Chemical Corporation headquarters (United States)



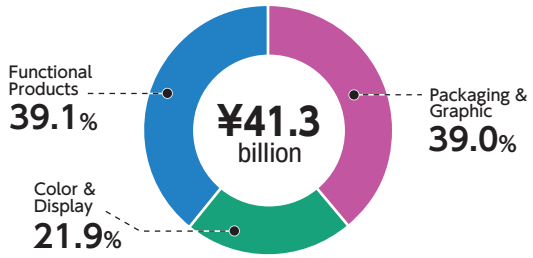
DIC (China) Co., Ltd. (PRC)

DIC Asia Pacific Pte Ltd (Singapore)

Breakdown of Fiscal Year 2019 Net Sales by Segment

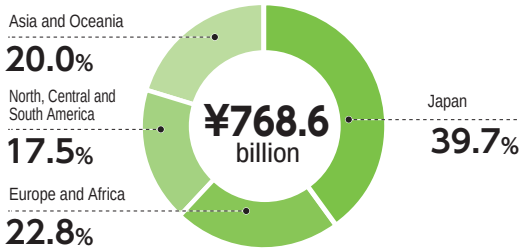


Breakdown of Fiscal Year 2019 Operating Income by Segment

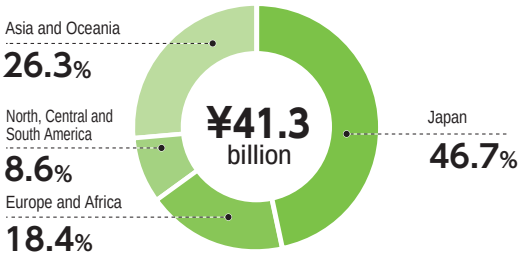


Note: Fiscal year 2019 net sales and operating income as used here include intersegment transactions. For this reason, and because of the existence of transactions classified as "others," which are not attributable to reportable segments, these figures differ from reported net sales and operating income.

Breakdown of Fiscal Year 2019 Net Sales by Region



Breakdown of Fiscal Year 2019 Operating Income by Region

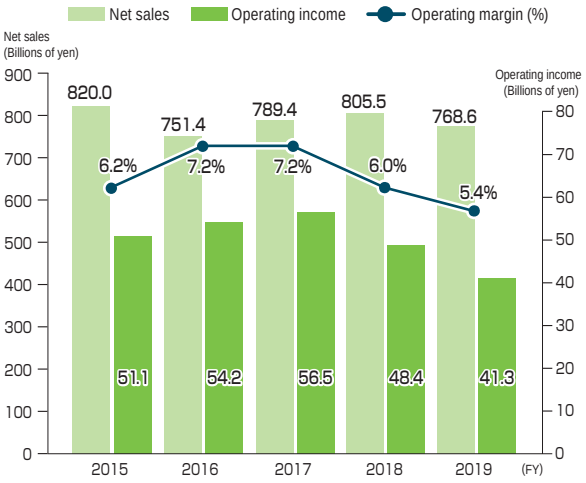


Note: Operating income as used here includes eliminations (approximately ¥7.9 billion). Accordingly, these percentages do not represent shares of reported operating income.

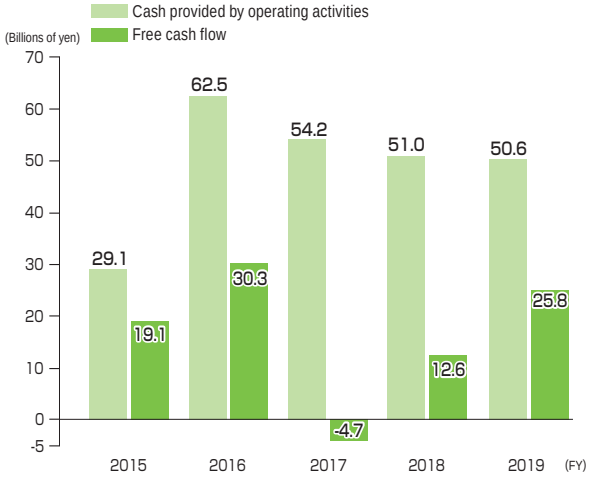
Principal Global R&D Sites

Financial Information

Net Sales, Operating Income and Operating Margin

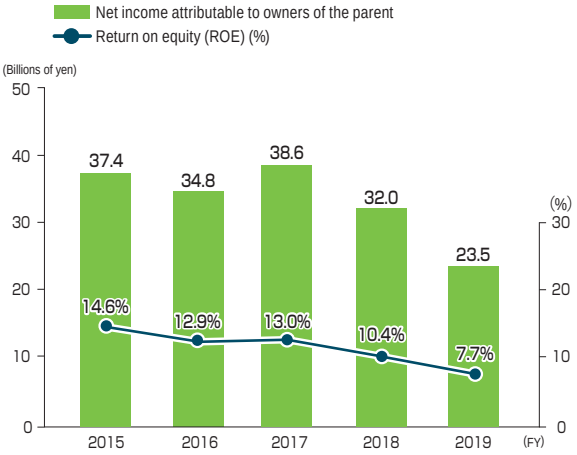


Cash Provided by Operating Activities and Free Cash Flow

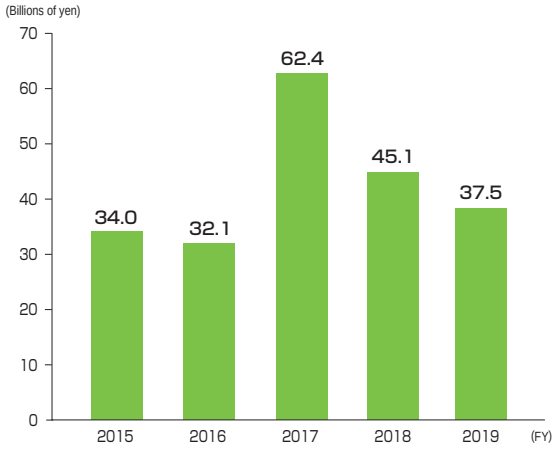


* Owing to an investment of ¥24.9 billion in Taiyo Holdings Co., Ltd., cash used in investing activities increased in fiscal year 2017.

Net Income Attributable to Owners of the Parent and ROE

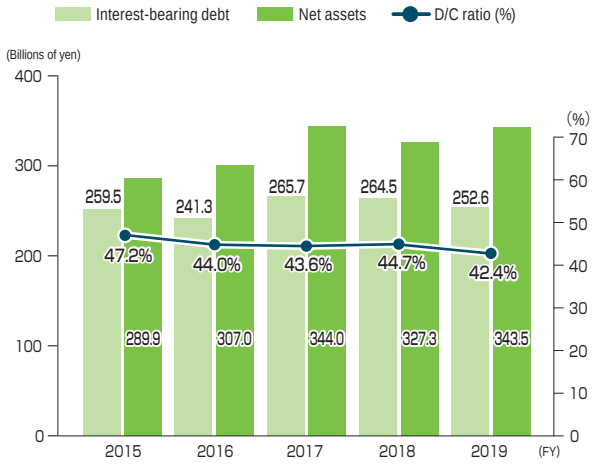


Capital Expenditure and Investment



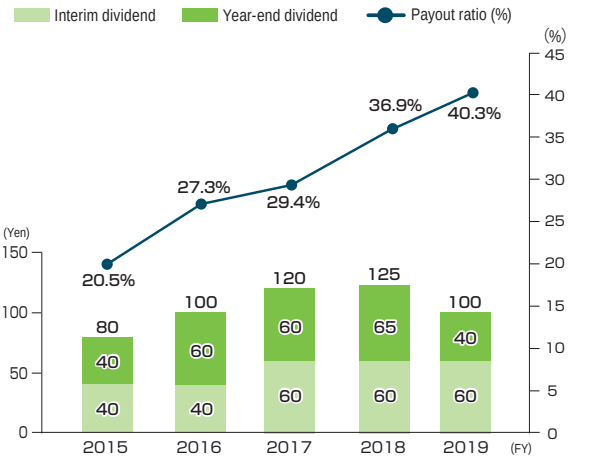
* Owing to an investment of ¥24.9 billion in Taiyo Holdings Co., Ltd., capital expenditure and investment increased in fiscal year 2017.

Net Assets, Interest-Bearing Debt and D/C Ratio*



* Debt-to-capital (D/C) ratio: Interest-bearing debt / (Interest-bearing debt + Net assets)

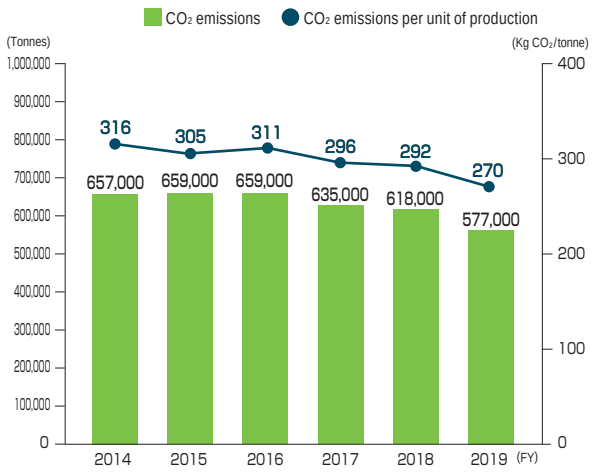
Returns to Shareholders* (Dividends per Share and Payout Ratio)



* Figures have been adjusted to reflect the impact of the consolidation of shares. (In fiscal year 2015, DIC purchased and retired treasury shares.)

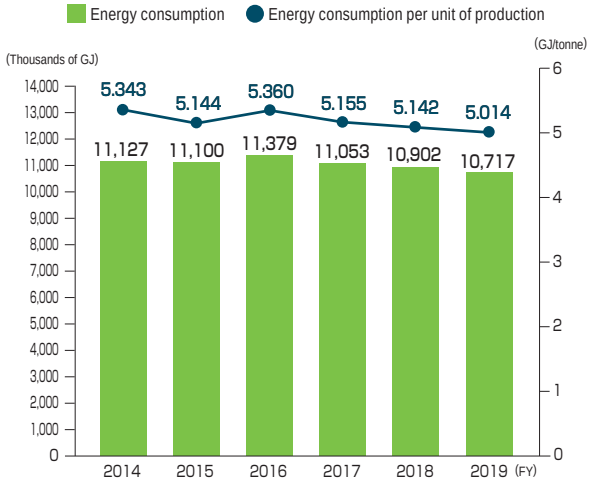
Nonfinancial Information

Global CO_2 Emissions and CO_2 Emissions per Unit of Production (DIC Group)



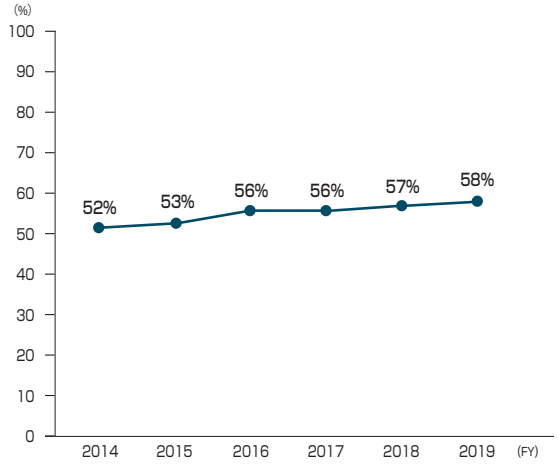
* CO_2 emissions per unit of production is calculated using adjusted production volume (parent company in Japan only). (Notification submitted to Japan's Ministry of Economy, Trade and Industry)
** Owing to the revision of production volumes of certain overseas DIC Group companies, the per unit of production figure for fiscal year 2018 has been amended.

Global Energy Consumption and Energy Consumption per Unit of Production (DIC Group)



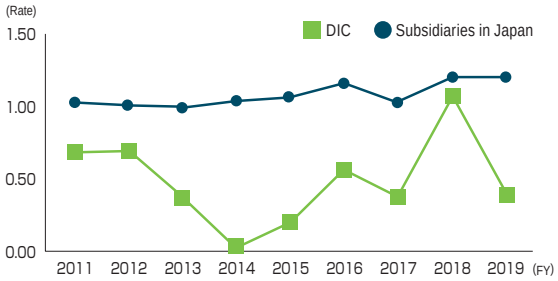
* Energy consumption per unit of production is calculated using adjusted production volume (parent company in Japan only). (Notification submitted to Japan's Ministry of Economy, Trade and Industry)
** Owing to the revision of production volumes of certain overseas DIC Group companies, the per unit of production figure for fiscal year 2018 has been amended.

Environment-Friendly Products as a Percentage of Overall Product Portfolio (DIC Corporation and DIC Graphics Corporation)



* Owing to the introduction of a new SAP enterprise resource planning (ERP) system in fiscal year 2014, the method used to calculate environment-friendly products has changed.

Occupational Accident Frequency Rate (DIC Corporation)

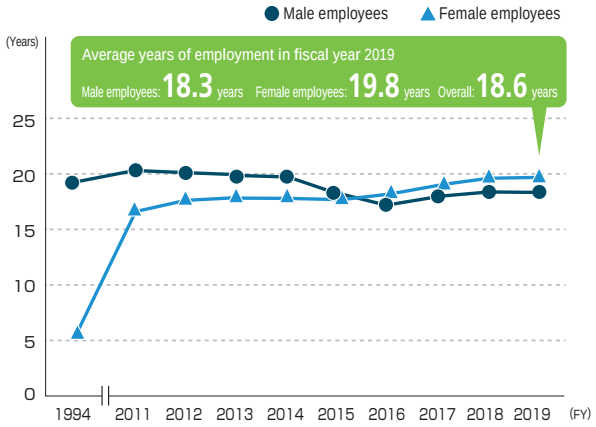


Note: The frequency rate expresses the frequency of accidents resulting in workdays lost in a fiscal year, calculated as the number of deaths or injuries per million work hours.

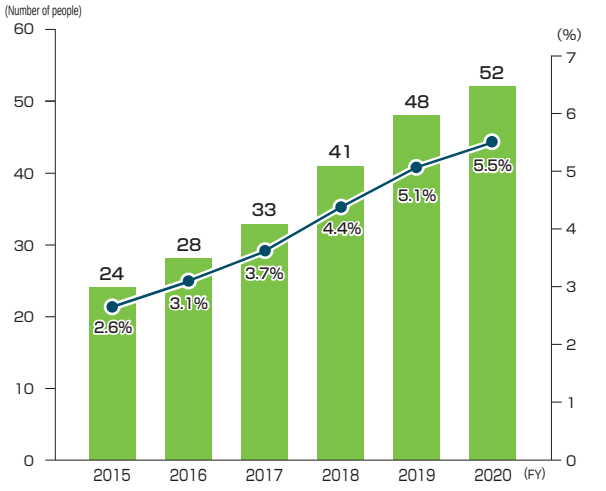
$$\text{Frequency rate} = \frac{\text{Number of deaths or injuries due to occupational accidents}}{\text{Total work hours}} \times 1{,}000{,}000$$

A frequency rate of 1.00 means one occupational accident resulting in workdays lost in one year at a site with 500 employees.

Average Years of Employment (DIC Corporation)



Female Employees in Management Positions (DIC Corporation)



A Message from the President

Future vision:
“Become a unique global company that is trusted by society by providing value (safety and peace of mind, color and comfort)”

Representative Director,
President and CEO
DIC Corporation

Kaoru Ino

In February 2020, we celebrated DIC's 112th anniversary. One of the world's leading diversified chemicals companies, DIC is also the core of the DIC Group, a multinational organization comprising 174 companies in 64 countries and territories. In addition to commanding the top share of the global market for printing inks, a core business since our establishment, the DIC Group has succeeded in growing pigments and polymers—both derived from printing inks—into prosperous components of our business portfolio. Amid rising environmental concerns, including climate change and marine plastics, falling birthrates, longer lifespans, and the evolution of social structures with the rapid spread of digital technologies, the DIC Group continues to marshal its capabilities to address increasingly urgent social imperatives toward a sustainable society.

1. DIC111 Progress Report and a Review of Fiscal Year 2019

In fiscal year 2019, we kicked off our DIC111 Medium-Term Management Plan—with the two basic strategies of Value Transformation and New Pillar Creation—toward a business structure less vulnerable to macroeconomic factors. Unfortunately, shipments of epoxy resins, polyphenylene sulfide (PPS) compounds and other highly profitable products expected to show high growth were hampered by reduced demand in the semiconductor, electrical and electronics equipment, and automobile sectors, due to slower global economic growth amid trade friction between the United States and the People's Republic of China (PRC). Consequently, consolidated net sales slipped 4.6%, to ¥768.6 billion, and operating income declined 14.6%, to ¥41.3 billion.

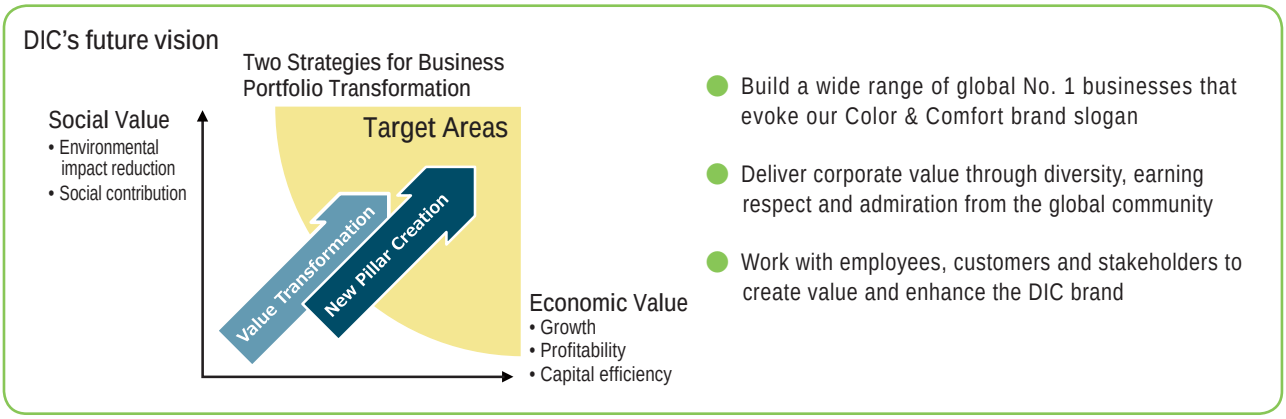
While we acknowledge that our efforts to maximize the benefits of Value Transformation fell short, we made significant headway in eliminating the gap between costs and sales prices—a temporary difference resulting from delays in revising sales prices to reflect fluctuations in raw materials prices—which had hampered our performance in fiscal year 2018. We also benefited from cost reductions achieved through rationalization, one result of which was the Southeast Asia operating income recovery to fiscal year 2018 levels.

2. Promoting Businesses Focused on Social Imperatives and Business Portfolio Transformation

We have traditionally recognized the impact of macroeconomic conditions, including factors affecting raw materials prices and supplies, and exchange rates, on DIC Group operating results as a major structural issue. Guided by the two basic DIC111 strategies, we are thus working to create a more robust operating foundation by transforming our business portfolio—specifically by building a sophisticated portfolio focused on environment, safety and health (ESH)-related issues and social change by advancing qualitative reforms in existing core businesses, and creating new businesses with the potential to become mainstays.

We define Value Transformation as clarifying competitive advantages and shifting to products capable of withstanding the impact of changes wrought by macroeconomic and other external factors. For example, given the changes in demand resulting from digitalization, for the past several years we have sought to modify our business portfolio, reducing the weighting of publication inks and increasing that of inks and other materials for packaging. Grouping various businesses together under Packaging will bring together common issues such as food safety and food loss, positioning us to develop comprehensive proposals for packaging materials, including by forming partnerships across the value chain and revamping business models. Simultaneously, we will promote the establishment of standards for withdrawal to review and perhaps replace certain businesses dealing with commoditized products.

We seek to become a unique and trusted global company generating value in safety and serenity, color and comfort.



To facilitate New Pillar Creation, we established the New Business Development Headquarters to oversee efforts to create new growth-driving businesses and develop them into mainstays in four priority areas in which social imperatives and DIC competitive strengths overlap. We will accelerate this process by making extensive use of corporate venture capital (CVC) and by seeking advantageous mergers and acquisitions (M&As).

The four priority areas outlined in DIC111 as the focus of portfolio transformation are areas that offer potential for enhancing both social value and economic value. To underpin this transformation, we recently established the DIC Sustainability Index, a proprietary index that will allow us to measure the social value of our products. This index will be used in all DIC Group businesses to assess the environmental impact of products from raw materials procurement through disposal and social contribution, and when customers use our products, from shipment until the end of their useful lives. This index will be incorporated into future product development, procurement, sales and distribution. We will also use the Sustainability Index to communicate these efforts to stakeholders in an easy-to-understand manner, thereby allowing us to identify activities we should pursue.

For example, our ability to successfully grow our packaging businesses depends on us effectively confronting such challenges as the need to reduce plastics and eliminate marine plastics. So, how do we go about doing this? The key to how much our packaging business contributes to society will be our ability to provide packaging solutions that help increase social value by advancing the reduction, reuse, and recycling of materials. In the past, improving convenience was our principal concern, but our focus now must be on balancing convenience and environmental impact. Chemical companies have always been expected to provide convenience, but today our sales and our survival hinge on our ability to deliver both convenience and lower environmental impact.

Use of the DIC Sustainability Index commenced in fiscal year 2020. Going forward, we will continue to capitalize on this index to ensure we maintain a healthy awareness of the social value created by addressing social imperatives and in so doing reinforce our long-term management direction.

3. BASF SE's Colors & Effects Business Acquisition and Outlook

Even before launching of our Value Transformation strategy, we had begun looking to reinforce our functional pigments business, a key strategic product area. We have long manufactured highly profitable ultraviolet (UV)-curable functional pigments, earning recognition in the market for high-value-added specialty pigments, including those for cosmetics, optical equipment, and color filters—all small in terms of production volume but delivering exceptionally high value. In our search for ways to expand operations, we became aware of a BASF plan to divest from its Colors & Effects business. After carefully assessing its regional strengths and product portfolio, we determined that integrating Colors & Effects functional pigments could yield significant synergies. Although closing is not expected until late 2020, we anticipate the total cost of this acquisition will be approximately ¥120 billion, well within the ¥250 billion earmarked for strategic investments under DIC111, making it a highly attractive proposition. To date, stakeholder evaluations of this acquisition are generally positive, thanks to the complementary nature of our geographic business sites and product portfolios, as well as the rationality of the acquisition from a monetary perspective.

Given the PRC's 2019 economic slowdown and the global COVID-19 health crisis, we must assume global economic growth will weaken to a certain degree in fiscal year 2020. Although it is difficult to predict the full impact of this pandemic, ensuring the health and safety of our worldwide members remains our priority. I call on all DIC Group members to join forces to promote measures within and across regions to help us overcome this challenge.

Looking at materials for electrical and electronics equipment, for example, we largely cleared intermediate material inventories and saw improved shipments of high-performance resins in January and February. However, as COVID-19 has disrupted global automobile industry supply chains, there is no way to accurately project what will happen. While the negative impact of the current situation is impossible to accurately gauge, we know what we must do. The task immediately ahead of us is to accelerate the implementation of our Value Transformation and New Pillar Creation strategies.

Looking at the challenges we faced between the Great East Japan Earthquake and the COVID-19 pandemic, it is absolutely essential for us to ensure the effective management of DIC Group supply chains. Accordingly, we have established a Supply Chain Management Unit. Until now supply chain management was the responsibility of individual product divisions. Moving forward, we see this new unit functioning Groupwide, linked to the new global management configuration to be put in place once we complete the acquisition of BASF Colors & Effects.

In terms of business continuity planning (BCP), the Great East Japan Earthquake exposed risks associated with highly fragmented supply chains. A solid grasp of supply chain–related issues and the ability to swiftly enact post-pandemic or major disaster BCPs are both critical. Recognizing that both also depend on a company's competence, we will continue working to formulate effective BCPs tailored to our supply chains.

4. Building a Stronger Management Infrastructure and Addressing ESG-Related Issues

1 Digital Transformation

Conscious of the many implications of digitalization, we recently established the DX Promotion Department, a dedicated department charged with advancing digital transformation (DX). I see the importance of digital transformation as a process for modifying a company's corporate structure and a business model, rather than simply advancing systems capabilities through digitalization—a way to fundamentally transform a business or company. Of course, we also understand the importance of digital marketing and materials informatics—the use of material properties databases and artificial intelligence (AI) in the selection and deployment of materials—and we will continue to promote efforts to apply both to various processes.

However, in this era of social change, the most important thing for us is to determine what corporate reforms are necessary to ensure we achieve our vision for the DIC Group. We are combining two approaches to this challenge. The first uses backcasting—working back from our vision to determine actions to be taken to achieve that goal—and the second uses forecasting—analyzing and extrapolating trends to determine appropriate actions—and leveraging digitalization to facilitate efficient implementation. In the area of production, for example, we have identified two key themes: Ensuring operating safety and increasing productivity. Rather than simply treating these themes as an extension of existing efforts, we are looking at what reforms we need to implement to realize unattended and smart production facilities and clarifying what can be done at present. Digital transformation will allow us to translate such ideas into execution.

2 Human Resources Management

Under DIC111, we are promoting a human resources management strategy centered on four core themes called WING. As a global entity, we will continue to leverage the fact that approximately 60% of our labor force is overseas as a key competitive advantage. To facilitate more strategic human resources management in fiscal year 2019, we established the Human Resources Strategy Department. To date, we have taken active steps to empower women in the workplace and reform workstyles by introducing telework, flextime, and systems to support members striving to balance career with, for example, treatment for an illness. At present, we are working to take such initiatives a step beyond structural changes by emphasizing efforts to foster a new corporate culture.

The challenge of shifting from a workstyle predicated on lifetime employment, fixed retirement age, and seniority-based promotion to new workstyles is not the sole responsibility of human resource departments. Changes to systems are simply a means to an end. It's important to secure increasingly talented human resources. When anticipating future social changes, it is also important to consider what sort of key reforms are necessary. For example, while our telework infrastructure is now in place, we still have many jobs that cannot be done remotely. There is still ample scope for ingenuity to make operations more conducive to telework by integrating procedures. If such efforts are successful, telework will truly become something that helps resolve the issue of overwork by eliminating commuting time.

Through efforts to "reform work styles to capitalize on diversified individuality"—a core WING theme—we shall strive to create an environment that accepts varied perspectives and encourages active discussion. In so doing, we will endeavor to marshal the diverse individuals who make up our labor force, drive organizational dynamism and create new value by bringing together people with diverse views and ideals.

3 Safety

DIC Group management and members approach their responsibilities recognizing operational safety as the cornerstone of our business activities as a manufacturer of fine chemicals. Nonetheless, in August 2019, we experienced a serious fire at our Saitama Plant that regretfully caused considerable inconvenience and concern to residents in the vicinity of the plant and other sites. Reflecting on the shortcomings that led to this sad incident, and reminding ourselves that our ability to locate sites and manufacture products depends on the understanding of local residents, we have renewed our pledge to act as a responsible corporate citizen, take part in the community, and, in the event an issue arises, immediately take steps to provide reassurance. In addition to independent efforts aimed at fulfilling our obligation to ensure operational safety and improve the effectiveness of safety audits, it is important for all departments involved in manufacturing to work together to increase awareness, and, through full member participation, to promote production under a meticulous configuration in a manner that reflects a commitment to ensuring safety while maintaining pride in our capabilities as a manufacturer.

4 Climate Change

In fiscal year 2019, we declared our support for the Task Force on Climate-related Financial Disclosures (TCFD), acknowledging that responding to climate change and disclosing climate-related information is critical to advancing our business strategies. We are committed to fulfilling our responsibility to analyze and provide investors with reliable nonfinancial reporting and to clarify impacts on financial information. The DIC Group is a global entity with operations in 64 countries and territories. As such, we understand the importance of all Group companies responding to climate change issues in an integrated manner, aggregating pertinent data and converting it into financial data to ascertain the impact (risks and opportunities) of climate change on our operations. In fiscal year 2019, we attempted scenario analysis, which the TCFD encourages. We shall continue to expand this effort to prove the resilience of Group strategies for responding to risks and maximizing opportunities related to climate change.

5. An Integrated Global Management Team

Meeting with regional headquarters' top executives

As overseas markets provide 60% of DIC Group consolidated net sales, we are highly conscious of the importance of effective global communication, and not just as it pertains to the TCFD. Thanks to steady efforts to enhance communication capabilities in recent years, when I issue statements as president and CEO they are instantly transmitted to core Group companies in 64 countries and territories and posted the next day, together with my image, for Group members in all these countries and territories to see.

Since our 1986 acquisition of the Sun Chemical Group—mainly based in the United States and Europe—DIC has worked steadily to build an integrated global management team. Today, Group members across the globe use the term "global one entity" extensively. Looking ahead, the integration of the Colors & Effects business acquired from BASF will amplify our expectations of members in terms of their ability to function on a global stage. For example, we need to rethink our official language of business and advance a more forward-thinking concept of global operations, including businesses and human resource management. While defining what constitutes global operations may present its own difficulties, I believe it is accurate to say that operations are global when governed by a unified global strategy. There are many ways to view global management: Do you treat Group operations management and product-specific management as independent responsibilities or as parts of a greater whole? Is the current format of corporate (Japan) and regional headquarters best or should we create a global corporate headquarters configuration? We must consider all of these issues over the next two to three years.

The integration of Colors & Effects in late December 2020 should further expand the DIC Group's global presence. Although uncertainty persists worldwide due to COVID-19, we will continue seeking ways to apply chemistry to resolve challenges and working to become a unique and trusted global company generating value in safety and serenity, color and comfort. In these and all our endeavors, I look forward to ongoing stakeholder support.

12-Year Summary

Key Financial Data

Period	111	112	113	114	115	116	117	118	119	120	121	122
Fiscal year	2008	2009	2010	2011	2012	2013*3	2014	2015	2016	2017	2018	2019
Income												
Net sales (Billions of yen)	932.3	757.8	779.0	734.3	703.8	784.0	830.1	820.0	751.4	789.4	805.5	768.6
Operating income (Billions of yen)	25.4	27.8	37.2	35.0	38.5	44.1	41.1	51.1	54.2	56.5	48.4	41.3
Operating margin (%)	2.7	3.7	4.8	4.8	5.5	5.6	4.9	6.2	7.2	7.2	6.0	5.4
R&D and technology-related expenses*1 (Billions of yen)	32.2	27.1	26.3	23.7	23.0	19.8	25.3	26.8	26.2	27.4	28.4	27.9
Of which, R&D expenses (Billions of yen)	17.4	12.4	11.0	9.1	8.8	8.8	10.9	12.2	11.2	12.4	12.9	12.5
Ordinary income (Billions of yen)	15.2	19.1	31.7	30.8	35.1	40.9	39.9	49.0	55.8	57.0	48.7	41.3
Net income attributable to owners of the parent (Billions of yen)	2.6	2.5	15.8	18.2	19.1	28.8	25.2	37.4	34.8	38.6	32.0	23.5
EBITDA (Billions of yen)	55.2	48.8	63.7	61.5	65.2	69.1	77.0	94.0	82.6	86.1	81.4	67.4
EBITDA margin (%)	5.9	6.4	8.2	8.4	9.3	9.8	9.3	11.5	11.0	10.9	10.1	8.8
Financial Position												
Total assets (Billions of yen)	738.5	749.9	703.8	675.1	693.0	761.7	803.7	778.9	764.8	831.8	801.3	803.1
Net assets (Billions of yen)	108.9	122.8	130.4	124.5	160.7	218.9	276.7	289.9	307.0	344.0	327.3	343.5
Equity ratio (%)	12.9	13.5	15.3	15.1	19.8	25.6	31.1	33.7	36.4	37.9	37.3	38.9
Interest-bearing debt (Billions of yen)	387.1	377.7	337.6	328.5	315.6	299.1	274.2	259.5	241.3	265.7	264.5	252.6
D/C ratio (%)	78.0	75.5	72.1	72.5	66.3	57.7	49.8	47.2	44.0	43.6	44.7	42.4
Cash Flows												
Net cash provided by operating activities (Billions of yen)	37.0	39.5	30.9	31.2	41.4	33.9	46.4	29.1	62.5	54.2	51.0	50.6
Net cash used in investing activities (Billions of yen)	(35.7)	(12.5)	(12.3)	(17.6)	(23.7)	(9.8)	(27.4)	(10.0)	(32.2)	(58.9)	(38.4)	(24.9)
Free cash flow (Billions of yen)	1.4	27.0	18.6	13.7	17.7	24.0	19.0	19.1	30.3	(4.7)	12.6	25.8
Net cash provided by (used in) financing activities (Billions of yen)	6.5	(16.0)	(26.3)	(7.1)	(26.6)	(32.8)	(26.1)	(24.8)	(26.9)	11.4	(11.8)	(26.8)
Cash and cash equivalents (Billions of yen)	20.1	29.5	22.9	29.6	22.5	15.0	16.4	15.1	16.7	17.7	18.6	16.7
Per Share Information*2												
Earnings per share (Yen)	33.47	32.11	175.96	197.90	207.98	292.26	267.81	389.40	366.72	407.56	338.40	248.29
Price earnings ratio (PER) (Times)	43.0	62.9	11.0	8.4	9.5	10.9	10.9	8.5	9.7	10.5	10.0	12.2
Dividends per share (Yen)	60	40	40	40	60	60	60	80	100	120	125	100
Payout ratio (%)	179.3	124.6	22.7	20.2	28.8	20.5	22.4	20.5	27.3	29.4	36.9	40.3
Other Indicators												
Return on equity (ROE) (%)	1.6	2.6	15.1	17.3	16.0	16.1	11.3	14.6	12.9	13.0	10.4	7.7
Capital expenditure (Billions of yen)	44.0	23.6	20.8	27.0	26.6	27.1	33.6	32.1	31.3	33.6	32.1	35.0
Depreciation and amortization (Billions of yen)	40.6	35.4	33.0	29.7	27.4	25.9	33.8	32.9	32.4	31.5	32.8	33.1
Overseas sales ratio (%)	62.6	58.2	57.3	58.2	56.7	66.6	63.4	65.1	62.4	63.4	63.6	63.5
Average exchange rate (¥/US$)	103.68	93.51	87.69	79.77	79.93	97.06	106.32	120.85	109.96	112.33	110.46	109.11
Average exchange rate (¥/EUR)	153.45	130.91	116.63	110.88	103.11	129.25	141.41	134.14	122.06	127.03	130.46	122.13
Number of employees	23,613	22,583	21,572	20,455	20,273	20,034	20,411	20,264	20,481	20,628	20,620	20,513

*1 Technology-related expenses are for DIC and DIC Graphics Corporation

*2 Per share information is adjusted for stock splits.

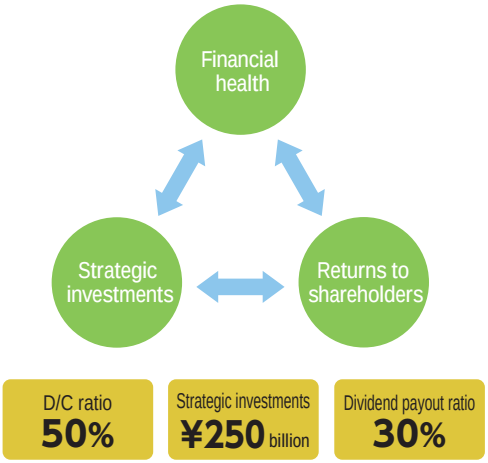
*3 Effective from fiscal year 2013, DIC and its domestic consolidated subsidiaries changed their fiscal year-end from March 31 to December 31. As a consequence, reported results reflect the fact that for these companies fiscal year 2013 was a transitional, irregular nine-month period. For the purpose of comparison, fiscal year 2013 figures here have been adjusted to represent the 12 months from January 1–December 31, 2013.

A Message from the CFO

The DIC Group seeks to ensure an appropriate balance of financial health, strategic investments and returns to shareholders and is expediting business portfolio transformation to maximize cash flow.

Head of Finance and Accounting Unit
CFO
Shuji Furuta

Our approach to financial management centers on ensuring a balance among three key priorities: maintaining sound financial health, promoting strategic investments to transform our business portfolio and ensuring stable returns to shareholders. As performance indicators, we have adopted debt-to-capital (D/C) ratio[1] to gauge financial soundness, return on equity (ROE) to assess capital efficiency, dividend payout ratio to measure returns to shareholders and, recently, earnings before interest, taxes, depreciation and amortization (EBITDA)[2] to judge our ability to generate cash and maximize shareholder value.

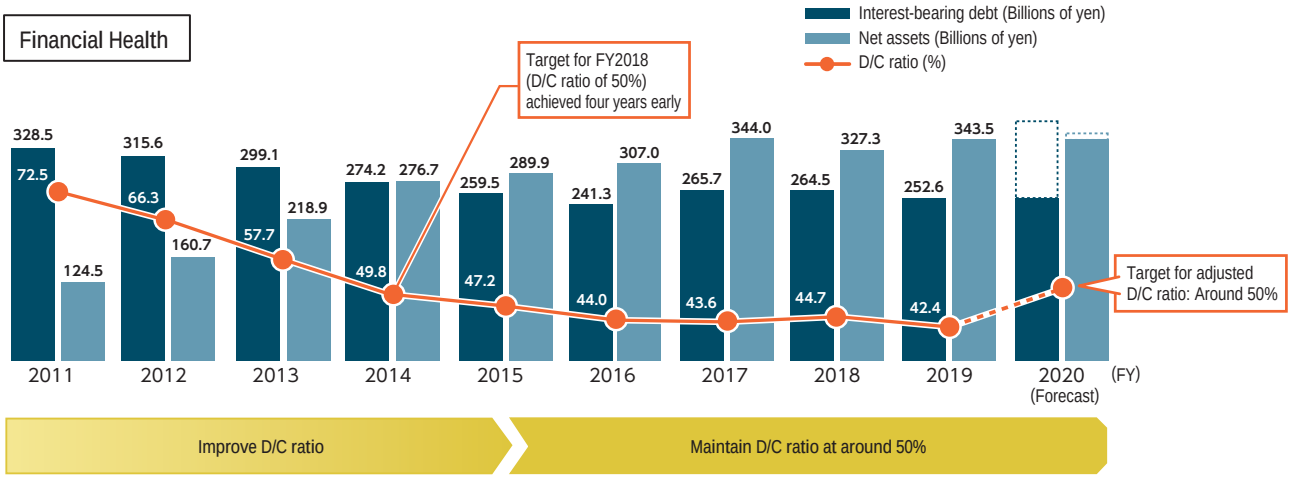


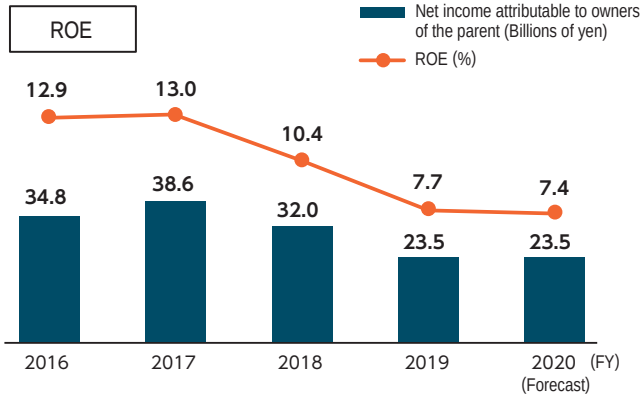
Sound Financial Health

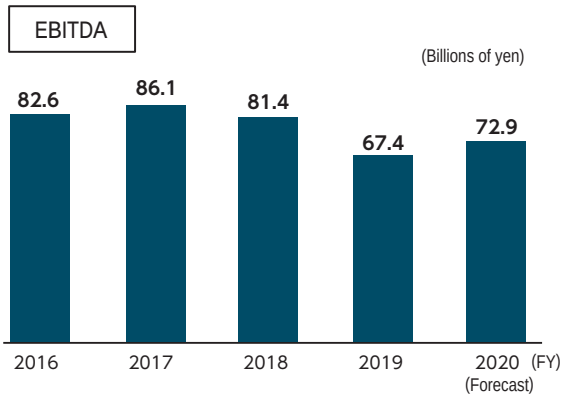
Our goal for our D/C ratio, the indicator we have adopted for financial soundness, is to maintain it at or below roughly 50%. As of December 31, 2019, our D/C ratio—which had deteriorated to 73% as of the end of fiscal year 2011—was 42%. This improvement reflected global efforts to enhance cash efficiency, as well as robust cash provided by operating activities and accumulated earnings. Owing to the acquisition of BASF's Colors & Effects business in fiscal year 2020, interest-bearing debt as of December 31, 2020, is likely to be higher than a year earlier. However, thanks to the procurement of ¥60 billion through a subordinated term loan—a type of hybrid financing that while officially debt has characteristics similar to equity—and by divesting assets and reinforcing efforts to manage working capital, we expect to maintain our D/C ratio in the area of 50%, in line with our chosen indicator.

Having also chosen ROE as an indicator for capital efficiency, we are advancing the transformation of our business portfolio by reorienting our focus to highly profitable businesses. To this end, in addition to promoting strategic investments to generate new cash flows we have established Groupwide criteria for withdrawing from businesses with low growth potential and profitability.

Under DIC111, we have added EBITDA to our existing conventional profitability-centered performance indicators, underscoring our commitment to conducting management with a greater awareness of cash flow and the need to increase shareholder value.







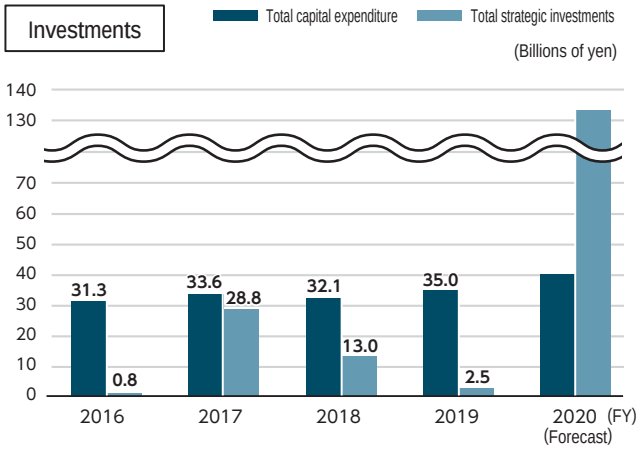
Strategic Investments to Accelerate Growth

DIC111 outlines two basic strategies for transforming our business portfolio: Value Transformation, which emphasizes working to bolster the competitiveness of businesses and generate sustainable cash flow, and New Pillar Creation, which calls for creating new businesses that respond to ESH-related issues and social changes.

Previous investments that contributed to Value Transformation include the capital and business alliance we concluded with Taiyo Holdings Co., Ltd., in 2017, which was implemented under DIC111's predecessor, DIC108, and positioned us well to develop and offer products for the electronics sector. More recent such investments include our acquisition in fiscal year 2018 of a manufacturer of security inks, which are used in the printing of banknotes, and of business engaged in the production of high-purity oxide pigments, which are used extensively in cosmetics.

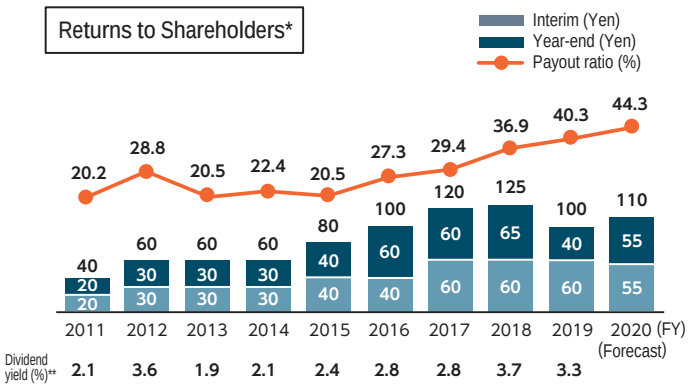
DIC111 budgets ¥250 billion for strategic investments aimed at accelerating growth. This is in addition to ¥120 billion for ordinary investments. In August 2019, we announced that we had reached an agreement to acquire the Colors & Effects business of BASF for an estimated €985 million (approximately ¥116.2 billion)[3], our largest-ever acquisition, a move undertaken with the aim of driving our growth as a leading global manufacturer of high-growth, high-value-added specialty pigments.

Under the New Pillar Creation banner, we have established the New Business Development Headquarters and continue to advance investment via CVC and other efforts designed to expedite new business creation and gain access to advanced technologies to facilitate open innovation.



Stable Returns to Shareholders

DIC will continue to pay dividends that are in keeping with profit growth, in line with its commitment to ensuring stable returns to shareholders. DIC111 sets a target for our dividend payout ratio of 30%, which will serve as a guideline for dividends over the medium term. We are proposing to pay a year-end dividend for fiscal year 2019 of ¥40.00 per share. As a consequence, dividend for the full term, which includes a ¥60.00 per share interim dividend, will be ¥100.00, a decrease of ¥25.00 from fiscal year 2018. In fiscal year 2020, we anticipate an increase in annual dividend of ¥10.00 per share.



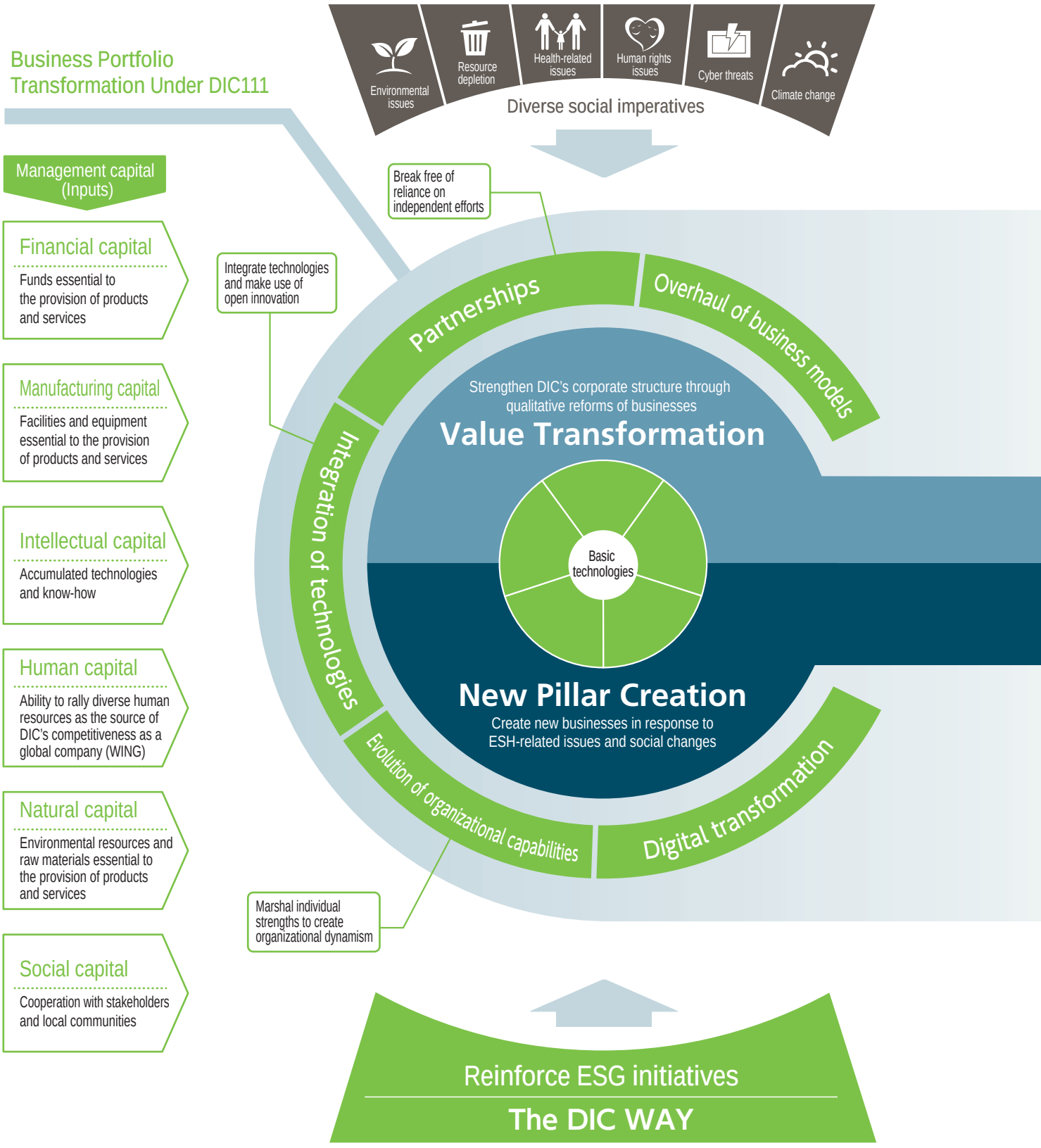
* Figures have been adjusted to reflect the impact of the consolidation of shares.
** Dividend yield: Annual dividend payments / Closing share price at fiscal year-end

In fiscal year 2015, DIC purchased ¥5.0 billion worth of its own stock. If this is factored in, the actual dividend yield and dividend payout ratio would have been 4.0% and 34.1%, respectively.

Notes:
1. D/C ratio: Interest-bearing debt / (Interest-bearing debt + Net assets)
2. EBITDA = Net income attributable to owners of the parent + Total income taxes + (Interest expenses – Interest income) + Depreciation and amortization
3. The figure given for the cost of this acquisition is derived by adjusting the enterprise value of the target business (€1,150 million) to reflect cash and debt as of December 31, 2018.

The DIC Group's Approach to Value Creation

Delivering Color & Comfort



With the aim of ensuring a sustainable society, the DIC Group strives to provide products and solutions that respond to the needs of markets and its customers and add color and comfort to life.

Segment	Outputs	Outcomes
 Packaging & Graphic	Next-generation packaging inks and coatings, functional packaging adhesives, industrial-use jet inks, others	Packaging materials that bring safety and peace of mind 
 Color & Display	Pigments for color filters, pigments for cosmetics, effect pigments, natural colorants, LC materials, next-generation display materials, others	Color and display materials that make life colorful 
 Functional Products	Sustainable polymers, environment-friendly PPS compounds for automotive components, high-performance industrial adhesive tapes, others	Functional products that add comfort 

Business area	Outputs	Outcomes
 Electronics	Technologies and functional materials that support the spread of digitization	Provide functional materials that contribute to a digital society
 Automotive	Technologies and functional materials that underpin efforts to transform the automotive industry	Provide composite materials that contribute to a mobility society
 Next-Generation Packaging	Packaging materials that help reduce food loss and support sustainability	Provide packaging solutions that contribute to environmental sustainability
 Healthcare	Microorganism and cell culture technologies with applications extending from food safety to advanced medical care	Provide fine chemicals produced using biotechnological processes that contribute to health and longevity

SDGs

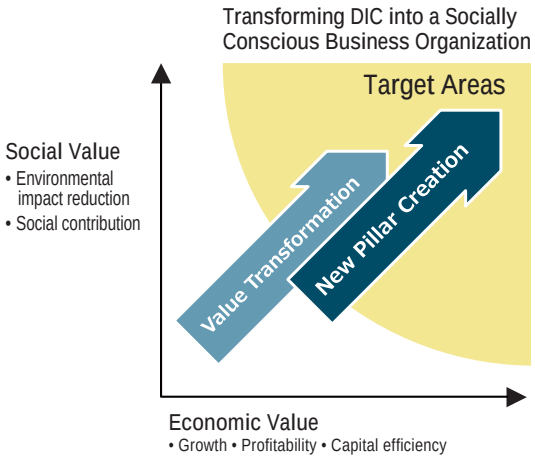
SDGs Goals
2, 3, 6, 7, 9, 11, 12, 13, 14 and 15

Sustainability Index

Promoting Business Portfolio Transformation: Balancing Social Value and Economic Value

The basic concept of DIC111 is to transform the DIC Group's business portfolio by focusing on businesses that deliver both social value and economic value, an approach it sees as central to realizing its future vision, which is to become a unique global company that is trusted by society by providing value (safety and peace of mind, color and comfort). With social imperatives related to concerns such as climate change and marine plastics becoming increasingly urgent, the Group is reinforcing efforts to develop distinctive solutions that contribute to social value and to the realization of a sustainable society.

Through DIC111's two basic strategies, Value Transformation and New Pillar Creation, the DIC Group will continue to accelerate efforts to transform its business portfolio in a manner that ensures its ability to balance social value and economic value.

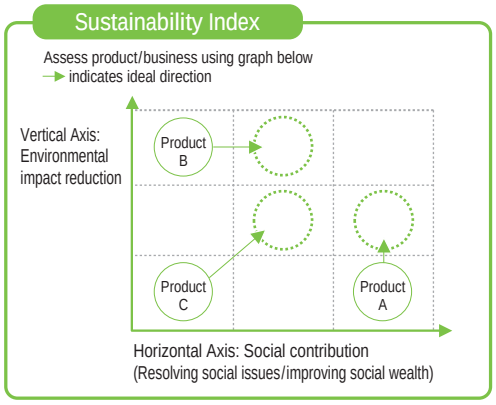


Formulating the DIC Sustainability Index to Express Social Value

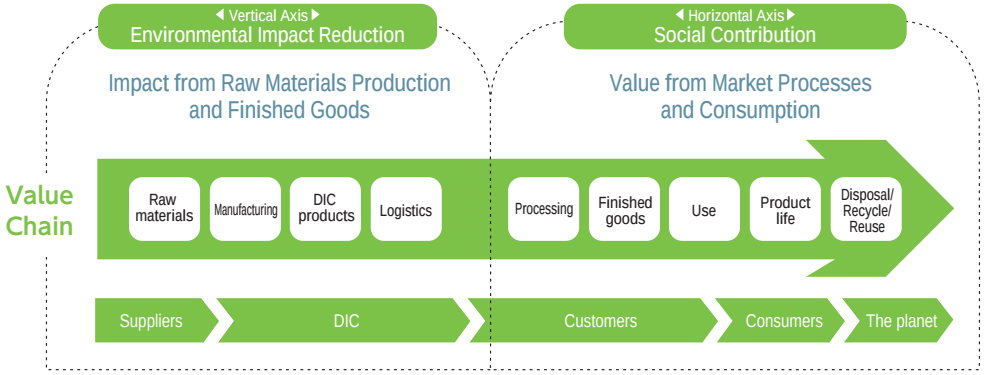
To accelerate its transformation, the DIC Group formulated a proprietary sustainability index with the aim of clarifying the social value that the Group provides. To draft the index, DIC established the cross-business Sustainability Strategy Working Group, which held discussions with departments in charge of the manufacturing and sales of Group products.

Expressing Social Value on Two Axes: Environmental Impact Reduction and Social Contribution

The procurement of essential raw materials and the manufacture of products inevitably has an effect on the environment. The DIC Sustainability Index's vertical axis (environmental impact reduction) expresses evaluation of the impact of a business or product on the environment and the benefits of efforts to devise effective countermeasures. The horizontal axis (social contribution) expresses evaluation of a business' or product's contribution to the resolution of key challenges, as well as to the realization of a sustainable society. The Group will continue to use this index to clarify the environmental impact and contribution to markets of its businesses and products, enhancing its ability to deliver social value.



Approach through the Value Chain



The DIC Sustainability Index's vertical axis (environmental impact) expresses evaluation of the impact of a product on the environment over its entire life cycle (life cycle assessment[1]). This means assessing not only energy used in and waste generated during production but also environmental impacts in the production of raw materials (crude oil production, mining, cultivation). The index also evaluates hazardous substances and substances designated under Japan's Pollutant Release and Transfer Register (PRTR), thereby clarifying the DIC Group's responsibility in supplying products, as well as its duty to formulate and implement countermeasures. The horizontal axis (social contribution) expresses evaluation of a product's contribution to the resolution of key challenges during processing by customers, use by consumers and end-of-life disposal. The index also assesses risks associated with the raw materials procured and products supplied by the DIC Group, as well as opportunities (contributions to society) that leverage its unique capabilities.

VOICE The DIC Sustainability Index will help us identify risks and opportunities across the entire value chain.

From the perspective of realizing a sustainable society, it is essential to look at the entire value chain. The DIC Sustainability Index will enable us to clarify product- and business-specific risks and opportunities. This will make it possible to investigate risks in terms of whether they can be resolved and/or transformed into opportunities. Of course, we will also continue to reassess opportunities in light of global trends to ensure there is no chance of them turning into risks. Use of this index to identify product- and business-specific risks and opportunities and implement effective countermeasures will be crucial to achieving our future vision of becoming a unique global company that is trusted by society.

Manager, Sustainability Department, DIC Corporation **Nobuo Kobayashi**

Fiscal Year 2019 DIC Group Topics

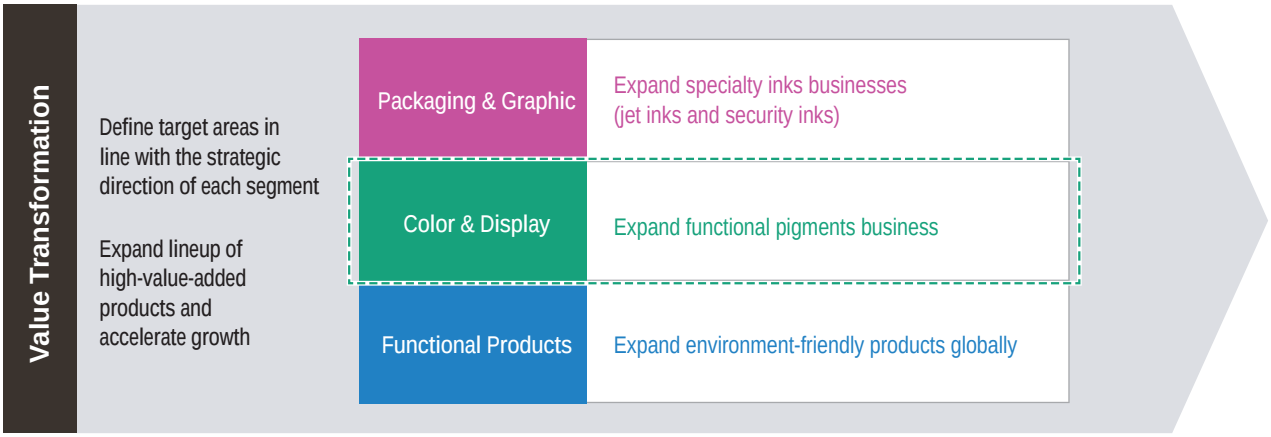
DIC Reaches Agreement to Acquire the Shares and Assets of the Colors & Effects Business of Germany's BASF and Transform the Business into a Subsidiary

In fiscal year 2019, DIC resolved to acquire the shares and assets of BASF Colors & Effects GmbH, the Colors & Effects business of Germany's BASF SE, Europe's largest chemicals manufacturer. The Company expects to execute this acquisition, which is subject to regulatory approval by pertinent U.S., European and other authorities, in 2020. Costing an estimated €985 million (approximately ¥116.2 billion), this is the Company's largest acquisition to date.

Management representatives from DIC, Sun Chemical and BASF Colors & Effects

Background

In fiscal year 2019, DIC kicked off its DIC111 medium-term management plan to guide its aspirations to become a unique global company that is trusted by society by providing value (safety and peace of mind, color and comfort) through the promotion of initiatives in line with two key strategies. The first of these, Value Transformation, focuses on strengthening the Company's corporate structure through qualitative reforms in existing businesses, while the second, New Pillar Creation, emphasizes the creation of new businesses in response to ESH-related issues and social changes. DIC has budgeted for strategic investments in line with these strategies and is striving to accelerate growth by seeking advantageous M&As.



DIC's Market Position

To hasten the qualitative transformation of its Color & Display business, DIC is working to expand its functional pigments business with the aim of driving its growth as a leading global manufacturer of high-growth, high-value-added specialty pigments, including those for displays, cosmetics and automobiles. The annual global pigments market is estimated at approximately ¥2.3 trillion. DIC is a leading manufacturer of organic pigments and a valued manufacturer of effect pigments (including aluminum pigments).

About BASF's Colors & Effects Business

BASF's Colors & Effects business, which is based in Europe and has sites around the world, has established itself as a prominent global manufacturer of high-performance organic pigments, effect pigments (including pearlescent pigments) and specialty inorganic pigments. The product portfolios, geographic presence and applications of the Colors & Effects business and DIC are highly complementary, with little overlap.

Profile

COLORS & EFFECTS | BASF We create chemistry

- Name: BASF Colors & Effects GmbH
- Date of establishment: 2016
  (Carved out of BASF's pigments business into 18 companies)
- Location: Ludwigshafen am Rhein, Germany
- Representative: Alexander Haunschild
- Net sales: Approx. €1 billion
  (Year ended December 31, 2018)
- Consolidated EBITDA: Approx. €120 million
  (Year ended December 31, 2018)
- Number of employees: Approx. 2,600
- Manufacturing facilities: 11
- R&D laboratories: 4
- Description of business: Manufacture and sale of pigments and related products
- End markets: Cosmetics, plastics, construction, automobiles, printing, agriculture and others

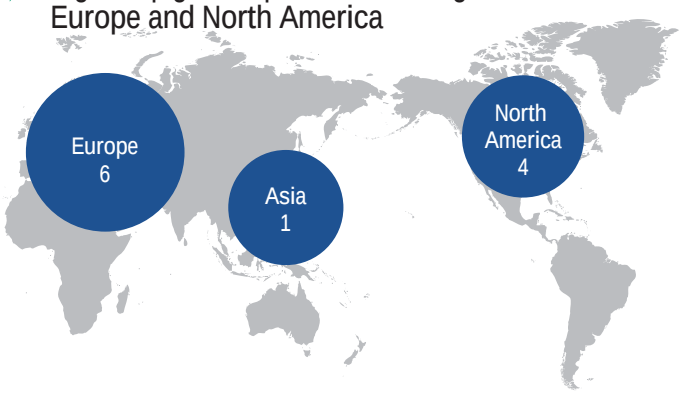
A manufacturer of high-value-added products in the areas of niche and specialty pigments

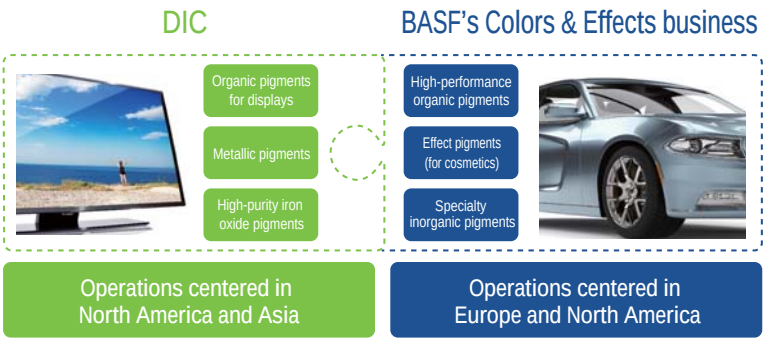
High-performance organic pigments

Effect pigments (for cosmetics)

Specialty inorganic pigments

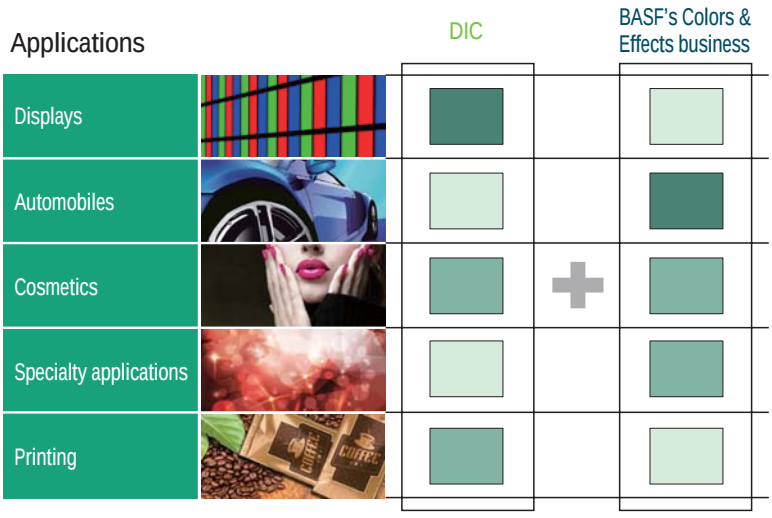
A global pigments production configuration focused on Europe and North America



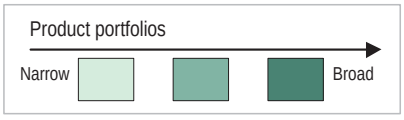


1 Little product overlap will maximize the unique qualities of both

2 Highly complementary geographic presence will ensure regional compatibility



3 Highly complementary product portfolios will yield synergies in target niche and specialty pigments markets



Benefits of Acquisition

Through this acquisition, DIC will add the functional pigments product portfolio of a company that enjoys a high global market share. The Company has committed itself to achieving sustainable growth for its color materials business by expanding its functional pigments business, recognizing this as crucial to bolstering its corporate value.

Note: The figure given for the cost of this acquisition is derived by adjusting the enterprise value of the target business (€1,150 million) to reflect cash and debt as of December 31, 2018. The actual cost may vary depending on actual net cash and debt, as well as differences in working capital, among others, at closing. Advisory and other fees will depend on fees related to procedures to determine compliance with the antitrust laws of the United States and Europe, as well as of other relevant countries and territories. Accordingly, such expenses are not indicated.

Packaging & Graphic

Packaging Materials that Bring Safety and Peace of Mind

SDGs Goals 12, 13 and 14

President, Packaging & Graphic Business Group
Masamichi Sota

Main Products

[Printing Materials]

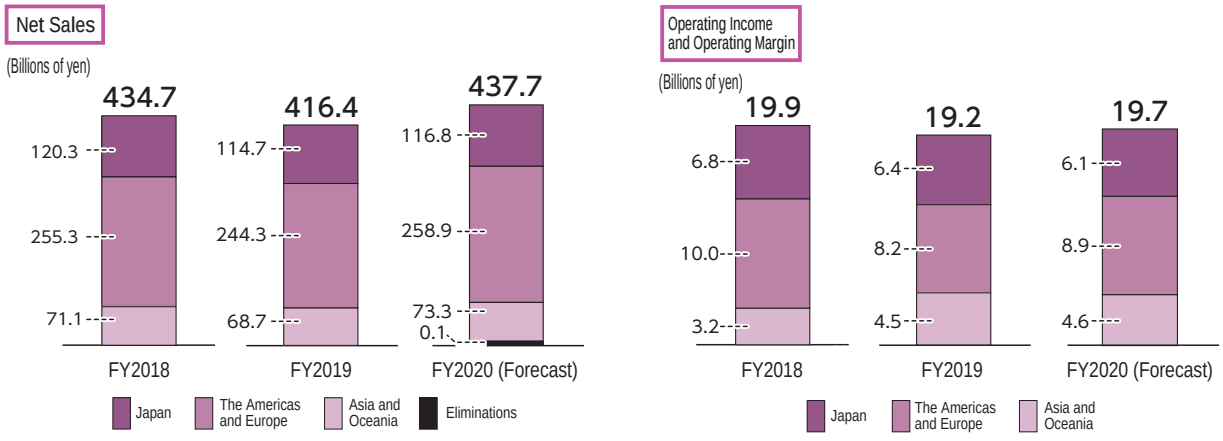
Gravure inks, flexo inks, offset inks, news inks, jet inks, can coatings, security inks, printing plates, printing supplies

[Packaging Materials]

Polystyrene, coextruded multilayer films, packaging adhesives

This segment includes not only printing inks but also adhesives, materials and other products and solutions for packaging applications, the markets for which continue to see robust growth in emerging economies in Asia and elsewhere.

Segment Operating Results



Note: Graph figures include interregional transactions within the segment. Accordingly, the aggregates of regional net sales and operating income figures for the segment differ from the figures presented above.

Product News

Efforts to Develop Printing Inks, Adhesives and Films with a Reduced Environmental Impact

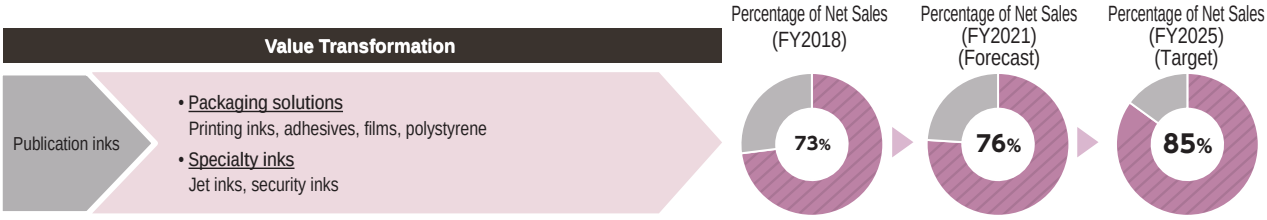
In the area of packaging inks, the DIC Group's biomass-based products have earned official certification in Japan and overseas. In Japan, the Group saw increased sales of new products in which the production, use and disposal of emits less CO_2 than existing products. In addition to promoting efforts to develop ever-thinner films, the Group continued to see expanded sales of products that extend products' shelf life, thereby reducing food loss. These include environment-friendly films for bread bags that combine strength and suitability for this application with a reduced environmental impact and easy-peel sealant film lid materials for containers used for salads sold at convenience stores.

Note: For more information, please see the section titled "New Technology Development and Value Creation" in the complete version of DIC Report 2020.

Salad container with easy-peel sealant film lid

Business Strategies Under DIC111

The DIC Group will concentrate resources on high-value-added products in the promising areas of packaging solutions and specialty inks, while accelerating the growth of businesses in the flourishing market for packaging materials through portfolio expansion. In specialty inks, the Group will also seek to achieve high profitability through further global management integration and the horizontal deployment of high-value-added products.



Fiscal Year 2019 Highlights

1. Luminescence Sun Chemical Security Participates in Currency Conference in Dubai

Luminescence Sun Chemical Security, the security inks division of Sun Chemical, took advantage of the opportunity provided by its participation in the April 2019 Dubai Currency Conference to launch *ASPECT*, a new range of machine-readable security inks for banknotes. Suitable for any country's cash-cycle infrastructure, *ASPECT* security inks have distinctive infrared signatures that permit broadband verification across a wide range of the light spectrum, yet can also be read and verified using current authentication technologies, from low-cost devices with limited automation to faster and bigger mid-market desktop solutions and high-speed sorters used at commercial and central banks.

Sun Chemical Security also won the conference's Experience Award

2. Sun Chemical Joins Europe's CEFLEX Consortium

In fiscal year 2019, Sun Chemical joined CEFLEX, a collaborative European consortium of companies and associations in the packaging industry, the name of which is an acronym for Circular Economy for Flexible Packaging. Representing the entire European packaging value chain, from materials producers to converters and printers, brand owners, retailers and specialized recycling companies, members of CEFLEX currently number more than 100. Sun Chemical is fully committed to supporting the CEFLEX vision of establishing a comprehensive sustainability and circular economy road map for flexible packaging by 2020. The road map will include widely recognized design guidelines and a robust approach to measuring, demonstrating and communicating the significant value flexible packaging adds to the circular economy. CEFLEX also supports the development of a collection, sorting and reprocessing infrastructure for flexible packaging across Europe by 2025.

Color & Display

Color and Display Materials that Make Life Colorful

SDGs Goals 3 and 13

President, Color & Display Business Group
Masami Hatao

Main Products

[Color Materials]

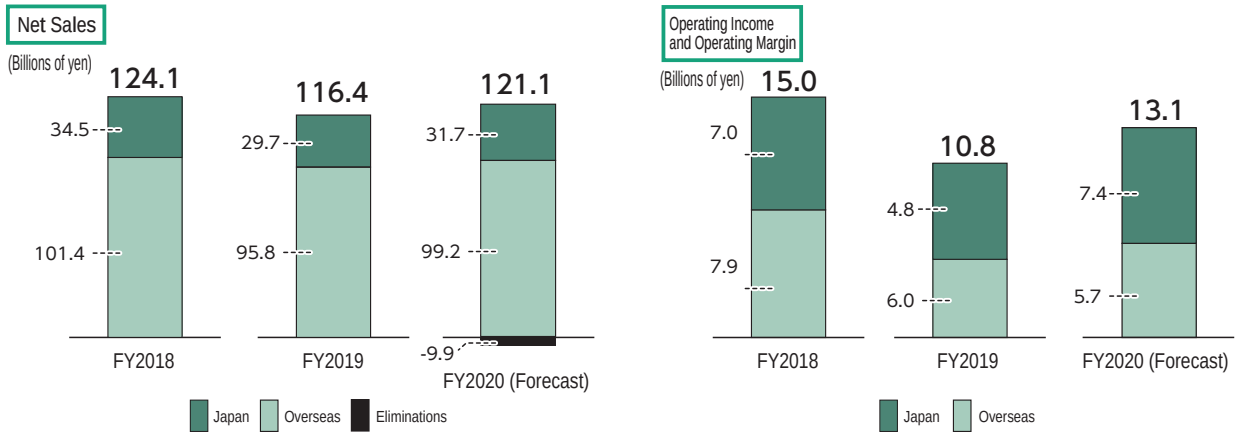
Effect pigments, pigments for color filters, pigments for cosmetics, pigments for printing inks, pigments for coatings and plastics, health foods

[Display Materials]

Thin-film transistor liquid crystal (TFT LC) materials, supertwisted nematic liquid crystal (STN LC) materials

Products in this segment include a wide variety of materials indispensable to digital devices, including LC materials and organic pigments for color filters, as well as pigments for cosmetics, natural colorants and other materials that are safe and gentle for use by people.

Segment Operating Results



Note: Graph figures include interregional transactions within the segment. Accordingly, the aggregates of regional net sales and operating income figures for the segment differ from the figures presented above.

Product News

DIC Group Natural Colorants Earn Certification Under COSMOS

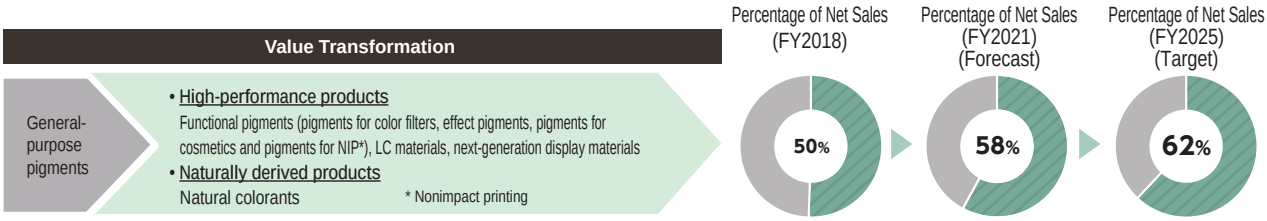
The DIC Group's Spirulina-derived natural blue colorant earned certification under the COSMOS (COSmetic Organic Standard) program, a unified European standard for organic and natural cosmetics. Overseas, the Group introduced a number of innovative products, including pigments for turf colorants and balloon printing and natural wax dispersions for cosmetics. In the area of LC materials, the Group continued to ship samples of polymer sustained alignment (PSA) LCs, which boast outstanding transparency, response time and sensitivity, for 8K displays.

Note: For more information, please see the section titled "New Technology Development and Value Creation" beginning on page 136

Cosmetic products employing natural blue colorant

Business Strategies Under DIC111

In addition to seeking to establish a leading global position in the area of functional pigments through M&As, the DIC Group will take steps to reinforce its supply configuration and enter the personal care market. In LC materials, the Group will focus on leveraging patent strategies and on accelerating efforts to cultivate markets in the PRC by developing products for high-end televisions. The Group will also promote the development of quantum dot (QD) inks, which hold promise as next-generation display materials.



Fiscal Year 2019 Highlights

1. DIC Collaborates with Warehouse TERRADA's PIGMENT TOKYO in the Pigments Business

In November 2019, DIC partnered with PIGMENT TOKYO, an art materials lab operated by storage company Warehouse TERRADA, to provide DIC pigments for cosmetics, traditionally marketed to cosmetics manufacturers, to individual consumers with a view to expanding the focus of marketing to include art applications.

PIGMENT TOKYO is a comprehensive facility for creativity, functioning simultaneously as an art materials lab for exploring "expression in color and *matière*"*1, as well as an art academy, museum and store. Staffed by highly accomplished researchers in the areas of art materials and pigments, artists and producers skilled at bringing together art and business, PIGMENT TOKYO functions as an atelier that extends technical support and project planning consultation to companies in Japan as well as overseas.

The collaboration between DIC and PIGMENT TOKYO centers on the safe and gentle *INTENZA* line of hybrid pigments—which combines U.S. Food and Drug Administration (FDA)*2-certified organic colorants with pearlescent effect pigments—and *Linablue*®, a COSMOS-approved natural blue colorant derived from DIC Spirulina.

*1 The French word *matière* is used in Japanese in the context of art to mean the "qualities of materials."
*2 The FDA is a federal agency of the U.S. Department of Health & Human Services, which serves essentially the same role as Japan's Ministry of Health, Labour and Welfare. FDA approval is required to sell food products, pharmaceuticals, cosmetics and a variety of other products in the United States.

2. DIC Resolves to Acquire BASF's Colors & Effects Business

In August 2019, DIC resolved to acquire the shares and assets of the Colors & Effects business of Germany's BASF, Europe's largest chemicals manufacturer. (For more information, please see page 19.)

Functional Products

Functional Products that Add Comfort

SDGs Goals 6, 12 and 13

President, Functional Products Business Group
Kazuo Hatakenaka

Main Products

[Performance Materials]

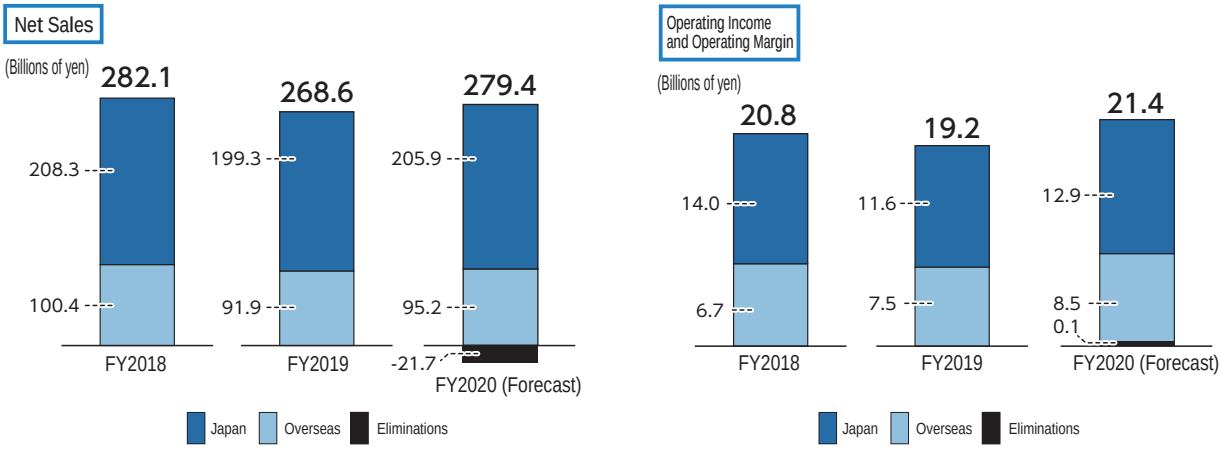
Synthetic resins for inks and coatings, electronics products, molded plastic products and adhesives (polyester resins, epoxy resins, polyurethane resins, acrylic resins, plasticizers), fluorochemicals, papermaking chemicals, metal carboxylates, alkylphenols, sulphur chemicals (lubricant additives)

[Composite Materials]

Polyphenylene sulfide (PPS) compounds, plastic colorants, interior housing products, plastic pallets, containers, industrial adhesive tapes, hollow-fiber membrane modules, sheet molding compounds (SMCs), decorative boards

This segment provides coating and composite materials with diverse functions that address environmental issues and are used widely in state-of-the-art electronics products.

Segment Operating Results



Note: Graph figures include interregional transactions within the segment. Accordingly, the aggregates of regional net sales and operating income figures for the segment differ from the figures presented above.

Product News

DIC Develops 100% Biomass-Derived Polyester Plasticizer

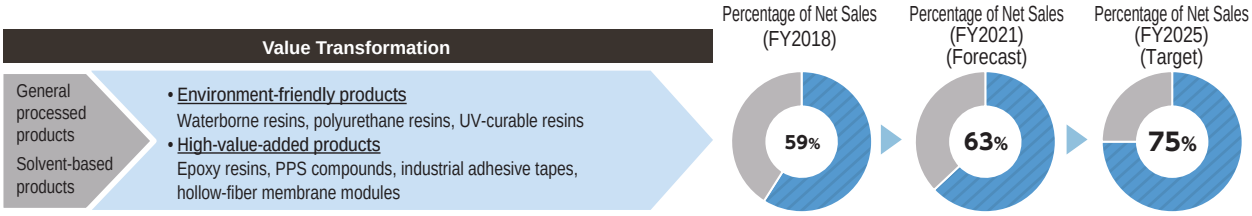
In fiscal year 2019, DIC announced that it has developed a new polyester plasticizer derived entirely from biomass resources that has earned the "Biomass 100%" Biomass Mark, certifying that it is made entirely with biomass, becoming the first plasticizer to be granted this certification. The DIC Group realized commercial production of innovative synthetic resins for electrical and electronics materials within only one year of developing these resins using AI, as well as launched epoxy resin–curing agents with superior dielectric properties for use as smartphone base stations, thin adhesive tapes with superior adhesiveness and bondability for smartphones, and various types of colorants for engineering plastics for use in automobiles that leverage carbon black ultrahigh dispersion technologies to deliver outstanding surface smoothness and a high level of jetness for molded components.

Note: For more information, please see the section titled "New Technology Development and Value Creation" in the complete version of DIC Report 2020.

Plastic containers made with 100% biomass-derived polyester plasticizer

Business Strategies Under DIC111

The DIC Group will invest actively in products that are not only environment-friendly but also have a positive impact on markets and society and expand resin production bases in Asia. As well, the Group will provide highly profitable products that meet sophisticated needs in niche markets, introduce next-generation resins for optical and electronics applications, expand sales of industrial adhesive tapes for mobile and automotive applications and make a full-fledged entry into the market for large-scale hollow-fiber membrane modules.



Fiscal Year 2019 Highlights

1. DIC Acquires Mid-Tier Coating Resins Manufacturer in India

In April 2019, DIC acquired mid-tier Indian coating resins manufacturer Ideal Chemi Plast Pvt. Ltd., which produces a variety of synthetic resins for use in, among others, automotive finishings, coils and wood coatings. Having determined that fusing its ability to develop high-end resins with Ideal Chemi Plast's know-how and supply chain in India would swiftly elevate its position in the Indian market, DIC resolved to make this acquisition. DIC sees India as an important area for accelerating the expansion of its global operations and will leverage Ideal Chemi Plast's market position to promote joint efforts with Group companies in neighboring countries to further broaden its regional business scale.

2. DIC Boosts Production Capacity for Large Degassing Modules Used for Water Treatment by 1.5 Times

In fiscal year 2019, DIC reinforced production facilities at DIC Group company DIC Kako, Inc.'s Ichihara Plant to expand its production capacity for large degassing modules—used for water treatment, among others—in the *SEPAREL*® series of hollow-fiber membrane modules for controlling fluid degasification and aeration. With the start of operations on a new production line at the plant, DIC's overall production capacity for these modules increased by 1.5 times.

DIC's large degassing modules, which are used for removing dissolved gases, such as nitrogen and oxygen, from water, are 10 inches (25.4 centimeters) or more in diameter. Passing water through a membrane of bundled hollow fibers removes dissolved impurities, thereby increasing the purity of the water. Principal applications include ultrapure water production systems used in the fabrication of semiconductors, LCDs and electronics components.

DIC also provides hollow-fiber membranes to add oxygen to the blood in extracorporeal membrane oxygenation (ECMO)*, which is currently being used worldwide to treat critically ill patients with acute respiratory distress syndrome (ARDS) as a result of the COVID-19 pandemic. DIC will continue doing its best to enhance production of its hollow-fiber membranes to help ensure a steady supply of indispensable medical equipment.

The DIC Group is providing distinctive solutions that respond to evolving needs related to safety, peace of mind and the environment arising from social changes.

The realization of a sustainable society depends on our ability to respond to needs related to safety, peace of mind and the environment. The DIC Group is capitalizing on technologies honed over 112 years to develop distinctive solutions that directly address critical challenges, including the issue of marine plastics and the need to reduce use of substances harmful to the environment.

Thermoresponsive Cell Cultureware that Facilitates the Harvest of Cells Without Enzyme Treatment or Damage (*Cepallet*®)

Fast-Curing Solvent-Free Adhesive *DUALAM*™

Healthcare

Thermoresponsive Cell Cultureware that Facilitates the Harvest of Cells Without Enzyme Treatment or Damage (*Cepallet*®)

SDGs Goal 3

Providing Novel Cell Cultureware that Enhances Cell Detachment **Simply by Lowering the Temperature, Thereby Significantly** Shortening the Harvest Process

Value Creation

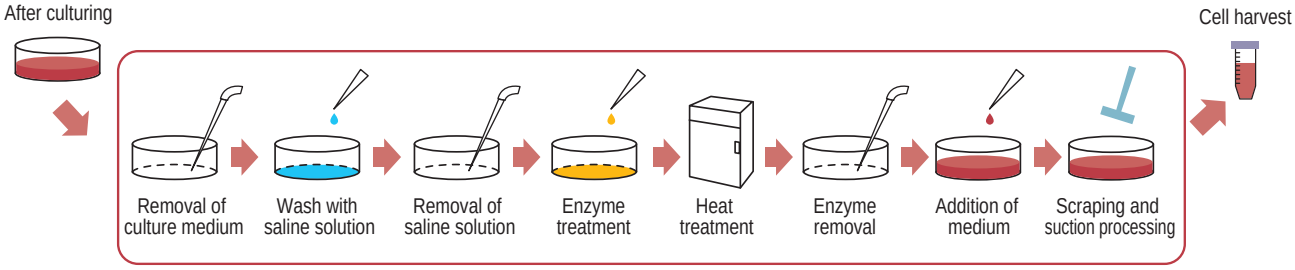
Development of revolutionary cell cultureware that minimizes damage to iPS and ES cells during harvest

Reduced survival rates for cultured cells owing to damage from enzyme treatment and scraping

Research in induced pluripotent stem (iPS) and embryonic stem (ES) cells, which hold promise in such fields as regenerative medicine and drug discovery, continues to gain momentum worldwide. Demand for the culture of high-quality cells for use in research is driving the need for sophisticated iPS and ES cell culture processes.

Conventional cell culturing begins with the attachment of adherent cells to the base of cultureware that has been coated with an extracellular matrix. A culture medium provides nutrients necessary for cell proliferation. To harvest the cultured cells, it is necessary to use an enzyme treatment to detach the cells and then to employ a scraper to lift them from the base. However, enzyme treatment and scraping results in some cells dissolving, while scraping causes physical stress, reducing survival rates and impeding efficient harvest. These issues have posed significant challenges to ensuring the quality of cultured cells.

Detachment and Harvest Using Enzyme Treatment



Process is difficult and detached cells easily reattach, so cell harvest rate decreases

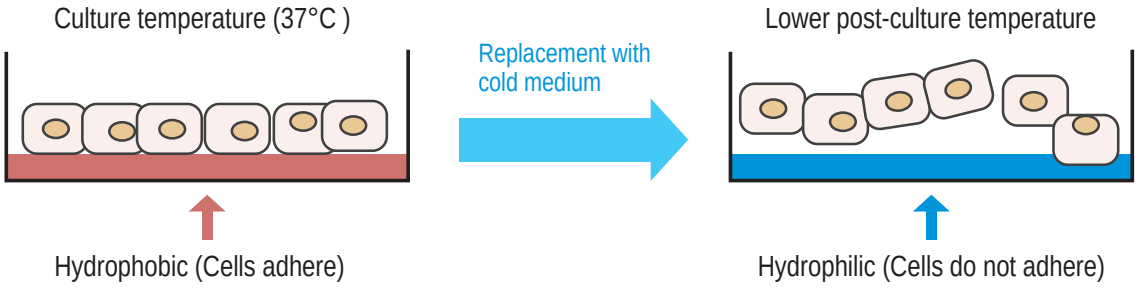
Development of the revolutionary *Cepallet*® series of thermoresponsive cell cultureware that enhances cell detachment

In fiscal year 2018, DIC succeeded in developing the *Cepallet*® series of revolutionary cell cultureware that facilitates harvest without the use of enzymes or a scraper. This greatly simplifies the process, increasing both the efficiency of harvest and cell survival rates.

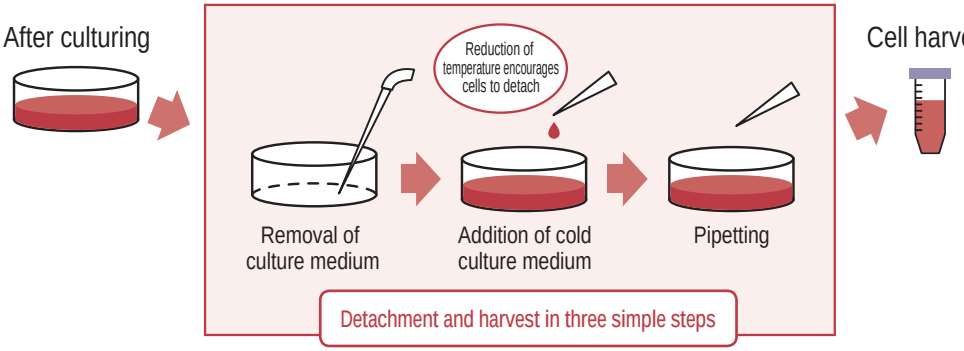
The base of DIC's newly developed cell cultureware is coated with a proprietary thermoresponsive polymer that shows hydrophobic–hydrophilic transition—i.e, changes from promoting attachment to promoting release—upon cooling to a certain temperature (transition temperature). Accordingly, replacing the 37ºC culture medium after culturing with fresh and cold (below room temperature) medium lowers the temperature, encouraging cells to detach gently from the base (thermoresponsive release), thereby minimizing damage during harvest. Because thermoresponsive release eliminates the need for scraping, the *Cepallet*® series is suited for automated cell culture systems. Going forward, *Cepallet*® cell cultureware is thus expected to contribute to the more efficient culturing of higher-quality cells in the research laboratories of pharmaceuticals manufacturers, universities and public research organizations.

Cepallet® cell cultureware

Thermoresponsive Release with *Cepallet*®



A Greatly Simplified Harvest Process



Examples of Applicable Cells

- iPS stem cell–derived differentiated cells
- Mesenchymal stem cells
- Fibroblasts
- Cell lines
- Neurons
- Macrophages
- Primary cells

A Distinctively DIC Response

Capitalizing on proprietary polymer technologies to develop high-performance containers for culturing cells in laboratories

Leveraging DIC know-how to address needs for laboratory research

DIC embarked on the development of *Cepallet*® in 2013, the year that Japan introduced a new national revitalization plan, a strategic priority of which is to advance regenerative medicine. Recognizing the existence of both market needs and research seeds in this area that would allow DIC to capitalize on its expertise and experience as a chemicals manufacturer, sales and R&D personnel worked together to gather information, visiting pharmaceuticals manufacturers, universities and public research organizations, among others. This led to the recognition of a need for industrial quality control for cell culturing in laboratories conducting research related to regenerative medicine and drug discovery, which use multiple different types of equipment and devices.

Many laboratories use plastic containers to culture cells. DIC thus saw potential to leverage its specialized high-performance polymer design technologies and industrial know-how to develop high-value-added products for use in this area. This led to the formation of a project team made up of R&D and technical personnel. The team began by identifying issues affecting the cell culturing process, resolving to help improve process efficiency and increase the quality of cultured cells by developing revolutionary high-performance cell cultureware.

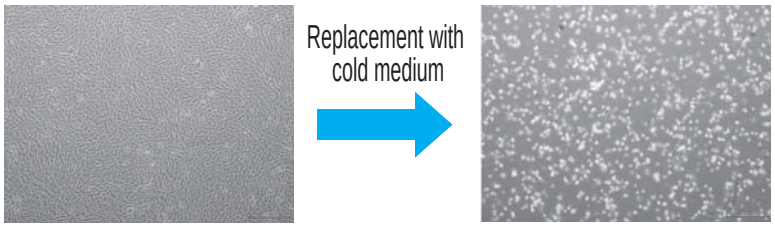
During this period, DIC launched its DIC108 medium-term management plan, which positioned healthcare as a key focus of its efforts to cultivate next-generation businesses. As a result, expectations were high for the Company to enter the life sciences field.

A thermoresponsive polymer coating and the debut of the *Cepallet*® series

A detailed analysis of cell culture processes prompted the team to focus their efforts on the structural design of the polymer used to coat the base. What functional features were needed? What did the polymer need to do? Team members sifted through DIC's vast accumulation of basic research data to determine a course of action for designing a new polymer. "In a process of trial and error, we narrowed the focus of our research to thermoresponsive polymers," explains one member of the team. "Damage to cells during harvest from cultureware is caused by the use of enzymes to detach the cells and a scraper to lift them from the container base," he continues. "We realized that if we could develop a polymer the adhesive properties of which would change according to temperature, it would bring us significantly closer to commercialization." Technical and R&D departments thus commenced work toward realizing something that originally seemed impractical.

"Setting the temperatures for culture and detachment at, respectively, the temperature at which cells can be cultivated (37°C) and the temperature at which they can be harvested (below room temperature), thereby designing a polymer with adhesive properties that could be controlled within that range to encourage detachment, was the central challenge we faced," recalls the leader of the project. "Even if we achieved positive results in a laboratory setting, designing a container that delivered stable results on an industrial scale was difficult. By capitalizing on accumulated technologies and expertise, we succeeded in commercializing a new thermoresponsive polymer coating. This achievement led to the development of the *Cepallet*® series, which features a surface that has been coated with this proprietary polymer using nanolevel coating technology. This eliminates the need for enzyme treatment and scraping, minimizing damage to cultured cells and dramatically improving the harvest process.

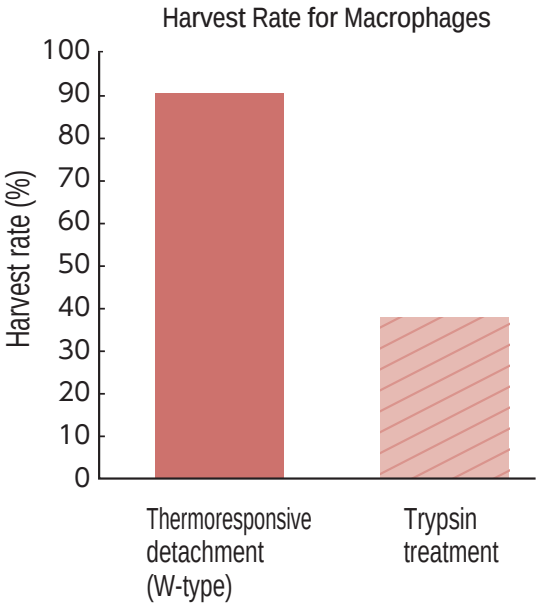
Thermoresponsive Detachment of Activated Macrophages*1 (THP-1 cells)



Cell culture conditions
Treated with Phorbol 12-myristate 13-acetate (PMA) (50 ng/ml)

Culture medium: Roswell Park Memorial Institute (RPMI) 1640, 10% fetal bovine serum (FBS), Gentamicin

With thermoresponsive detachment, activated macrophages detach gently from the base. Moreover, the harvest rate is significantly higher than when treatment with trypsin*2 is used.



*1 A macrophage is a type of white blood cell of the immune system.
*2 Trypsin is an enzyme that breaks down proteins.

KEY PERSON from DIC We are entering a new era of personalized healthcare, in which order-made treatments will be mainstream.

Progress in the area of regenerative medicine has ushered in an era of personalized healthcare, in which treatments are order-made, that is, tailored to the individual's unique cellular and genetic traits. A key focus for DIC today is providing breakthrough products in the healthcare field by integrating expertise accumulated in such areas as pharmaceuticals, agrichemicals and health foods with industrial technologies cultivated in the development and production of polymers. *Cepallet*® is the first such product to reach commercialization. Going forward, we will capitalize on this groundbreaking product to promote a wider understanding of DIC's development capabilities and to deepen collaboration with people in various fields with the aim of adding a new dimension to this exciting market.

Product Manager, Health Care Foods Product Group, Color Material Products Division, DIC Corporation **Taro Ichimoto**

KEY PERSON from DIC The sense of achievement when we announced *Cepallet*® at an academic conference on regenerative medicine and commenced sales was extraordinary.

A wide range of cells are used in regenerative medicine and drug discovery, and various factors including the condition of cells, type of culture medium used and nutrients provided vary from one pharmaceuticals manufacturer, public research organization or university laboratory to another. Accordingly, even when we reached the point where prospects for commercialization were clear, it took another full year to have the new container evaluated by various laboratories. I think this is why when we announced *Cepallet*® at an academic conference on regenerative medicine and commenced sales in 2018, we were overwhelmed with pride that our new product had earned global recognition.

Project Manager, H-2 Project, Health Care Business Unit, New Business Development Headquarters, DIC Corporation **Yoshinobu Sakurai**

KEY PERSON from DIC We sought to leverage key DIC technologies specifically to improve the efficiency of cell culture processes.

Cell culturing demands delicate, seasoned skills. While robots are used for some processes, the fact is that many processes still rely on human hands. The full automation of these processes would facilitate the culture of high-quality cells uniformly and in large volumes. This is an opportunity for DIC, which to date has capitalized on its synthesis technologies to industrialize and automate complex manufacturing processes. *Cepallet*® makes use of such uniquely DIC technologies and know-how to realize the highly efficient culture of high-quality cells. We will take advantage of the foothold we have established in this area to promote product development that contributes to the further automation of cell culture processes.

Group Manager, Health Care Products Business Development Group, Color Material Products Division, DIC Corporation **Hiroyasu Asakura**

KEY PERSON from DIC Underscoring high marks from laboratory personnel, *Cepallet*® was first adopted by a university research laboratory.

A professor studying regenerative medicine visited DIC's booth at an academic conference on medicine held in autumn 2018. I gave him a sample of *Cepallet*® , which his assistants, who are in charge of culturing cells, promptly tried out. Their verdict was that the container was easy to work with, efficient and most importantly greatly improved the cell survival rate. This professor, who works closely with cultured cells and is well aware of the difficulty of culturing, made the decision to purchase *Cepallet*® on the spot. Looking ahead, we will continue to actively introduce such examples of organizations that have decided to use *Cepallet*® and of efforts to help improve culturing processes.

Manager, Health Care Products Business Development Group, Color Material Products Division, DIC Corporation **Satoko Mimura**

SDGs Goals 3, 9, 12 and 13

DUALAM™: Inaugurating a New Era in Solvent-Free Lamination that Will Revolutionize the World of Packaging

Value Creation

Reduced emissions of VOCs and CO_2 attributable to lamination

Issues with conventional solvent-free adhesives, which boast a low environmental impact but have limited applications

The fabrication process for multilayer packaging films—which involves laminating two or three layers of film together, printing artwork on the reverse side of the top layer, coating to impart moisture, light, gas and other barrier properties, and sealing—has come into widespread use worldwide. The common approach to lamination is to coat the surface of one layer with an adhesive substance dissolved in solvent and then pressure bond it to another layer after thermally evaporating the adhesive's solvent component. Nonetheless, the use of solvent-based adhesives is not without problems, notably negative environmental impacts such as emissions of pollution-causing volatile organic compounds (VOCs) and CO_2, the latter caused by the burning of fossil fuels.

Solvent-free adhesives are also popular, but present issues such as poor designability after lamination and incompatibility with continuous lamination—key to high productivity—due to slow curing speeds, which limits possible packaging applications. DIC recognized that resolving such issues would both facilitate the expansion of applications and help reduce the environmental impact of the packaging industry.

Development of the versatile fast-curing solvent-free adhesive *DUALAM*™

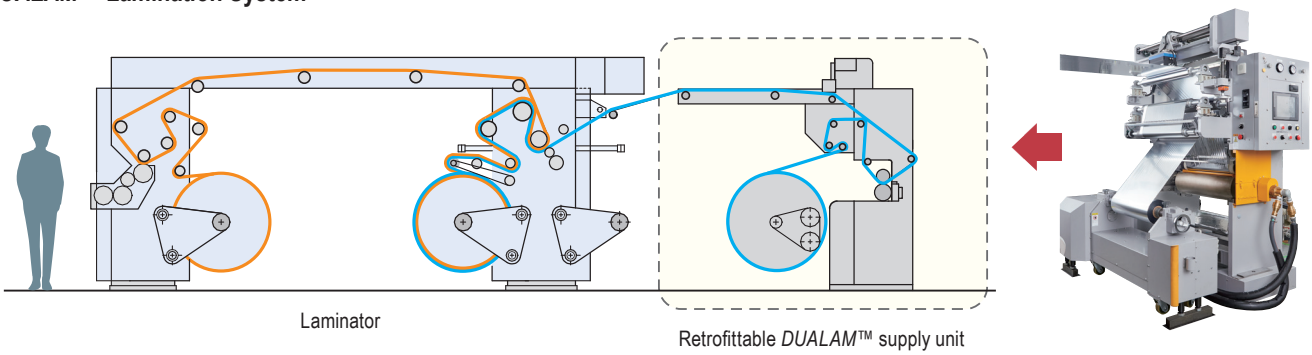
Having created a project aimed at surmounting the issues associated with solvent-free adhesives, DIC hit on the idea of coating the main agent and curing agent on the film surface separately, rather than the conventional approach of mixing the two component agents of the adhesive together prior to laminating, and began development of a new adhesive. Through trial and error with various component combinations and coating amounts, in 2019 the project succeeded in developing *DUALAM*™, an innovative solvent-free adhesive boasting a curing speed several times higher than existing offerings.

DUALAM™ supply unit

Partnering with a leading laminating machine manufacturer, DIC also developed a dedicated supply unit for *DUALAM*™, which was launched as a lamination system that can be retrofitted onto existing laminators.

DUALAM™ enjoys a number of key performance advantages. These include facilitating the production of previously impossible two-layer laminates and the continuous processing of laminated structures with three or more layers; rapid curing, which shortens aging time; a longer adhesive pot life (the length of time an adhesive remains processable); and significantly improved designability. Lamination using *DUALAM*™ and existing machines retrofitted with the new lamination system also substantially reduces emissions of VOCs and CO_2 compared with lamination using solvent-based adhesives and the same equipment.

***DUALAM*™ Lamination System**



Benefit of retrofitting 400 solvent-based adhesive laminating machines with retrofittable *DUALAM*™ supply units:

Annual CO_2 emissions reduction after five years: **Approx. 80,000 tonnes**

Equivalent to annual CO_2 emissions from approximately 50,000 private-use passenger vehicles
(Source: Ministry of Land, Infrastructure, Transport and Tourism data for 2017)

Calculation

CO_2 emissions per unit for solvent-based adhesive laminators (approx. 200 tonnes) × Number of units retrofitted with *DUALAM*™ supply units (400)
(Reference: Approximately 6,000 solvent-based adhesive lamination systems are currently in operation around the world (DIC estimate).)

A Distinctively DIC Response

Providing packaging solutions that contribute to sustainability for the global environment

An innovative solvent-free adhesive that contributes to reduced air pollution and improved work environments

It was a DIC adhesives marketing manager in the PRC who first noted a slowdown in sales of solvent-free adhesives for film lamination, the adoption of which had risen sharply during the second decade of the 21st century against a backdrop of tighter environmental regulations. Examining contributing factors, he determined that the principal causes were that designability after processing was inferior to film laminated with solvent-based adhesives and curing was too slow to support continuous lamination. This, together with rising pressure to reduce environmental impact, convinced him that if performance could be improved then demand for environment-friendly solvent-free adhesives would increase and so he proposed the creation of a dedicated project.

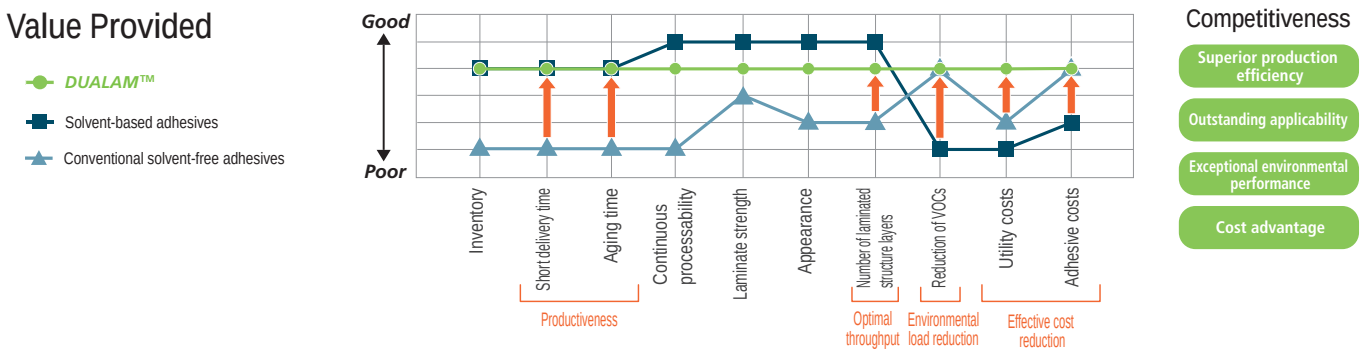
Refusing to be constrained by the conventional notion of premixing the adhesive's components, the project's technical team experimented with various approaches, arriving at the idea of coating the two components of the adhesive separately onto each film layer to be bonded and initiating curing only after the layers come together. However, a number of obstacles to the realization of a viable product were still ahead.

The quest to control curing speed and find the optimum combination of adhesive components

Features demanded of new adhesives include a softness that makes coating easy, curability that does not impair designability and a curing speed compatible with continuous lamination. Moreover, these features must be demonstrated in a thin film weighing only a few grams per square meter. The technical team marshaled accumulated expertise, testing a wide range of new materials in a bid to find the optimum combination of adhesive components. It proved particularly difficult to control curing speed and adjusting the delicate composition was tricky, but these efforts eventually yielded *DUALAM*™, a solvent-free adhesive that cures several times faster than comparable conventional adhesives.

The challenge did not end there. Developing a supply unit that made it possible to use *DUALAM*™ with existing laminating machines was crucial. DIC partnered with a leading laminating machine manufacturer to perfect a unit that thinly and evenly coats the new adhesive onto film surfaces. With this achievement, the Company was finally ready to launch *DUALAM*™, thereby fulfilling its pledge of providing packaging solutions that contribute to sustainability for the global environment.

External Surface after Lamination (Improved Decorative Properties)



KEY PERSON from DIC This is worthwhile for DIC precisely because it's something no other company is doing.

When I was working in the PRC, I recognized that there were issues with solvent-free adhesives for film lamination and proposed that we develop a new adhesive. In particular, the lamination of structures with three or more layers was extremely inefficient, but there were no companies looking to fix this problem. Precisely for this reason, I thought it was a worthwhile challenge for DIC to take on. Solvent-free adhesives are essential to reduce the environmental impact of packaging film production, so we were confident that demand would increase if applications could be expanded. Many breakthroughs were needed to realize a viable product, but thanks to the assistance of many people we succeeded in bringing *DUALAM*™ into being. It was definitely a proud moment!

Manager, Packaging & Graphic Business Development Group, Packaging & Graphic Business Group, DIC Corporation **Chouichi Takada**

KEY PERSON from DIC We are working to provide more value to customers by developing new technologies.

Performance features required of adhesives are diverse and include ease of application, rapid bonding and strong adhesion. The defining characteristic of *DUALAM*™ is that it cures rapidly, which helps increase customers' productivity. However, if it bonds too quickly the quality of the finish will be poor and the quality will deteriorate. For this reason, we tested repeatedly to determine the optimum bonding speed, a process of trial and error through which we eventually achieved our goal. Going forward, we will continue taking bold steps to address the challenge of reducing environmental impact by developing innovative laminating adhesives like *DUALAM*™.

Manager, Adhesives Technical Group 1, Adhesives Technical Division, DIC Corporation **Koji Akita**

KEY PERSON from DIC Since the launch of *DUALAM*™, many customers from Japan and overseas have come to see us.

Since the launch of *DUALAM*™ in 2019, we have received many inquiries from customers both in Japan and overseas and a steady stream of requests to tour our facilities. Promotional efforts currently center on Japan and Asian markets, but we plan to expand our focus to include Europe early in summer 2020. By fiscal year 2025, we aim to achieve annual global sales of ¥9.0 billion. We will also work to expand the range of packaging applications for *DUALAM*™ and our lineup of lamination systems, with the aim of realizing innovative packaging materials that contribute to safety and peace of mind, as set forth in DIC111.

Project Manager, P-2 Project, Next-Generation Packaging Business Unit, New Business Development Headquarters, DIC Corporation **Susumu Nishimura**

Sun Chemical's Activities

Sun Chemical, which oversees the DIC Group's operations in Europe and the Americas, is one of the world's leading manufacturers of printing inks. The company develops and supplies a broad range of products that address diverse social imperatives.

Social Imperative

As the world shifts to become more environmentally conscientious, consumer packaged goods companies and their converter partners are constantly working to meet consumer demands. Studies show that consumers prefer sustainable packaging over packaging that is not eco-friendly.

Meanwhile, some countries and world organizations are taking it upon themselves to make the world more sustainable. The United Nations (UN), for instance, introduced its initiative, *Transforming our World: the 2030 Agenda for Sustainable Development*, a plan that highlights 17 UN goals for decreasing the carbon footprint.

Recognizing these marketplace and regulatory trends, many brands have explored ways to integrate more sustainable solutions into their packaging. One option has been the development of biorenewable inks based on renewable natural resources. These biorenewable inks can be derived from plant materials, including gums, resins, waxes, solvents, oils and other polymer building blocks, according to the National Association of Printing Ink Manufacturers (NAPIM).

Sun Chemical's Response

Sun Chemical has aligned several of its sustainability goals with those of the UN's agenda for sustainable development to drive sustainability in the packaging industry. Furthermore, Sun Chemical is supporting the goal of lowering CO_2 emissions by developing biorenewable inks that will help to reduce the carbon footprint of the printing industry.

By partnering with HAVI, a global company that innovates, optimizes, sources and manages the packaging and supply chains of leading foodservice brands, Sun Chemical has introduced *SunVisto® AquaGreen* to the market. The line of water-based inks, formulated with significantly higher levels of biorenewable resin content compared to other previous market offerings, offers a natural, cleaner, green option for food packaging.

Sun Chemical's *SunVisto® AquaGreen* biorenewable inks have been certified and specified by HAVI to be a recommended natural-based ink solution, ensuring that foodservice brands and manufacturers receive truly renewable packaging ink.

HAVI's extensive global network and relationships with package developers on all continents means that Sun Chemical's natural-based inks could be used by any of HAVI's global partners anywhere in the world.

SunVisto® AquaGreen inks can be blended with varnishes and standard water-based pigment dispersions, and do not compromise end-use or on-press performance. They also offer outstanding print fidelity and ink resolubility on press, quick setting for in-line converting and high levels of resistance properties to rub, abrasion, water and grease.

The aim of Sun Chemical's sustainability initiatives relating to raw materials used and its manufacturing processes is to increase the plant-based biorenewable content (BRC) and/or recycled content in Sun Chemical products. Sun Chemical is moving on from using fossil-based raw materials, which are limited resources, to utilizing sustainable plant-based raw materials.

Striving to foster a circular economy, McDonald's teams up with partners like Sun Chemical and HAVI to transition all of its packaging to be 100% renewable, recycled or certified by 2025. Updates include packaging to popular menu items like hamburger clam shells, and commonly used bagging such as the small McDonald's bag.

Sun Chemical's *SunVisto*® *AquaGreen* water-based flexo inks are an example of a biorenewable ink being used on McDonald's packaging as displayed on various samples that will be shown at Interpack 2020 in Düsseldorf, Germany.

In addition to *SunVisto*® *AquaGreen*, both Sun Chemical and DIC will exhibit a full range of sustainable products with the goal of showing converters and brand owners the Power of Sustainable Packaging. This theme will show the market the commitment of Sun Chemical and DIC to sustainable product development across all packaging markets and applications.

SunVisto® *AquaGreen* is being used to create more sustainable fast food packaging.

VOICE We are building a comprehensive support system to achieve sustainable goals for customers.

Sun Chemical understands that today's environment requires more than just change—it demands transformation. At Sun Chemical, we are passionate about sustainability within the industry and will continue to develop our products and market approach to drive transformation. We're teaming up with like-minded, environmentally friendly brands to develop many other solutions designed to reduce global CO_2 emissions and increase the use of biorenewable and recyclable raw materials throughout the entire supply chain.

Vice President, Global Marketing, Inks & Global Communications, Sun Chemical Corporation **Penny Holland**

DIC Asia Pacific's Activities

The Asia–Pacific region is known for its rich cultural diversity, varying business complexity, young tech savvy workforce and the abundance of fast-growing business opportunities. This is our business domain. As we have seen in COVID-19, the use of digital tools is eminent as we see the emergence of a "new normal." Businesses that adapt fast to the new digitalization movement will be successful as aspiring companies reposition themselves to leverage these business opportunities. Change is the only constant in this dynamic millennium economy.

The Drive Toward the "3Ss"

Fortunately, DIC Asia Pacific embraced digital transformation early on. Using innovative digital tools while leveraging activities across all fronts, the region was able to drive a total solutions-based approach supporting our customers (as a group) in the Value Transformation pillar.

In line with DIC111, the Asia–Pacific region will accelerate its drive to focus on the concept of the "3Ss," i.e., Support, Specialization and Sustainability. This entails the drive toward Support and strengthening of the functional and specialist organization. We will introduce more structured e-learning initiatives to further build competencies, while enhancing and effectively growing DIC's human capital base. To complement organic growth potential, the region will establish a professional and quick response team to support the merger and acquisition activities in the region.

Through Specialization, and working effectively, DIC Asia Pacific envelopes the "One DIC" concept by creating a functional network spanning the region to resolve issues and fostering a border–transcendent collaborative mindset. This approach drives Value Transformation and New Pillar Creation initiatives as explained in DIC111. DIC Asia Pacific is committed to actively supporting customers' value creation.

The product specialist team is accelerating support through the introduction of "Tool Box/Kits." Conversely, on the marketing front, the regional managers are working with the local sales team to drive coordinated and targeted sales campaigns while capitalizing on data analytics for a more focused sales approach.

On the Sustainability front, the region is focused on driving these programs targeted at the three major stakeholders, i.e., customers, business partners and our valued employees. DIC Asia Pacific has established a sustainable organization by proactively introducing sustainable products coupled with a sustainable procurement system through a centralized raw materials purchasing regime. Moreover, DIC Asia Pacific is introducing policies and training programs to improve skills necessary for a sustainable working environment balancing work and life in a new digital economy.

DIC Asia Pacific focuses on critical activities and continues to roll out plans to enhance and drive sustainable development in the Asia–Pacific region. These will be done through strong and active collaboration with Group resources to drive value to all our customers and society under the "One DIC" banner.

DIC Asia Pacific Pte Ltd office

The Drive Toward the "3Ss"

Support	Specialization	Sustainability
Strengthen Specialized Expertise - Learning and development initiatives - Grow human capital and maximize talent bench strength - Establish talented task force for strategic projects and supporting M&A activities - Talent scouting and grooming	Capitalize on Core Expertise - Introduce a collaborative regional framework - Instill a, "One DIC" mindset - Create creative and innovative ways of working to create and enhance value - Achieve results by collaboration to gain synergies	Focus on Three Major Stakeholders - Value creation with customers, business partners and our employees via innovative process and delivery of services - Develop products that are socially acceptable and valued - Promote work–life balance - Diversity and transparency - Talent development
Supported by functional accountability and responsibility		

DIC (China)'s Activities

In the PRC, the DIC Group operates some 30 companies employing more than 2,000 employees. These companies are responsibly delivering excellent products and services while also contributing to their communities. In fiscal year 2019, DIC conducted many community activities, a few of which are introduced here.

Ties with Society

1 DIC (Guangzhou) Co., Ltd.

On April 28, 2019, DIC (Guangzhou), which is involved in the sale of DIC products, sponsored a tree-planting event with the aim of contributing to environmental protection.

2 Qingdao DIC Liquid Crystal Co., Ltd.

Qingdao DIC Liquid Crystal, which manufactures base components for LC materials, held an environmental protection event that included cleaning and collecting waste in the area around its plant on May 5, 2019. On July 14, the company held Family Day, an event for the families of employees, which welcomed 126 people (44 employees, 35 adult family members and 47 children).

3 DIC Synthetic Resins (Zhongshan) Co., Ltd.

On August 10, 2019, synthetic resins and metal carboxylates manufacturer DIC Synthetic Resins (Zhongshan) held an environmental education event for children titled "Hand-in-Hand Green Mountaineering." The event earned high marks from participants.

4 DIC Zhangjiagang Chemicals Co., Ltd.

On August 3, 2019, DIC Zhangjiagang, which manufactures functional compounds, fiber and textile colorants, and synthetic resins, held a unique Family Day event designed to demonstrate its management philosophy and express its appreciation to employees and their families, the stated theme of which was to leverage the power of the family to fulfill the company's dreams. On December 8, the company participated in the "Walk for Love, Walk in City" jogging event in an effort to reinforce its reputation as a good corporate citizen.

5 DIC Graphics (Guangzhou) Ltd.

From September through October 2019, DIC Graphics (Guangzhou), a manufacturer of printing inks, sought to fulfill its responsibility as a corporate citizen by conducting a traffic safety program for children under the theme of "protecting children with love and support" in collaboration with a local volunteer organization.

6 Qingdao DIC Finechemicals Co., Ltd.

Each year, Qingdao DIC Finechemicals provides assistance to areas affected by disasters or poverty. In fiscal year 2019, employees used their company trip to visit primary schools for Miao and Yi children in Guoquanyan Township, part of Nayong County, in the city of Bijie, Guizhou Province, to donate winter clothes to children.

Ties with Stakeholders

In April 2019, DIC (China) created an official account on WeChat, the PRC's largest multipurpose social media app, which boasts 1.1 billion users. The company will use its new WeChat account to enhance communications with stakeholders. The company invites people to scan the QR code to the right to follow the account and access the latest information on DIC (China).

Corporate Governance

Basic Approach to Corporate Governance

The DIC Group identifies the purpose of corporate governance as being to ensure effective decision making pertaining to its management policy of achieving sustainable corporate growth and expansion through sound and efficient management, while at the same time guaranteeing the appropriate monitoring and assessment of and motivation for management's execution of business activities. With the aim of achieving a higher level of trust on the part of shareholders, customers and other stakeholders and enhancing corporate value, the DIC Group also promotes ongoing measures to reinforce its management system and ensure effective monitoring thereof.

Policy on Corporate Governance

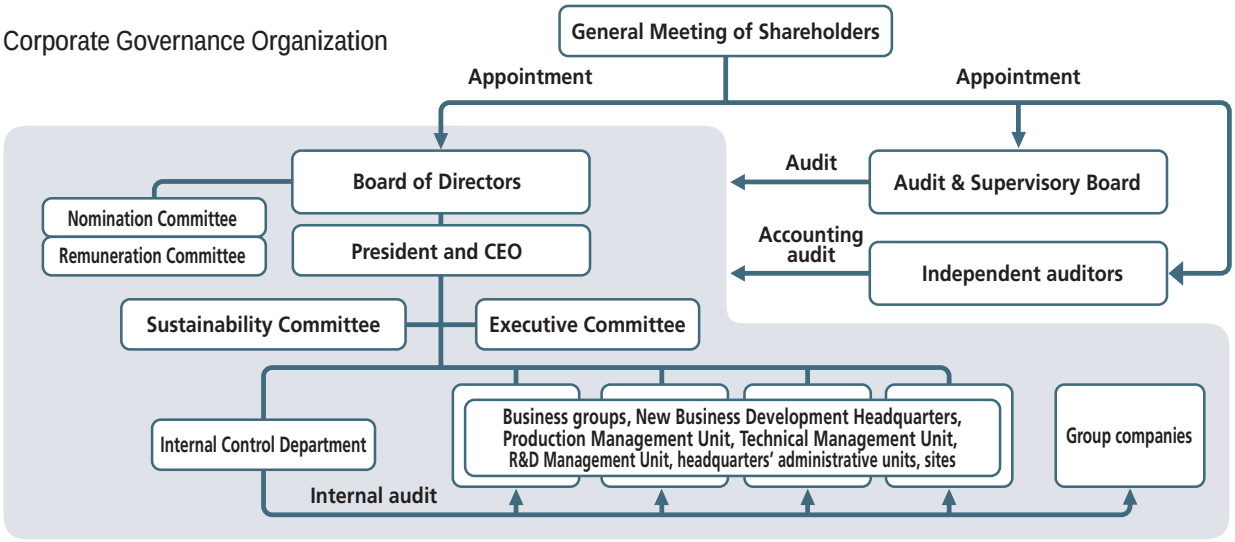
DIC has prepared a Policy on Corporate Governance, which it has published on its corporate website.

Policy on Corporate Governance WEB https://www.dic-global.com/pdf/ir/management/governance/governance_en.pdf

Corporate Governance Organization

A company with internal auditors, DIC maintains a Board of Directors and an Audit & Supervisory Board. DIC has also instituted an executive officer system and has established a Nomination Committee, a Remuneration Committee, an Executive Committee and a Sustainability Committee.

Corporate Governance Organization



1 Board of Directors

To accelerate decision making and reinforce corporate governance, eight directors have been elected to the Board of Directors. Of the eight, three are outside directors (one of whom is female). In principle, the Board meets once monthly. The Board of Directors is responsible for making decisions on matters stipulated in the Companies Act of Japan, and in DIC's own regulations, as requiring Board-level approval, as well as for monitoring the execution of business activities, as reported by the executive officers.

2 Nomination Committee

The Nomination Committee was established as an internal committee of the Board of Directors with the aim of ensuring objectivity in the nomination of candidates for the position of director, Audit & Supervisory Board member or executive officer, and the dismissal of serving directors, Audit & Supervisory Board members and executive officers. The committee, which submits proposals to the Board of Directors, meets as necessary. At present, three of the committee's five members are independent outside directors, while the position of committee chairman is filled by an independent outside director.

3 Remuneration Committee

The Remuneration Committee was established as an internal committee of the Board of Directors with the aim of enhancing the objectivity of procedures for determining executives' remuneration. The committee, which has been entrusted with responsibility for determining the salaries and bonuses of directors and executive officers, meets as necessary. At present, three of the committee's five members are outside directors, while the position of committee chairman is also filled by an independent outside director.

4 Executive Committee

The Executive Committee deliberates and resolves issues related to the execution of business activities. In principle, the committee meets twice monthly. Committee members are directors and executive officers designated by the Board of Directors. Meetings are also attended by one Audit & Supervisory Board member as part of the auditing process. Details of deliberations and resolutions are reported to the Board of Directors.

5 Sustainability Committee

The Sustainability Committee, which functions as an advisory body, meets several times annually to formulate sustainability policies and activity plans, as well as to evaluate and promote initiatives. Committee members are directors and executive officers designated by the Board of Directors. As part of audit activities, one Audit & Supervisory Board member also attends Sustainability Committee meetings. The committee reports the matters upon which it deliberates and the results of its deliberations to the Board of Directors.

6 Audit & Supervisory Board

The Audit & Supervisory Board comprises four members, including two outside Audit & Supervisory Board members (one of whom is female). In principle, the Audit & Supervisory Board meets once monthly. Board activities include debating and determining auditing policies and auditing plans. Board members also report on the results of audits conducted, as well as attend important meetings, including those of the Board of Directors, the Executive Committee and the Sustainability Committee, meet with representative directors on a periodic basis to exchange information and opinions and collect business reports from directors, executive officers and employees. In addition, DIC has established an Audit & Supervisory Board Members' Office to which it assigns dedicated personnel to assist the members in their duties.

Full-time Audit & Supervisory Board member Hiroyuki Ninomiya oversaw corporate accounts at the Company for many years and previously served as general manager of the Accounting Department and Head of the Finance and Accounting Unit. DIC's two outside Audit & Supervisory Board members also have extensive experience in and knowledge of finance and accounting, which they are able to leverage in the performance of their duties as outside directors of DIC. Outside Audit & Supervisory Board member Katsunori Takechi provides tax accounting services pursuant to Article 51 of the Certified Public Tax Accountant Act and has broad experience in the field of corporate law. Outside Audit & Supervisory Board member Michiko Chiba is a certified public accountant and has extensive experience in corporate auditing.

7 Internal Auditing Department

The internal auditing department is charged with internal auditing, which includes monitoring the effectiveness of internal controls at DIC and domestic DIC Group companies. For DIC Group companies in Asia, Oceania, the PRC, the Americas and Europe, internal auditing is the responsibility of local internal auditing teams.

8 Accounting Auditors

DIC has engaged Deloitte Touche Tohmatsu LLC as its independent auditors. DIC strives to ensure an environment that facilitates the accurate disclosure of information and fair auditing. The members of the Audit & Supervisory Board, accounting auditors and the internal auditing department conduct audits from their respective independent positions, but also liaise periodically to facilitate close cooperation, thereby ensuring the effectiveness of auditing activities.

Meeting Data

Number of and attendance at meetings of the Board of Directors, Nomination Committee and Remuneration Committee in fiscal year 2019

Board of Directors: Number of meetings: 18; attendance: 100%

Nomination Committee: Number of meetings: 1; attendance: 100%

Remuneration Committee: Number of meetings: 2; attendance: 100%

Rationale Behind Current Corporate Governance Organization

DIC has instituted an executive officer system, a move aimed at separating decision making and implementation and thereby accelerating business execution and clarifying responsibilities. As well as appointing three highly independent outside individuals to its Board of Directors, the Company has taken steps to reinforce its monitoring of business execution. DIC also has a Nomination Committee and a Remuneration Committee, which include the three outside directors, to ensure objectivity in the nomination of, and in determining remuneration for, directors and executive officers. The four-member Audit & Supervisory Board, which includes one attorney and one certified public accountant as outside members, liaises with the accounting auditors and the internal auditing department. This structure ensures the effective functioning of DIC's corporate governance system.

System of Internal Controls

1 Status of the System of Internal Controls

The DIC Group maintains a keen awareness of four key objectives, which are to ensure the effectiveness and efficiency of its businesses, uphold the reliability of its financial reporting, comply with laws and regulations relevant to its business activities, and safeguard its assets. To this end, DIC has prepared and operates a system of internal controls, key components of which are summarized below, based upon the Companies Act of Japan and the Financial Instruments and Exchange Act of Japan. The Board of Directors hears annual reports on the status of the system of internal controls, a synopsis of which is included in the Company's official report on its business activities. The following is summary of the synopsis:

1. *The Company shall work to set forth the DIC Group Code of Business Conduct as the standard regarding compliance, which directors and employees of the DIC Group shall comply with, and to disseminate the same.*
2. *The Company shall establish an internal notification system as a channel available for the employees of the DIC Group and set up multiple notification channels for communication used in the conduct of business. The Company shall prepare a structure that can quickly respond to domestic and internal notifications.*
3. *In order to ensure the duties of directors are performed properly and efficiently within the DIC Group, the Company shall establish regulations regarding company organization and authority.*
4. *The Company shall formulate medium-term management plans and the annual budget based on management policies and management strategies, and, through dissemination of the same, ensure common goals are shared within the DIC Group. The Company shall make progress reports to the Board of Directors.*
5. *Information pertaining to the performance of duties by directors shall be recorded, retained and managed appropriately based on the regulations for document management. The Company shall establish regulations for systems of information management and shall prepare a system for preventing leakage of confidential information of the DIC Group.*
6. *The Company shall formulate a risk management policy and shall identify, assess, prioritize and address properly any risks that may have a significant impact on management of the DIC Group.*
7. *The Company shall determine an administrative department for each subsidiary from the standpoints of the conduct of business and business management, and shall supervise business affairs by dispatching a director to each subsidiary.*
8. *The Company shall clarify important matters pertaining to subsidiaries that require reporting to the Company.*

2 Basic Policy Toward Eliminating Demands by Antisocial Elements

DIC's basic policy, as outlined in the DIC Group Code of Business Conduct, is to stand firmly against antisocial elements and in no way to acquiesce to demands presented by such elements. The General Affairs and HR Department is responsible for coordinating efforts to respond to extortion or other demand presented by antisocial elements, while individuals have been put in charge of efforts at each site and within each Group company. These individuals work in close collaboration with lawyers and the police to ensure the Company's responses are resolute. DIC has also prepared and distributed a manual on appropriate responses to such demands, with the aim of raising awareness among employees.

Outside Directors and Outside Audit & Supervisory Board Members

1 Number and Role of Outside Directors and Outside Audit & Supervisory Board Members

DIC currently has three outside directors and two outside Audit & Supervisory Board members. In addition to attending meetings of the Board of Directors, the outside directors—who have extensive experience in corporate management—serve as members of the Nomination Committee and the Remuneration Committee, enabling them to provide supervision with an independent point of view, thereby helping to reinforce DIC's corporate governance. The two outside Audit & Supervisory Board members—one an attorney specializing in corporate law and the other a certified public accountant—advise management of the DIC Group from an expert, multifaceted and independent perspective, thereby helping to reinforce the auditing function.

2 Standards Used to Evaluate the Independence of Outside Directors and Outside Audit & Supervisory Board Members

DIC has established standards for evaluating the independence of individuals appointed to the position of outside director or outside Audit & Supervisory Board member, which are shown below. DIC's outside directors and outside Audit & Supervisory Board members are individuals who, based on these standards, are unlikely to have conflicts of interests with ordinary shareholders and who comply with criteria for the independence of directors/audit & supervisory board members set by the Tokyo Stock Exchange.

Independence Standards for Outside Officers

DIC does not recognize individuals with the connections listed below as being independent in the appointment of outside officers.

1. Individuals who are executive officers of DIC or of one of its consolidated subsidiaries at present or have been in the preceding 10 years.
2. Individuals to whom any of the following items have applied in the preceding three years:
   - ❶ A principal business partner of the DIC Group (a business partner with which transactions in a single fiscal year exceed 3% of the DIC Group's consolidated net sales in that year) or an executive officer of a company to which this description applies
   - ❷ An individual for which the DIC Group is a principal business partner (a company with which the DIC Group's transactions in a single fiscal year exceed 3% of the company's consolidated net sales in that year) or an executive officer of a company to which this description applies
   - ❸ A shareholder who holds 5% or more of voting rights in DIC or an executive officer of a company to which this description applies
   - ❹ A principal lender to the DIC Group (a lender from which loans in a single fiscal year exceeds 3% of the DIC Group's total assets in that year) or an executive officer of a company to which this description applies
   - ❺ An individual who has received contributions in a single fiscal year that exceeds ¥10 million or belongs to a group to which this description applies
   - ❻ An accounting auditor, an accountant who has served as an accounting auditor for the DIC Group or an individual who is an employee, partner or associate of an audit firm to which this description applies
   - ❼ An individual to whom ❻ above does not apply but who has received remuneration from the DIC Group in excess of ¥10 million in a single fiscal year as a provider of professional services, such as consulting, accounting or legal services, or an individual who belongs to a group that has received remuneration in excess of 3% of its consolidated net sales in that year as compensation for professional services, such as consulting, accounting or legal services
   - ❽ A corporate executive of another company in the event that an executive officer of DIC is appointed to an outside officer position at that company
3. A spouse or relative within two degrees of kinship of individuals listed in section 1 or 2 above
4. An individual whose term in office as an outside officer of DIC has exceeded eight years

❸ Framework for Supporting the Efforts of Outside Directors and Outside Audit & Supervisory Board Members

Prior to meetings of the Board of Directors, relevant materials are distributed to all directors, full-time Audit & Supervisory Board members, outside directors and outside Audit & Supervisory Board members. In addition, directors bringing matters before the Board provide explanations in advance to outside directors, while full-time Audit & Supervisory Board members provide explanations as necessary to outside Audit & Supervisory Board members.

Other Initiatives to Enhance the Corporate Governance Organization

❶ Composition of the Board of Directors

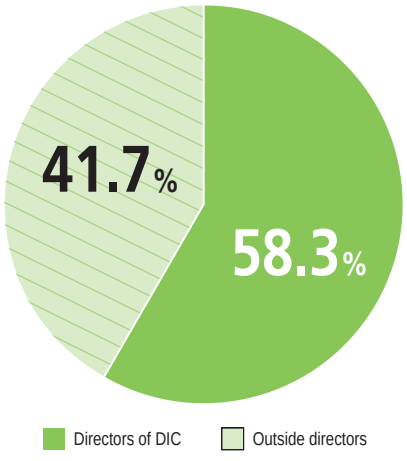
To enable the Board of Directors to resolve major operations-related issues, as well as to facilitate the effective oversight of management, the Board of Directors comprises outside directors, who maintain independence, and other individuals having a thorough knowledge of the businesses of the DIC Group, with consideration given to ensuring a balance among necessary knowledge, experience and capabilities. In light of the DIC Group's global operations, DIC also strives to ensure diversity in the Board's composition.

One member of the Board of Directors is female, as is one member of the Audit & Supervisory Board.

Composition of the Board of Directors and the Audit & Supervisory Board

	In-house	Outside	Total	Percentage of outside members
Directors	5	3	8	37.5%
Audit & Supervisory Board members	2	2	4	50.0%
Total	7	5	12	41.7%

Composition of the Board of Directors



2 Remuneration for Executives

Remuneration for directors is determined by the Remuneration Committee, which takes into account prevailing market rates, and consists of basic remuneration; bonuses, which are linked to consolidated operating results and the degree of achievement of individual targets; and stock compensation, which is based on medium- to long-term operating results. Directors who serve concurrently as executive officers are eligible for bonuses and stock compensation. Other directors and outside directors are eligible for basic remuneration only. Remuneration for Audit & Supervisory Board members consists of basic remuneration only and is determined through discussion involving all Audit & Supervisory Board members, in accordance with internal rules established by the Audit & Supervisory Board, with consideration given to ensuring a balance with remuneration for directors and to prevailing market rates.

Remuneration for Directors and Audit & Supervisory Board Members in Fiscal Year 2019

	Total remuneration (Millions of yen)	Composition of remuneration (Millions of yen)			Number of directors and Audit & Supervisory Board members
		Basic salary	Bonus	Stock compensation	
Directors (excluding outside directors)	269	219	34	16	6
Audit & Supervisory Board members (excluding outside Audit & Supervisory Board members)	60	60	—	—	3
Outside officers	60	60	—	—	7

Notes:
1. The above data includes that for one outside director, one inside Audit & Supervisory Board member and one outside Audit & Supervisory Board member who retired at the conclusion of the 121st Annual General Meeting of Shareholders held on March 27, 2019.
2. The total amount of stock compensation is the total monetary value of shares corresponding to the points granted for fiscal year 2019 based on the Company's performance-based stock compensation plan.

3 Evaluation of the Board of Directors' Effectiveness

DIC conducts an analysis and evaluation of the effectiveness of the Board of Directors annually via a self-evaluation conducted by the directors and Audit & Supervisory Board members. In fiscal year 2019, the Company conducted a survey of all directors and Audit & Supervisory Board members regarding, among others, self-evaluation and Board administration, responses to which were analyzed and evaluated by the Board of Directors. As a result, the effectiveness of the Board of Directors was confirmed.

To further improve the Board's effectiveness, DIC recognizes the enhancement of discussion regarding corporate strategy, including confirming the status of the medium-term management plan, as a key challenge and will continue working to promote improvements.

Directors, Audit & Supervisory Board Members and Executive Officers

(As of May 2020)

Directors

1 Chairman of the Board of Directors
Yoshiyuki Nakanishi

2 Representative Director
Kaoru Ino

3 Representative Director
Masayuki Saito

4 Director
Yoshihisa Kawamura

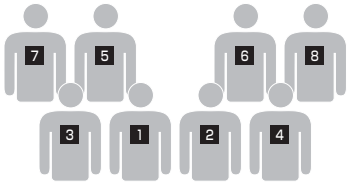
5 Director
Toshifumi Tamaki

6 Director*
Kazuo Tsukahara

7 Director*
Yoshiaki Tamura

8 Director*
Kuniko Shoji

* Outside



Audit & Supervisory Board Members

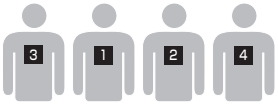
1 Audit & Supervisory Board Member
Hiroyuki Ninomiya

2 Audit & Supervisory Board Member
Akihiro Ikushima

3 Audit & Supervisory Board Member*
Katsunori Takechi

4 Audit & Supervisory Board Member*
Michiko Chiba

* Outside



Outside Director Profiles

Kazuo Tsukahara

April 2008 Director and Managing Executive Officer, IHI Corporation
April 2012 Representative Director and Executive Vice President, IHI Corporation
June 2014 Advisor, IHI Corporation

Kuniko Shoji

June 2004 Executive Officer, Terumo Corporation
June 2010 Director and Senior Executive Officer, Terumo Corporation
June 2017 Advisor, Terumo Corporation

Yoshiaki Tamura

January 2007 Executive Officer, Asahi Glass Co., Ltd.
March 2013 Representative Director and Executive Vice President, Asahi Glass Co., Ltd.
March 2017 Executive Fellow, Asahi Glass Co., Ltd.

Outside Audit & Supervisory Board Member Profiles

Katsunori Takechi

April 2000 Public Prosecutor, Civil Affairs Bureau, Ministry of Justice
October 2003 Joined Anderson Mōri & Tomotsune
July 2011 Managing Partner, Takechi & Partners

Michiko Chiba

October 1989 Joined Showa Ota & Co. (currently, Ernst & Young ShinNihon LLC)
July 2010 Senior Partner, Ernst & Young ShinNihon LLC
September 2016 Founded Chiba Certified Public Accountant Office

Executive Officers

President and CEO
Kaoru Ino

Executive Vice President
Masayuki Saito
Assistant to President and CEO
Chairman of the Board, Sun Chemical Corporation
Chairman of the Supervisory Board, Sun Chemical Group Coöperatief U.A.

Managing Executive Officer
Masami Hatao
President, Color & Display Business Group
General Manager, Display Material Products Div.

Managing Executive Officer
Toshifumi Tamaki
Head of Corporate Strategy Unit
In Charge of Kawamura Memorial DIC Museum of Art

Managing Executive Officer
Naoyoshi Furuta
General Manager, Production Management Unit

Managing Executive Officer
Masaya Nakafuji
Head of General Affairs and Legal Unit
In Charge of Diversity

Managing Executive Officer
Kazuo Hatakenaka
President, Functional Products Business Group
General Manager, Performance Material Products Div.

Managing Executive Officer
Kiyotaka Kawashima
General Manager,
Technical Management Unit

Executive Officer
Rudi Lenz
Vice Chairman of the Board,
Sun Chemical Corporation

Executive Officer
Shinsuke Toshima
Chairman, DIC (China) Co., Ltd.
Chairman, DIC (Shanghai) Co., Ltd.

Executive Officer
Taihei Mukose
Head of Purchasing and Logistics Unit
Head of ESG Unit
General Manager, Purchasing Dept

Executive Officer
Paul Koek
Managing Director,
DIC Asia Pacific Pte Ltd

Executive Officer
Myron Petruch
President and CEO,
Sun Chemical Corporation

Executive Officer
Takeshi Asai
General Manager,
Corporate Planning Dept.
In Charge of Osaka Branch and Nagoya Branch, Integration Promotion

Executive Officer
Koji Asada
Head of SCM Unit

Executive Officer
Masahiro Kikuchi
Deputy Managing Director
(AP Region NonGraphic Business and South Asia), DIC Asia Pacific Pte Ltd

Executive Officer
Masamichi Sota
President, Packaging & Graphic Business Group
General Manager, Printing Material Products Div.

Executive Officer
Yuji Morinaga
General Manager,
Packaging Material Products Div.

Executive Officer
Shuji Furuta
Head of Finance and Accounting Unit
CFO

Executive Officer
Kiyofumi Takano
General Manager,
New Business
Development Headquarters

Executive Officer
Yoshinari Akiyama
General Manager,
Color Material Products Div.

Executive Officer
Toshiro Ariga
General Manager,
R&D Management Unit
General Manager, Central Research Laboratories

Executive Officer
Takashi Ikeda
General Manager,
Composite Material Products Div.

Overview of Sustainability

In line with its basic sustainability policy, the DIC Group promotes a variety of sustainability initiatives worldwide and works to maintain an accurate grasp of social imperatives pertaining to ESG-related issues.

Sustainability Report

Amid rising environmental concerns, including climate change, and increasingly urgent social imperatives, companies today face an ever-more diverse array of challenges, including rising awareness of the need to achieve sustainability in a manner that takes into account the environment, ecosystems and socioeconomic issues. The DIC Group launched its corporate social responsibility (CSR) program in fiscal year 2007. Having further clarified the overall direction of related initiatives as "sustainable growth," effective from fiscal year 2014 the Group changed the designation used across its program from "CSR" to "sustainability." In fiscal year 2018, DIC established the ESG Unit, a specialized department to further expand Group ESG initiatives worldwide. In line with its basic sustainability policy, the DIC Group promotes a variety of sustainability initiatives worldwide and works to maintain an accurate grasp of social imperatives pertaining to ESG-related issues.

Basic Sustainability Policy (Partially revised in March 2019)

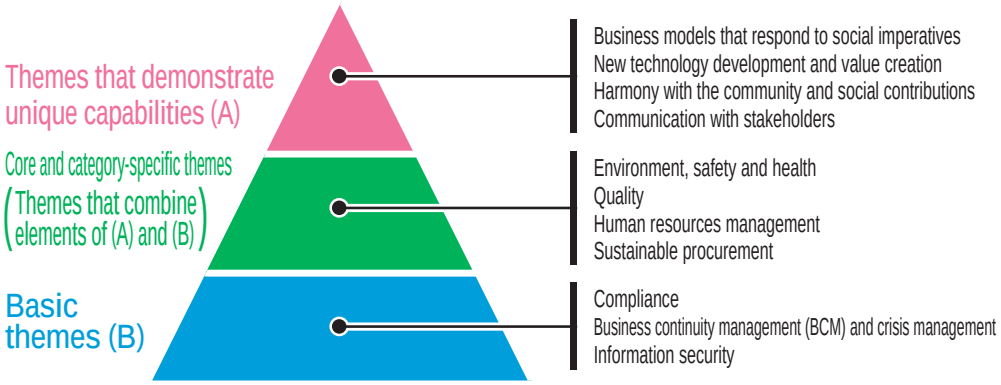
The DIC Group is dedicated to conducting its business while retaining a strong commitment to five key concepts: preserving safety and health, managing risks, ensuring fair business practices and respect for diversity and human rights, maintaining harmony with the environment and advancing its protection, and creating value for society through innovation and contributing to ongoing economic growth. DIC Group employees will continue working to deliver the value that its stakeholders—including its customers, suppliers, local communities, shareholders and investors, and employees—expect, showing ingenuity and a sense of responsibility. The Group itself will strive to remain an organization that contributes to sustainability for society, as well as to the conservation and improvement of the global environment, by capitalizing on its businesses to achieve unfaltering growth, thereby enhancing its own sustainability.

Notes: 1. With the aim of ensuring that it remains a globally trusted corporate citizen with a proud reputation, in December 2010 the DIC Group became a signatory to the UNGC. The Group also takes the guidelines provided by ISO 26000, the International Organization for Standardization's standard for social responsibility, into account in conducting its operations.
2. The global community today recognizes the promotion of ESG management, which seeks to balance sustainable economic growth and the resolution of social imperatives, as critical. This is evidenced by the fact that countries worldwide have ratified the Paris Agreement and the SDGs, both of which were adopted in 2015.

Sustainability Framework and Themes

Themes

To foster concrete measures, in fiscal year 2007 the DIC Group identified 12 key themes as a framework for implementing its CSR program. Subsequently, the Group partially revised these themes in response to changes in the external environment and the progress of its efforts. Today, the Group's sustainability framework comprises 11 key themes, which are categorized as basic themes, themes that demonstrate unique capabilities and themes that combine elements of the previous two classifications. The Group implements a broad range of global initiatives that take into account its responsibility to ensure proper product stewardship, as well as its position as a leading manufacturer of fine chemicals.



Deployment

In line with its basic sustainability policy, the DIC Group has formulated medium-term (fiscal years 2019–2021) policies and creates annual activity plans for each of these themes. The Group makes use of the plan–do–check–act (PDCA) cycle in promoting initiatives and reports on its achievements annually in the DIC Report. Individual product divisions, business groups, sites, and overseas and domestic DIC Group companies are charged with pursuing effective sustainability programs by formulating their own annual activity plans, based on the Group's plan, as well as with ensuring that the Group's policies permeate their organizations and labor forces and linking sustainability initiatives to business targets.

System for Promoting Sustainability Initiatives

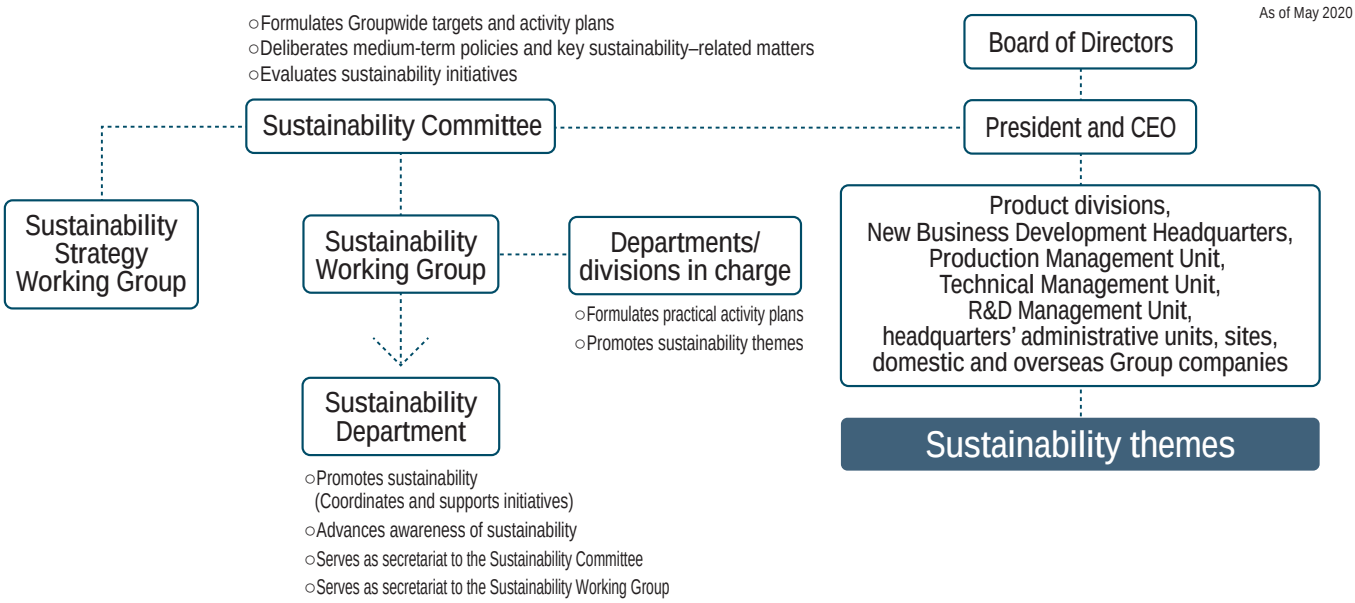
The DIC Group's system for promoting sustainability initiatives centers on the Sustainability Committee, which answers directly to the president and CEO and which met four times in fiscal year 2019. The committee is tasked with reporting on the status of sustainability themes, as well as with proposing policies and programs for advancing sustainability and deliberating on critical related matters. Effective from January 2020, the committee is chaired by the president.

In January 2019, DIC established the Sustainability Strategy Working Group, which is responsible for formulating and advancing the implementation of concrete strategies for promoting sustainability.

Members of the Sustainability Committee

Executive Vice President, Head of the Finance and Accounting Unit, Head of the Corporate Strategy Unit, Head of the General Affairs and Legal Unit, Head of the ESG Unit, Presidents of the business groups, Head of the Purchasing and Logistics & Information Systems Unit, General managers of the product divisions, General Manager of the Production Management Unit, General Manager of the Technical Management Unit, General Manager of the R&D Management Unit, General Manager of the New Business Development Headquarters, General Manager of the Corporate Planning Department, CEOs of regional headquarters, and Members of the Audit & Supervisory Board

As of May 2020



Ensuring DIC Remains a Globally Trusted Corporate Citizen with a Proud Reputation

Leveraging Its Position as a Global Manufacturer of Fine Chemicals to Support the UNGC

Seeking to fulfill its responsibilities as a member of the international community in a more proactive manner, in December 2010 the DIC Group became a signatory to the United Nations Global Compact (UNGC) and pledged its support for the Ten Principles of the UNGC.

Inaugurated in 2000, the UNGC is a voluntary initiative for companies that seek to achieve sustainable development. Companies and organizations worldwide have pledged their support for the UNGC in the belief that global sustainable development is possible if companies align their business practices with, and fulfill their social responsibilities in, 10 globally accepted principles in the areas of human rights, labor, the environment and the prevention of corruption.

Applying the Ten Principles of the UNGC

The DIC Group Code of Business Conduct conforms with the Ten Principles of the UNGC. The Group is capitalizing on its participation in this program to advance its operations around the world, while at the same time giving ever-greater consideration to the environment and human rights, with the aim of ensuring sustainability for global society.

Complying with ISO 26000

The DIC Group operates in a manner that is consistent with ISO 26000, released in November 2010, which provides businesses and organizations guidelines for operating in a socially responsible manner.

Ten Principles of the UNGC (Official Version)

Human rights	Principle 1	Businesses should support and respect the protection of internationally proclaimed human rights; and
	Principle 2	make sure that they are not complicit in human rights abuses.
Labour	Principle 3	Businesses should uphold the freedom of association and effective recognition of the right to collective bargaining;
	Principle 4	the elimination of all forms of forced and compulsory labour;
	Principle 5	the effective abolition of child labour; and
	Principle 6	the elimination of discrimination in respect of employment and occupation.
Environment	Principle 7	Businesses should support a precautionary approach to environmental challenges;
	Principle 8	undertake initiatives to promote greater environmental responsibility; and
	Principle 9	encourage the development and diffusion of environmentally-friendly technologies.
Anti-corruption	Principle 10	Businesses should work against corruption in all its forms, including extortion and bribery.

Themes	DIC Sustainability Themes	Relevant UN SDG Icons
Themes that demonstrate unique **capabilities** (A)	Business models that respond to social imperatives	SDGs Goals 8, 9 and 11
	New technology development and value creation	SDGs Goals 9 and 12
	Harmony with the community and social contributions	SDGs Goals 3 and 4
	Communication with stakeholders	SDGs Goal 17
Core and **category-specific** themes (Themes that combine **elements of (A) and (B)**)	Environment, safety and health	SDGs Goals 3, 6, 7, 12, 13, 14 and 15
	Quality Human resources management	SDGs Goals 3, 4, 5, 8 and 10
	Sustainable procurement	SDGs Goal 12
Basic themes (B)	Compliance BCM and crisis management Information security	SDGs Goal 16

The 2030 Agenda for Sustainable Development

At the UN Sustainable Development Summit in September 2015, a proposal titled "Transforming our world: the 2030 Agenda for Sustainable Development," later summarized as the Sustainable Development Goals (SDGs), was adopted with the participation of more than 150 UN member states. The agenda, which succeeded the Millennium Development Goals (MDGs), encompasses 17 goals and 169 targets. All UN member states are expected to mobilize efforts to attain the 17 goals, essential to sustainable development for the planet, by 2030. The DIC Group pledges to contribute through its business activities to the success of the SDGs.

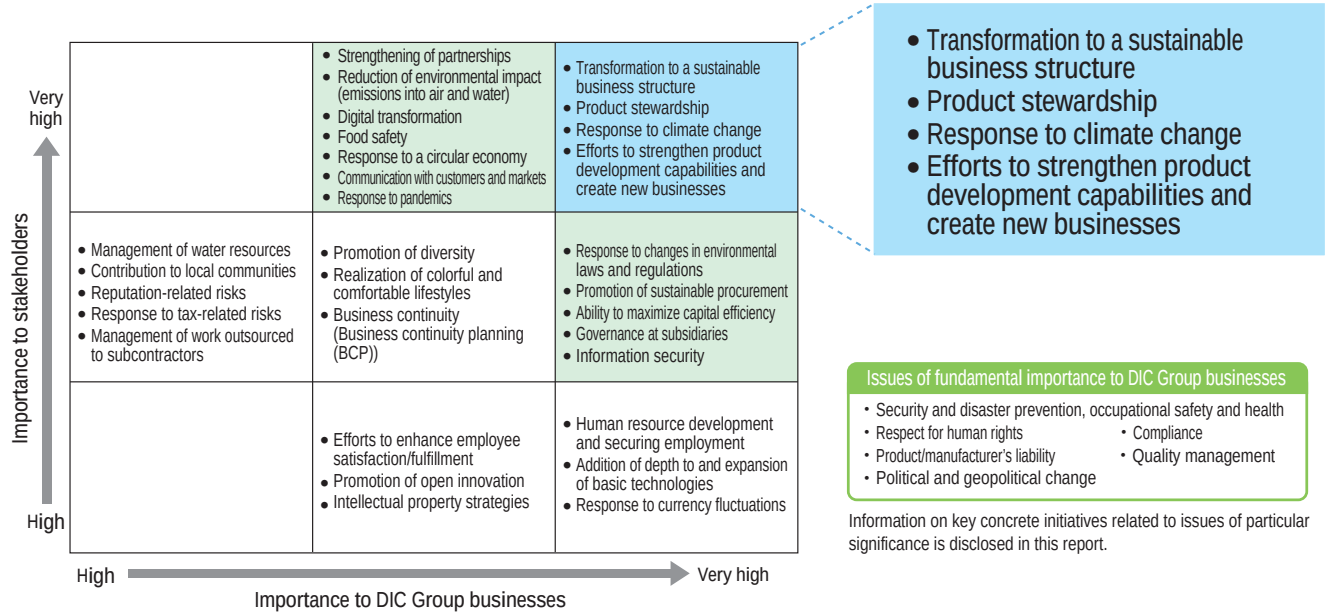
For more information on the SDGs, please visit:
WEB https://www.un.org/sustainabledevelopment/development-agenda/

Materiality Analysis

Identifying Priority Materiality Themes

Guided by its DIC111 medium-term management plan, launched in fiscal year 2019, the DIC Group once again abstracted and analyzed material issues, that is, issues with the potential to negatively affect its performance, from which it identified four themes of primary importance to the Group, which it designates priority materiality themes.

The DIC Group's Materiality Matrix



Information on key concrete initiatives related to issues of particular significance is disclosed in this report.

Process for Abstracting Material Issues

Members of the Sustainability Committee and its various working groups, site general managers and senior management from Group companies around the world assessed abstracted issues based on, among others, the GRI's G4 Sustainability Reporting Guidelines, social imperatives, risk management and issues delineated in DIC111. Based on the results of this process, and of extensive subsequent deliberations, issues of primary importance were determined.

Priority Materiality Themes

1 Transformation to a sustainable business structure

Reason for identification	Shifting from businesses that are vulnerable to changes in the macroenvironment to more differentiated high-value-added businesses is essential. There is also a need to shift to businesses that create social value, i.e., businesses that take into account factors such as value to customers and markets, as well as sustainability.
Targets/KPIs	Set forth policies for implementing the Value Transformation strategy in each business and determine concrete measures. Manage the progress and verify the benefits of each measure on a regular basis using the PDCA cycle.
Status	Measures formulated for fiscal year 2019 were implemented. In fiscal year 2020, consideration will be given to the further concentration of resources in markets expected to see further growth with regard to medium- and long-term market trends.

2 Product stewardship

Reason for identification

Collaboration with other industries will be increasingly important to the appropriate management of chemicals over their entire life cycles. Recognizing that the creation of a global operating system that facilitates the disclosure of product safety information and ensures smooth communication with customers is the foundation of product stewardship*. DIC has established a chemical substance information management system that facilitates the management of chemical substance information and has begun using a proprietary sustainability index, one purpose of which is to evaluate its efforts to minimize the environmental impact of products from the design stage.

Targets/KPIs

1. Implement the Global Chemical Information management Project (GCIP) (For more information, please see page 106.)
   (a) Fiscal year 2021: Begin using the new chemical substance information management system at DIC Group companies in Japan.
   (b) Fiscal year 2024: Expand deployment to overseas Group companies other than Sun Chemical.

2. Complete and introduce the proprietary sustainability index. (For more information, please see page 17.)
   (a) Fiscal year 2020: Begin use at DIC on a trial basis.
   (b) Fiscal year 2021: Promote full-scale deployment at Group companies.

Status

1. Implementation of the GCIP
   In fiscal year 2019, a project team was created and efforts to review business processes and define conditions for new processes commenced.

2. Completion and introduction of a proprietary sustainability index
   Individual categories for reduction of environmental impact and contribution to markets were determined and parameters were created.

* Product stewardship is a philosophy that emphasizes assessing product-specific ESH risks and sharing findings, together with information on appropriate handling, with stakeholders, with the aim of reducing the ESH impact of products over their entire life cycles, i.e., from the procurement of raw materials through production, sale and disposal.

3 Response to climate change

Reason for identification

The DIC Group recognizes that responding to climate change is increasingly important to a company's ability to conduct business and will work to reduce CO_2 emissions attributable to production, promote low-carbon businesses and satisfy TCFD requirements.

Targets/KPIs

1. Reduction in CO_2 emissions attributable to production: (Scope 1 + Scope 2 reduction)	30% from the fiscal year 2013 level by fiscal year 2030 (6.3% over the three years of DIC111)
2. Promotion of low-carbon businesses	25% increase in sales from the fiscal year 2018 level by fiscal year 2021
3. Response to the TCFD	Conduct scenario analysis and disclose in line with the recommendations of the TCFD (Help minimize and respond to climate change)

Note: Creation of an energy-saving and decarbonization framework → Introduction of internal carbon pricing and strengthening of efforts to address Scope 3 emissions

Status

To achieve its target for reducing CO_2 emissions, the DIC Group implements more than 500 initiatives annually at sites, and is investing actively in renewable energy at sites in Japan and overseas. CO_2 emissions are currently declining at a pace that exceeds targets at sites in Japan and overseas, with fiscal year 2019 emissions down approximately 20% from the fiscal year 2013 level.

Working groups began conducted scenario analysis in line with the TCFD in fiscal year 2019 and will report their findings in the DIC Report in fiscal year 2020. In fiscal year 2020, the Group began considering the introduction of internal carbon pricing (a system for placing a monetary value on CO_2 emissions, which can then be factored into estimates of economic risk and the benefits of emissions reduction initiatives), making investment decisions easier.

4 Efforts to strengthen product development capabilities and create new businesses

Reason for identification

The DIC Group views areas at the intersection of ESH-related issues and social changes and its core competencies and new businesses that contribute to the resolution of as priorities.

Targets/KPIs

Operating income of ¥10.0 billion in fiscal year 2025

Status

In fiscal year 2019, DIC integrated its own polymer design and other basic technologies with external processing technologies to develop and launch an innovative solvent-free package lamination system that is expected to contribute to the reduction of CO_2 emissions.

Support for the TCFD

In May 2019, the DIC Group declared its support for the Task Force on Climate-related Financial Disclosures (TCFD). Recognizing climate change as a critical factor affecting its businesses, the Group pledges to disclose related information in line with TCFD recommendations going forward.

Disclosures in Line with TCFD Recommendations

With the aim of helping institutional investors grasp climate-related risks and opportunities and make investment decisions, the TCFD has structured its recommendations around four thematic areas that represent the core elements of organizational management—governance, strategy, risk management, and metrics and targets.

Having acknowledged the disclosure of information on efforts to address climate change as an imperative for companies today, the DIC Group has resolved to do so in line with the TCFD's recommendations. Accordingly, the Group is enhancing its efforts to respond appropriately to risks and capitalize on opportunities associated with climate change with the objective of earning the trust of stakeholders through improved resilience and the proactive dissemination of information.

TCFD Recommendations for Financial Disclosures

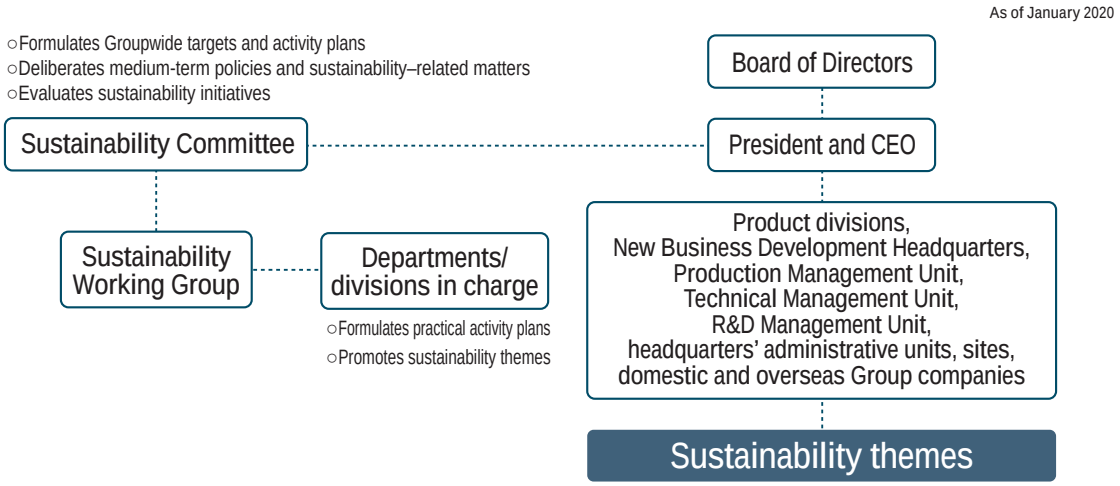
Governance	Strategy	Risk Management	Metrics and targets
Governance around climate-related risks and opportunities	Actual and potential impacts of climate-related risks and opportunities on businesses, strategy and financial planning	Processes used to identify, assess and manage climate-related risks	Metrics and targets used to assess and manage relevant climate-related risks and opportunities

1 Governance

The DIC Group recognizes climate change as a key management challenge. Important matters, including the setting of medium- and long-term targets for the reduction of CO_2 emissions, are deliberated and determined by the Sustainability Committee, which meets a minimum of three times annually and answers directly to the president and CEO, and the details are reported to the Board of Directors, in line with the rules governing the Board of Directors. (In principle, the Sustainability Committee reports to the Board of Directors on all of its deliberations.) A system is thus in place that ensures appropriate supervision of the Sustainability Committee is provided the Board of Directors.

To appropriately assess and manage climate change–related risks and opportunities, thereby ensuring the effective management of its operations, the Sustainability Committee consists of the president and CEO, the general managers of the Production Management Unit and Technical Management Unit, and the heads of the Corporate Strategy Unit, General Affairs and Legal Unit, Finance and Accounting Unit and ESG Unit, as well as the presidents of the business groups and the general managers of the product divisions.

As of January 2020



Principal Issues Deliberated by the Sustainability Committee in Recent Years

Fiscal year	Issues deliberated
2018	• Report on and evaluation of sustainability initiatives for fiscal year 2017 • Setting of target for the reduction of CO_2 emissions • Incorporating the promotion of ESG management into the new medium-term management plan • Annual sustainability activity plans and key performance indicators (KPIs) for fiscal year 2019
2019	• Medium-term sustainability policies*1 • Report on and evaluation of sustainability initiatives for fiscal year 2018 • Response to the Science Based Targets (SBT) initiative and the TCFD • Materiality in fiscal year 2019 (identification of priority materiality themes)*2 • Annual sustainability activity plans and KPIs for fiscal year 2020 • Report on progress of efforts to determine priority materiality themes

*1 After deliberation by the Sustainability Committee, medium-term sustainability policies are discussed and approved by the Board of Directors.
*2 "Response to climate change" was newly identified as a priority materiality theme in fiscal year 2019 and deliberated by the Sustainability Committee.

2 Strategy

DIC is promoting sustainable business strategies, recognizing the importance of risks and opportunities associated with climate change. Because the impacts of climate change are likely to surface over the medium to long term, the Company is working to enhance its understanding of the principal climate-related risks and opportunities (transition as well as physical) that are likely to have a financial impact over the medium to long term. DIC has commenced scenario analysis using multiple climate change scenarios with fiscal year 2030 as the target year. Through this process, the Company will work to raise its awareness of foreseeable opportunities and risks from a medium- to long-term perspective and at the same time to formulate and execute effective strategies on an appropriate time line.

Principal Climate-Related Risks

Type	Description
Emerging regulations (Transition)	There is a risk that emerging regulations (e.g., the introduction of carbon pricing) resulting from climate change will increase direct costs and impact on the operating environment/ profitability (e.g., facility costs and raw materials prices).
Technology (Transition)	Amid innovations in climate change–related technologies, there is a risk that reliance exclusively on existing technologies will result in products and services becoming obsolete and demand declining.
Market (Transition)	There is a risk that an insufficient grasp of evolving customer/consumer preferences—e.g., shift to low-carbon business models, chance that certain existing businesses will be avoided—will mean the loss of market opportunities.
Reputation (Transition)	If DIC's attitude toward and ability to respond to climate change are seen by external observers as insufficient for a manufacturer of fine chemicals, there is a risk that its reputation will suffer, affecting its maintenance of relationships with customers.
Acute (Physical)	Should extreme weather events (e.g., rapid weather changes such as typhoons and hurricanes, and natural disasters) become more frequent, there is a risk that the operations of coastal production sites will be affected.
Chronic (Physical)	If temperatures remain persistently high, there are risks of increased production site maintenance and operating costs (e.g., costs for facility maintenance and cooling) and damage to health.
Upstream (Physical)	There is a risk of uncertainty regarding the supply of monopoly materials (materials of which supplies are concentrated among specific suppliers) and BCP risks (e.g., impact of failure of raw materials suppliers to respond to climate change).

Principal Climate-Related Opportunities

Type	Description
Emerging regulations (Transition)	With emerging regulations, there is an opportunity to establish new business models that demonstrate the superiority of DIC's businesses.
Technology (Transition)	Technological innovation provides opportunities to create new low-carbon/decarbonized businesses that respond to climate change and to increase product cost competitiveness through the use of revolutionary technologies to improve processes.
Market (Transition/physical)	Accurately grasping evolving customer/consumer preferences—e.g., shift to low-carbon business models, chance that certain existing businesses will be avoided—provides the opportunity to develop new products and services that anticipate lifestyle changes.
Upstream/downstream (Transition/physical)	Addressing climate change (adaptation and mitigation) over products' entire life cycles through organic collaboration with customers and suppliers provides the opportunity to create new businesses and systems.

Scenario Analysis

Scenario analysis is positioned as the most important component of the strategy formulation portion of the TCFD and makes it possible to evaluate climate change and its impact on business using multiple future scenarios, assess risks and opportunities and consider countermeasures that improve resilience. Various international organizations have prepared climate change scenarios. The DIC Group uses the 2°C and 4°C scenarios, as outlined below, while also referencing various others, and has conducted scenario analysis for all of its principal businesses.

Scenario information	2ºC Scenario	4ºC Scenario
Scenario used	Based on the International Energy Agency (IEA)'s World Energy Outlook (WEO) Sustainable Development Scenario and Energy Technology Perspectives (ETP) 2017 2ºC Scenario	Based on the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathway (RCP) 8.5
Implications for society	In the 2°C scenario, the implementation of bold policies and innovations keeps the increase in global mean temperature over the course of the 21st century to below 2°C above preindustrial levels, facilitating sustainable development.	In the 4°C scenario, the global mean temperature over the course of the 21st century increases to 4°C above pre-industrial levels, with hotter temperatures physically transforming the business environment.
Time frame	2030	2030
Carbon pricing	Assume ¥8,000/tonne	—

Results of Scenario Analysis

Opportunity  Risk 

	Implications for society and the business environment	Risk and opportunity assessment		DIC Group countermeasures
2°C Scenario: Strengthening of policies and regulations	Introduction of carbon pricing (direct implications for manufacturing and the procurement of raw materials)	Possible direct impact on manufacturing costs: ¥5.03 billion (Annual CO_2 emissions in fiscal year 2018: 629,000 tonnes) Reference: Possible impact on procurement costs: ¥11.8 billion (Annual CO_2 emissions (Scope 3, Category 1) in fiscal year 2018: 1,480,561 tonnes)		• Take steps to maintain cost competitiveness, assuming global introduction. • Promote enhanced functionality in businesses that can absorb cost increases (e.g., products for automotive, electronics and display applications and pigments for cosmetics).
				• Use the DIC Sustainability Index to promote products that help reduce CO_2 emissions (i.e., are sustainable). • Capitalize on rising demand for PPS compounds underpinned by expanded automobile production and the shift to EVs.
2°C Scenario: Changes in demand attributable to circular economy	Global movement to minimize use of one-way plastics and efforts by brand owners seeking to reduce packaging	Demand for some plastics (one-way plastics) will decrease, but increased demand for plastic alternatives will mean only a negligible impact on materials suitable for applications other than plastics.		• Promote core packaging materials as products that can be used on both plastic and alternative packaging materials; differentiate with barrier and other functions. • Foster businesses that respond to demand for materials that are biodegradable and/or use bioderived materials.
	Increase in production and sales of recycled plastics	While it is unclear what will happen vis-à-vis demand changes, a failure to launch commercial distribution will mean the loss of future market opportunities.		• Step up exploration of chemicals and materials recycling.
				• Advance innovations in materials and formulations technologies that enhance recyclability.
2°C Scenario: Reduction of CO_2 emissions attributable to manufacturing	Introduction of energy-saving and renewable energy equipment	Annual investment in energy-saving and renewable energy equipment is estimated at ¥2.0 billion (direct impact on manufacturing costs). Ongoing efforts to reduce CO_2 emissions attributable to production will also be necessary. Note: Investments will constitute a burden over the short term, but the recovery thereof has been incorporated in calculations for each individual project.		• Disclose investment in energy-saving and renewable energy equipment with the aim of achieving target for reducing Scope 1 and 2 emissions by 30% from the fiscal year 2013 level by fiscal year 2030. • The reduction of CO_2 emissions is expected to reduce costs by an average of ¥2.31 billion annually between fiscal years 2013 and 2030 (estimated annual emissions reduction: 289,000 tonnes).
	Shift of focus to the achievement of net-zero emissions by fiscal year 2050	Efforts to reduce CO_2 emissions enough to keep the increase in global average temperature over the current century to 1.5°C from the preindustrial level are already underway. There is a risk that this target will be imposed across entire supply chains (including distribution of products by customers).		• Consider the setting of a new Science Based Target conducive to keeping the increase in global average temperature to 1.5°C. • Consider introducing and using internal carbon pricing. • Take steps to secure the trust of customers.
4°C Scenario: Increase in risk that supply chains will be interrupted due to an increase in climate-related disasters	Suspension of production at suppliers' facilities due to frequent climate-related disasters, including typhoons, storm surges and floods Suspension of supplies of plant-derived raw materials	• Stable procurement risks affect certain businesses, i.e., those dependent on raw materials procured overseas or monopolized by certain suppliers. • For most products, coordination among departments will facilitate the use of alternative raw materials.		• For key raw materials, promote two-company shared procurement in multiple regions and enhance BCP responses. • For key products, ensure ample inventories of raw materials and products.
4°C Scenario: Increase in risk that operations at production facilities will be interrupted due to an increase in climate-related disasters	Suspension of production at own facilities due to frequent climate-related disasters, including typhoons, storm surges and floods Depletion of groundwater resources	• Production sites are scattered across the globe, so impact on overall operations is limited. However, certain products the production of which is concentrated at certain facilities may be affected. • Countermeasures are required in areas where there are concerns that water-related risks will increase.		• Locate printing inks production facilities around the world to ensure complementary capabilities. • Cooperate with other companies to minimize the impact in the event port facilities are damaged. • Strengthen measures for sites located in coastal areas. Reinforce the effectiveness of BCPs by providing related training. • Implement measures to address water-related risks.
	Increases in non-life insurance fees	Insurance premiums may increase.		• Bolster profitability by reinforcing and expanding portfolio of sustainable products.
4°C Scenario: Response to changes in lifestyles attributable to rising temperatures	Changes in lifestyles and consumption patterns attributable to rising temperatures and resulting changes in demand	• Demand for certain products may be affected by changing consumption patterns attributable to rising temperatures, but because demand sources are diverse the risk to overall business is low. • The potential for increases in new demand as a consequence of changes in lifestyles attributable to rising temperatures is high.	 	• Rising temperatures present an opportunity in the form of increased demand for thermal barrier–related products. • Given that dietary preferences are also expected to change, capitalize on expanding demand from beverage manufacturers and for materials used in frozen foods. • Take advantage of higher demand in the health foods and life sciences fields attributable to increasing health consciousness.

Note: Figures are based on 2018 results at the time of scenario analysis. As CO_2 emissions in fiscal year 2019 amounted to 577,056 tonnes, the impact of carbon pricing under this condition would be as much as ¥4.62 billion.

Scenario Analysis: A Message from the Head of the ESG Unit

Having acknowledged responding to climate change as a key challenge, the DIC Group positioned this as a priority materiality issue in its fiscal year 2019 analysis of materiality. For the first time, the Group also conducted a scenario analysis, in line with the recommendations of the TCFD, recognizing the importance of a cautious yet appropriate approach to sustainable growth. In addition to enhancing our understanding of carbon pricing and physical risks, this process underscored our awareness of the importance of ensuring that many of the Group's core packaging materials products are compatible with multiple different media, rather than only with plastic or with paper, is key to the resilience of this business. We will continue to strengthen our business to respond to changes in lifestyles and take appropriate measures to address risks. We will also work to deepen stakeholders' understanding by ensuring effective disclosure.

Executive Officer, Head of ESG Unit, DIC Corporation **Taihei Mukose**

3 Risk Management

Processes used to identify and assess climate-related risks

Until fiscal year 2018, the Risk Management Subcommittee, a subsection of the Sustainability Committee, was charged with abstracting priority risks and reinforcing responses. Under this configuration, climate change was identified by the Risk Management Subcommittee in terms of its role as a cause of major natural disasters, one of 19 priority risks. The Sustainability Working Group was replaced by the Risk Management Subcommittee, which was established as a subsection of the Sustainability Committee in June 2018 and charged with identifying and evaluating priority risks and opportunities from the perspective of potential to negatively impact the DIC Group's financial standing, that is, with identifying and assessing materiality. The assessment of priority risks and opportunities (materiality assessment) is deliberated and determined by the Sustainability Committee and reported to the Board of Directors. In fiscal year 2019, as part of its newly revised process for assessing and abstracting material issues, DIC identified climate change as one of four priority materiality themes, recognizing it as a critical challenge from the perspective of both adaptation and mitigation.

Processes used to manage climate-related risks

The DIC Group has identified "Response to climate change" as one of four priority materiality themes. Accordingly, the progress of initiatives is deliberated periodically by the Sustainability Working Group, with the results of deliberations reported to and approved by the Sustainability Committee. The working group looks at success in reducing CO_2 emissions compared with the target set, the evolution of efforts to manage risk compared with TCFD requirements and grasp of Scope 3 emissions. As part of its effort to satisfy TCFD requirements, the Group conducts scenario analysis using both the 2°C and 4°C scenarios to assess transition and physical risks.

4 Metrics and Targets

The DIC Group's DIC111 medium-term management plan includes a commitment to reducing emissions of greenhouse gases from its sites. To this end, site production, management and technical groups are working together to lower CO_2 emissions by implementing energy-saving initiatives and promoting the use of energy from renewable sources, including biomass fuel, solar power, wind power and low-carbon power. The Group discloses the results of such initiatives and obtains third-party verification of its CO_2 emissions data.

Environmental Targets Set Forth in DIC111

Environment

- Reduce CO_2 emissions attributable to production.
- Supply products and solutions that contribute to sustainability.

Target: Reduce CO_2 emissions 30% from the fiscal year 2013 level by fiscal year 2030.

- Install solar power systems and implement energy-saving measures.
- Introduce a proprietary sustainability index based on environmental impact reduction and social contribution.
- Utilize recycled materials and adopt biomass-derived raw materials.

The DIC Group continues to promote unrelenting efforts to curb energy use at its sites. (For more information, please see page 82.) In line with its new target for achieving a 30% reduction in its CO_2 emissions from the fiscal year 2013 level by fiscal year 2030, the Group has added promoting the use of electric power generated from renewable energy, including by biomass boilers and solar power systems, as well as the purchase of low-carbon electric power, to core site energy-saving initiatives.

The Group's new target for reducing CO_2 emissions exceeds the 26.0% reduction pledged by Japan under the Paris Agreement. By achieving this target, DIC aims to show its strong commitment to being a socially responsible manufacturer of fine chemicals. Accordingly, the Group will continue to work as one with the execution of related strategies to ensure a successful outcome. (For more information, please see "Climate Change," beginning on page 78.)

Compliance

Toward Fair and Transparent Corporate Activities

SDGs Goal 16

Goals and Achievements of Major Initiatives

Evaluations are based on self-evaluations of current progress. Key: ★★★ = Excellent; ★★ = Satisfactory; ★ = Still needs work

Objectives of initiatives	Goals for fiscal year 2019	Achievements in fiscal year 2019	Evaluation	Goals for fiscal year 2020
Enhance awareness of compliance.	• Achieve target for percentage of employees participating in the e-learning program (95%). • Implement legal training for DIC executives (once), executives of Group companies in Japan (once) and at DIC Group companies in six countries overseas.	• Compliance e-learning focused on avoiding conflicts of interest was implemented. The percentage of employees participating exceeded 95%. • Legal training was implemented in Japan (once for DIC executives and several times as part of preparatory training for employees assigned to overseas posts) and at DIC Group companies in two countries overseas.	★★	• Achieve target for percentage of employees participating in the e-learning program (95%). • Implement legal training for DIC executives and executives of Group companies in Japan and overseas.
Conduct business fairly.	Achieve target of zero violations of antitrust and anti-corruption laws.	Zero violations of antitrust and anti-corruption laws were reported.	★★	Achieve target of zero violations of antitrust and anti-corruption laws.

Basic Approach to Compliance

Compliance in the DIC Group encompasses not only obeying laws but also acting in a manner that is in keeping with social norms and the expectations of customers, communities and other stakeholders. With the aim of ensuring sustainable growth for businesses that are both fair and transparent, DIC formulated the DIC Group Code of Business Conduct, a unified set of guidelines the adherence to which it considers to be the foundation of compliance. DIC compels all DIC Group employees to conduct themselves in accordance with the code.

The DIC Group Code of Business Conduct

The DIC Group completed the DIC Group Code of Business Conduct in July 2014. The code not only mandates compliance with national laws and international rules but also presents 10 principles essential to the professional conduct of DIC Group employees. The Group held presentations for all existing Group employees at the time of release, while new employees receive training at point of hire. The goal of such training is to ensure employees worldwide share values cherished by the Group and approach their responsibilities with a sense of responsibility and a commitment to doing the right thing.

DIC Group Code of Business Conduct Web **https://www.dic-global.com/pdf/csr/philosophy/compliance/code_of_business_conduct_en.pdf**

10 Principles Essential to Professional Conduct

1. Your Rights as an Employee: Respect, Dignity, Privacy
2. Environment, Safety and Health
3. Your Responsibility to Avoid Potential Conflicts of Interest and to Protect Group Property
4. Anti-Corruption and Anti-Bribery Policy
5. Your Relationship with Governments and Government Officials
6. Your Relationship with Customers, Suppliers, and External Third Parties
7. Money Laundering and Anti-Terrorism
8. Forced Labor, Child Labor, Conflict Minerals
9. Insider Trading
10. Proper Accounting and Internal Controls Relating to Financial Reporting

Initiatives to Promote Compliance

The DIC Group promotes compliance through the following initiatives:

1. Training focused on legal issues to improve compliance awareness is provided for employees at point of hire, when promoted and before transfer overseas. In addition, with the aim of promoting awareness of the DIC Group Code of Business Conduct, in fiscal year 2019 e-learning focused on avoiding conflicts of interest was implemented in Japan and at DIC (China) and DIC Asia Pacific, which oversee operations in, respectively, Greater China and the Asia–Pacific region. Training on legal issues was also implemented in Japan (once for DIC executives and several times as part of preparatory training for employees assigned to overseas posts) and at DIC Group companies in two countries overseas (the PRC and the Republic of Korea (ROK)).

Compliance E-Learning Program

* Preventing corruption and bribery (2017)
* International antitrust legislation (2018)
* Avoiding conflicts of interest (2019)

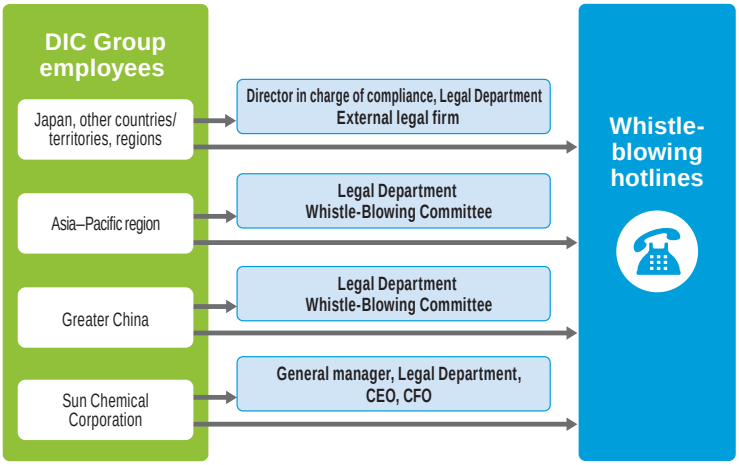
❷ Compliance officers are appointed at all regional headquarters—DIC (Japan), Sun Chemical (the Americas and Europe), DIC (China) (the PRC) and DIC Asia Pacific (Asia and Oceania)—to spearhead global compliance efforts.

The DIC Group vows that it will not violate the principles of the DIC Group Code of Business Conduct, even if such a violation would appear to profit the Group. As a corporate citizen, the Group also pledges to respect social norms and act in a sound and socially acceptable manner. In fiscal year 2019, there were no serious violations of compliance laws.

Establishing and Operating a Whistle-Blowing System

The DIC Group has established a compliance whistle-blowing system independent from channels for communication used in the conduct of business. This system encompasses hotlines that can handle reports of compliance issues and questions in the languages of more than 160 countries. The Group has also devised strict rules under this system to protect whistle-blowers from retaliation and works to ensure the system functions in a proper manner.

When a report is received, the Group responds swiftly and appropriately, giving due consideration to pertinent laws while also incorporating internal and external opinions, to identify and correct violations and where necessary to take disciplinary action. Details of reports and steps taken in response are reported to the Board of Directors. The Group will continue to use its whistle-blowing system to ensure the prompt discovery and correction of misconduct. In fiscal year 2019, approximately 40 reports were received on compliance issues and labor matters such as power harassment and discrimination, but none were judged to be serious.



Antitrust and Anti-Corruption Legislation

The DIC Group has formulated a basic policy to comply with antitrust legislation and made Groupwide efforts to ensure fair business practices. The DIC Group Code of Business Conduct includes rules for complying with antitrust legislation and prohibits involvement in corruption. Since fiscal year 2014, the Group has held more than 160 presentations regarding antitrust and anti-corruption legislation for relevant employees to ensure strict compliance with the laws of the countries in which it operates. In fiscal year 2019, an e-learning program on avoiding conflicts of interest was implemented at Group companies in Japan, the Asia–Pacific region and Greater China. The percentage of employees participating in the e-learning program exceeded 95%.

Promoting Compliance with Legislation Regarding the Timely Payment of Subcontractors

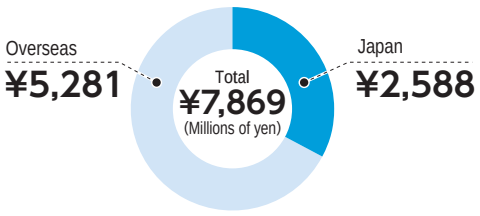
With the aim of enhancing understanding of the importance of appropriate and fair transactions with subcontractors, the Legal Unit held presentations on legislation regarding the timely payment of subcontractors for the purchasing departments of domestic DIC Group companies that incorporated case studies, and offered e-learning, principally for employees in charge of subcontractors. In addition, DIC has prepared the Manual for Internal Auditing of the DIC Group's Compliance with Japan's Act Against Delay in Payment of Subcontract Proceeds, Etc., to Subcontractors and created a framework for conducting audits in a more efficient manner. The Group also encourages employees in related positions to participate in programs sponsored by external organizations, including a workshop promoting adherence to the Act sponsored by the Japan Fair Trade Commission and the Small and Medium Enterprise Agency.

Taxation Compliance

In November 2017, the DIC Group formulated an official approach to tax. As an organization with global operations, the Group engages in fair and appropriate tax planning that reflects the nature of its businesses. The Group is also aware of risks associated with transfer price taxation and the use of tax havens and of its obligation to pay appropriate taxes in the proper jurisdictions as appropriate for its operations. The chart to the right shows a breakdown of accrued taxes in Japan and overseas in fiscal year 2019.

The DIC Group's Approach to Tax WEB https://www.dic-global.com/en/csr/philosophy/management/tax.html

Accrued Taxes in Fiscal Year 2019



BCM and Crisis Management

Reducing Business Risks and Preventing the Recurrence of Incidents

Goals and Achievements of Major Initiatives

Evaluations are based on self-evaluations of current progress. Key: ★★★ = Excellent; ★★ = Satisfactory; ★ = Still needs work

Objective of initiatives	Goals for fiscal year 2019	Achievements in fiscal year 2019	Evaluation	Goals for fiscal year 2020
Ensure the continuity of DIC Group businesses.	• Strengthen efforts to create a global crisis management configuration. Global : Promote the development of safety measures overseas through local assessments and other efforts. Work to collect global risk information and accumulate know-how. Japan: Fortify crisis response capabilities by reinforcing the ability of task forces to respond in the event of a crisis. • Revise BCPs periodically and reinforce cooperation among product divisions and sites. Global and Japan: Revise BCPs annually and encourage the ongoing sharing of information related to BCP initiatives. Promote various awareness-enhancing measures designed to strengthen cooperation among product divisions and sites. • Reinforce awareness of the basic risk management policy and the risk management system. Global and Japan: Encourage awareness of the risk management policy and the risk management system. Continue to support efforts to improve the risk management system and identify priority risks and formulate/implement response measures. Support efforts by Group companies to promote risk management.	• Efforts to create a global crisis management configuration were strengthened. In Japan, the ability of task forces to respond in the event of a crisis was reinforced, thereby fortifying crisis response capabilities. • The periodic revision of BCPs was conducted as scheduled and cooperation among product divisions and sites was reinforced. In Japan, the annual revision of BCPs was carried out. • Training and seminars were conducted to reinforce awareness of the basic risk management policy.	★★	1. Periodically revise BCPs and reinforce/expand cooperation among product divisions and sites. 2. Strengthen efforts to create a global crisis management configuration and promote BCP initiatives.

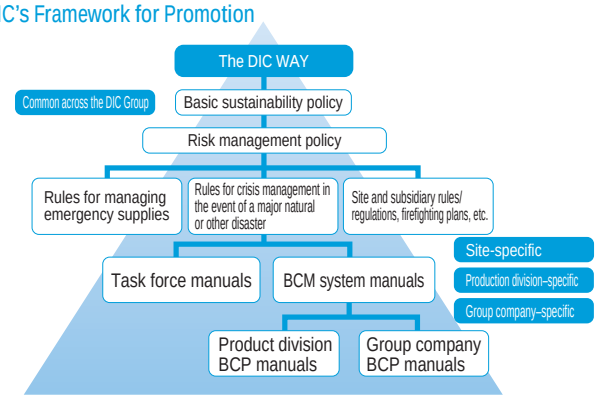
Basic Approach to BCM and Crisis Management

The DIC Group accounts for all risks with the potential to interrupt business continuity through BCM, including those related to natural disasters such as major earthquakes, typhoons and floods; influenza and other pandemics; and explosions, fires, leaks and other facility accidents. The Group comprehensively estimates the probability of each risk and its impact on management, prioritizing response measures for more significant risks. The Group has also established a task force framework encompassing a headquarters task force, business task force and on–site task forces, as well as prepared risk-specific manuals for use Groupwide, and continues to promote efforts that include producing and revising BCPs for key products, formulating BCM and crisis management countermeasures, and updating information.

Framework for Promoting BCP

Having prepared crisis management rules and risk-specific manuals for use across the DIC Group in the event of a major disaster, DIC has formulated BCPs for individual product divisions. The Group also recognizes the need to ensure it can fulfill its supply responsibilities in the event of damage to its facilities from a large-scale natural disaster and thus incorporates this perspective into its BCPs. Specifically, the Group formulates BCPs for key products with a view to fulfilling its social responsibility and responding to customer requirements. DIC also conducts BCP-focused joint production division–site exercises assuming the implementation of these BCPs to confirm the effectiveness of manuals, identify issues and implement ongoing improvements.

DIC's Framework for Promotion



BCM in Fiscal Year 2019

A number of natural disasters struck Japan in fiscal year 2019. Particularly notable among these were the torrential rains in northern Kyushu in August and typhoons Faxai and Hagibis, both of which struck in October. In each instance, affected sites assessed the extent of impact, including confirming the safety of employees and their families and ascertaining damage, in line with their BCPs and manuals, and promptly informed corporate headquarters. Fortunately, no casualties resulted from these events and the impact of damage to Group facilities on production and supply activities was negligible. In August 2019, DIC also reported an accident at the Saitama Plant involving a major fire in which a hazardous materials warehouse burned to the ground. While placing the highest priority on ensuring the safety of employees and nearby residents, the Company succeeded in minimizing the impact of this incident on customers supplied by the plant by implementing measures in line with pertinent product division BCPs.

Responding effectively to accidents and disasters depends on employees having a correct understanding of BCM and of how to properly execute BCPs. This in turn requires education and training. During fiscal year 2019, DIC continued to focus on providing training and encouraging awareness for individuals involved in BCP across the DIC Group, as it did in fiscal year 2018. Of note, under the supervision of experts, the Company organized workshops and map-based simulation exercises developed for senior management to headquarters task force members, as well as BCP-focused joint production division–site exercises. Efforts to promote awareness also included offering introductory courses on BCP for Group companies and training for newly appointed BCP officers conducted by General Affairs and HR Department risk management officers with the aim of educating participants on the basics of BCP, ensuring they are familiar with manuals and other documentation, and instructing them on how to conduct effective initiatives.

Preventing BCPs from Becoming Empty Formalities

The DIC Group holds annual status update meetings, attended by relevant executives, to verify that the content of BCPs that have been formulated are current and to prevent them from becoming empty formalities. DIC recognizes the need to ensure that divisions and departments share a common crisis awareness to enable the prompt restoration of operations using minimum resources in the event a production site is damaged by a disaster or other event. The aforementioned BCP-focused joint production division–site exercises are conducted annually. In fiscal year 2019, such exercises were conducted for the staff of three product divisions and three related sites in Japan. These exercises are designed to confirm the effectiveness and functionality of product division BCPs through disaster prevention and mitigation exercises based on hypothetical scenarios. They also seek to improve responsiveness to newly recognized issues with the aim of enhancing initial responses in the event of a disaster and of improving site restoration, complementary production strategies, supplier management and local responses. DIC will continue to promote joint training, focusing on production sites.

Conducting Emergency Response Exercises and Drills

In addition to annual headquarters task force–led training and BCP-focused joint production division–site exercises, the DIC Group has developed and maintains a system designed to ensure its ability to minimize damage in the event of a disaster, as well as to facilitate the smooth restoration of operations. This system includes a wide range of exercises and drills, including employee safety confirmation drills, emergency radio warning drills involving multiple sites and site-specific comprehensive disaster drills.






Comprehensive disaster drill at corporate headquarters

Task force map-based simulation exercise

BCP training at corporate headquarters

Crisis Management

Efforts to Reinforce Safety Measures Overseas

Owing to the expansion of its global operations, the DIC Group is establishing new overseas bases and increasing the number of employees being assigned to overseas posts or traveling overseas on business. With the rising frequency of terrorist acts and the dangers posed by infectious disease outbreaks and other such incidents in various locations, the Group is reinforcing safety measures designed to help employees evade danger. These include taking steps to advance awareness among related individuals and reinforce corporate headquarters' ability to respond effectively in an emergency situation by establishing an emergency overseas contact network, providing risk information to overseas bases, distributing safety handbooks, providing safety training to employees prior to taking up new overseas posts or embarking on overseas business trips, preparing crisis management manuals and conducting exercises based on hypothetical scenarios.


Safety training for employees prior to taking up new overseas posts


Safety training for individuals prior to traveling overseas on business

Safety handbook for individuals taking business trips overseas

Safety handbook for Company representatives posted overseas

Comment We are working to realize truly functional initial response and business continuity support systems.

We began providing assistance to DIC in July 2019, particularly in the area of initial response and BCP training based on hypothetical scenarios involving major earthquakes. DIC products are used widely and many can be said to be essential to society. In my view, it is important for DIC to further strengthen its disaster response system to ensure its ability to maintain stable supplies, even in the event of a major earthquake or other disaster.

In fiscal year 2019, we helped DIC conduct BCP-focused joint production division–site exercises at the Yokkaichi, Sakai and Tokyo plants. With the aim of examining the effectiveness of initial response manuals and identifying areas requiring improvement, participants in these exercises used damage assumptions with the aim of achieving a heightened level of reality for scenarios used, proceeding with simulations as well as confirming rules for and identifying issues related to information sharing and collaboration between product divisions and sites. We also helped with headquarters task force–led training, which employed a scenario involving a Nankai Trough earthquake, confirming the flow of reporting from production facilities and product divisions and incorporating instructions for critical tasks in exercises, among others.

Through these and other efforts, DIC is working to build a system that ensures information related to the Company's initial response and BCPs is shared with management swiftly and accurately. I hope that readers will continue to follow DIC's efforts to further enhance its BCPs going forward.

Advisor, Rescuenow Inc. **Kazuki Hakamada**

Emergency Drill Simulating Ballistic Missile Launch

Amid rising political tensions on the Korean Peninsula, in September 2017 DIC conducted its first-ever emergency drill simulating the launch of a ballistic missile in the direction of Japan. The drill played out a scenario in which information has been received via Japan's J-Alert emergency warning system that a missile had been launched, sounded a siren and broadcast instructions for people to take appropriate actions to avert danger. On each floor, members of the Company's in-house firefighting squad issued instructions for employees to move away from windows and take cover under or behind solid objects. In the event of an unforeseen emergency, it is critical to remain calm and resist the urge to panic. Going forward, the BCM and Crisis Management Working Group will continue to assess the effectiveness of various drills immediately after implementation and incorporate its findings into subsequent disaster prevention planning, as well as to provide training to ensure employees' ability to implement swift, appropriate initial actions.

Drill in progress

Government-prepared awareness poster in the corporate headquarters' cafeteria

DIC Corporate Headquarters' *Emergency Pocket Books*

Approximately 1,400 employees of the parent company and various domestic Group companies work at the corporate headquarters in Tokyo. DIC has prepared *Emergency Pocket Books*, pocket-sized booklets that provide instructions on appropriate actions—both autonomous and in cooperation with others—in the event of a disaster for distribution to these employees and their families. The booklets also detail corporate headquarters' overall emergency response framework and the responsibilities of individual floors and departments in an emergency situation, as well as provide space for employees and their families to provide contact information. The compact size of the booklets ensures portability.

Emergency Pocket Books

Community Efforts to Cope with Major Disasters

Japan, which is one of the most earthquake-prone countries in the world, has been struck multiple times by devastating seismic activity. As a consequence, ensuring earthquake readiness, that is, the ability to prevent and mitigate the impact of earthquakes, is recognized as a critical challenge for society as a whole.

Tokyo's Nihonbashi district, home to DIC's corporate headquarters, is noted for its tightly clustered large commercial complexes and office buildings. Every year, a comprehensive community disaster drill is conducted on an empty lot near the DIC Building. Approximately 200 people took part in the 2019 drill, held in September. Guided by personnel from the Nihonbashi Fire Station, participants received training in first aid (AED use and hemostasis), practiced using fire hydrants to put out fires and toured the Tokyo Fire Department's virtual reality (VR)–based disaster prevention training and earthquake simulation vehicles, through which they experienced simulated earthquakes and fires and learned effective emergency rescue and fire extinguishing techniques.

The DIC Building, designed with state-of-the-art earthquake-resistant technologies, has been designated as a temporary shelter for people stranded in Chuo-ku, where Nihonbashi is located, while DIC, as a member of Chuo-ku's management council for emergency shelters for stranded individuals, promotes a variety of initiatives aimed at assisting people stranded in the wake of a serious earthquake or other disaster. The Company also participates in drills in collaboration with local authorities designed to guarantee the effective sharing of information regarding evacuations, among others, even in the midst of post-disaster chaos.

In December 2019, DIC conducted a training exercise at its corporate headquarters in cooperation with the owners of the DIC Building in the acceptance of stranded individuals who are not DIC Group employees after a major disaster. The exercise included instruction on the setting up of temporary toilets and the storage and distribution of air mattresses and emergency supplies, including rations, blankets and plastic thermal sheets. DIC will continue to play an active role in community-based efforts to reinforce local disaster preparations. In doing so, the Company aims to help ensure Tokyo's disaster resilience.

Emergency training in the use of AEDs and hemostasis

Training in the use of fire hydrants to extinguish fires

Exhibit of DIC Building temporary shelter for people stranded in Nihonbashi

Map-based training conducted as part of a community disaster drill

Responding to Pandemics

DIC prepares product-specific pandemic BCPs in non-emergency times to guarantee it is fully prepared to respond to pandemics when they occur. To ensure preparedness for the concurrent infection of multiple employees, the Company has also developed response plans for individual production lines at each of its production sites.

In response to the emergence of COVID-19 in January 2020, DIC has focused on carrying out actions designed to help thwart the further spread of the virus and to prevent employees from becoming infected. These include prohibiting business trips worldwide effective from February; instituting telework for all employees, including normally ineligible temporary staff; staggering working hours; mandating employees remain at home when they or any of the people with whom they live feel unwell; and encouraging the avoidance of meetings and events.

The DIC Group remains keenly aware of the potential significant impact of risks related to pandemics and other large-scale disasters in terms of the interruption of its supply chain and overall impact on materials industries. Accordingly, the Group is working to develop BCPs that take its supply chains into account.

Information Security

Initiatives to Ensure Information Security

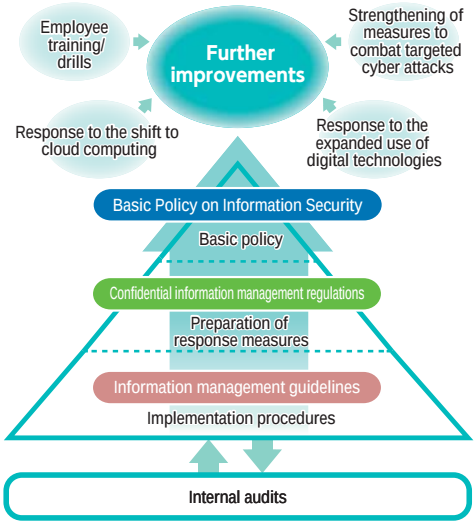
Goals and Achievements of Major Initiatives

Evaluations are based on self-evaluations of current progress. Key: ★★★ = Excellent; ★★ = Satisfactory; ★ = Still needs work

Objective of initiatives	Goals for fiscal year 2019	Achievements in fiscal year 2019	Evaluation	Goals for fiscal year 2020
Establish a global information security framework.	• Fortify response to the expanded use of digital technologies. • Create a new information infrastructure conducive to work style reform, the further use of mobile devices and the expansion of global collaboration. • Formulate and strengthen information security rules and frameworks, provide training and encourage awareness in a manner that responds to new information security threats and risks.	• Efforts to ensure security by standardizing plant control system networks were promoted in collaboration with production departments. • Cloud-based security solutions were introduced as a countermeasure against increasingly diverse internet-based threats. • In line with the revision of guidelines for the management of personal information and the tightening of password rules, regulations for managing confidential information, information management guidelines and global guidelines for ICT use were amended. • E-learning focused on both information security and the protection of personal information was provided.	★★	• Prepare/strengthen guidelines for the use of cloud-based services and cloud computing. • Strengthen the security environment for mobile devices and investigate and assess technologies for integrating information and execution network technologies. • Formulate and strengthen information security rules and frameworks, provide training and encourage awareness in a manner that responds to new information security threats and risks. • Create emergency response system to address incidents when they occur.

Basic Approach to Information Security

The DIC Group has positioned information security as a key management priority and established a Basic Policy on Information Security, which is founded on its recognition that protecting information assets that belong to or are managed by the Group is essential to its ability to conduct business. In line with this policy, DIC has formulated and implemented confidential information management regulations and information management guidelines. The DIC Group works to ensure that directors and employees use the Group's information assets appropriately in the course of business and appropriately handle confidential information. The Group also pursues continuous improvements by conducting internal audits to confirm current issues and identify risks.



Globally Maintaining and Enhancing Information Security

The DIC Group's approach to information security management rests on four pillars: Regulations and guidelines, management framework, infrastructure, and employee education and training. The Group is deploying measures in Japan and across the Asia–Pacific region and is promoting similar efforts in the Americas and Europe.

Regulations and Guidelines

The DIC Group continues to update its Basic Policy on Information Security, created in 2010, confidential information management regulations, and information management guidelines regularly and as required to ensure its ability to address new security risks in a timely manner. The Group is also implementing new regulations as appropriate in response to the increasing prevalence of digital technologies. In addition, the Group has established separate rules for handling personal information and customer information in its information management guidelines, which it is working to disseminate among employees. In fiscal year 2019, the DIC Group reported no breaches of customer privacy or losses of customer data.

Management Framework

The Information Security Committee meets twice annually to determine policies and procedures for information security in each area of the DIC Group's operations. Information security officers and managers are also appointed in each individual business group and functional unit to ensure the appropriate management and handling of important everyday information. To ensure it is prepared in the unlikely event of an information security–related incident, the Group has created a task force operational manual and periodically conducts training to ensure effective initial responses to incidents when they occur.

Infrastructure

Recognizing the importance of being prepared before and when incidents occur, and of responding promptly and appropriately in the aftermath, the DIC Group takes decisive steps to fortify its information security infrastructure. In fiscal year 2019, these included formulating a new IT infrastructure plan that encompasses cloud access security broker (CASB), mobile application management (MAM), endpoint detection and response (EDR), security information and event management (SIEM) and other new technologies, based on requirements for IT, including the active use of cloud computing, the functional evolution of smart devices, work style reform, as well as the direction of advances in these areas. During the period, the Group also sought to address increasingly diverse internet threats by introducing new cloud-based security solutions and expanding the use of the Windows 10 operating system, as well as updating security systems designed to strengthen the endpoint security of other computers.

Employee Education and Training

Since fiscal year 2017, the DIC Group has offered an annual e-learning information security program to employees in Japan and the Asia–Pacific region. In fiscal year 2019, this program was expanded to include the protection of personal information. The Group has also provided training in dealing with targeted e-mail attacks since fiscal year 2017 on an irregular basis, working continuously to ensure more practical content to increase employees' awareness of the importance of security. In fiscal year 2019, the Group began offering information security training for employees in the Americas and Europe, where it has offered training in dealing with targeted e-mail attacks since fiscal year 2018.

Comment We are promoting efforts to enhance information security in production departments.

In recent years, the rapid spread of AI and the Internet of Things (IoT) has resulted in an increasing diverse range of devices being connected via networks. Companies have traditionally collected and analyzed a variety of data, which has enabled them to address labor shortages by increasing factory automation, as well as to enhance the stability of product quality and increase added value. However, the momentous changes in the environment surrounding networks for directly controlling and monitoring production facilities has also brought a dramatic increase in the danger of cyber attacks and many companies have suffered considerable damage as a result.

To date, we have sought to promote partial optimization of responses on a site-specific basis, but Groupwide efforts have been insufficient on certain fronts. Against this backdrop, in September 2018 we established guidelines for security for control systems used in production. In fiscal year 2019, we began offering an e-learning program on control system security for plant general managers and group manager–level employees. In addition to strengthening administration, we are collaborating with the Information Systems Unit to standardize plant control networks with the aim of ensuring safe and secure environments and transforming our plants into smart manufacturing facilities.

General Manager, Production Planning Department, DIC Corporation **Kazuyuki Okuya**

Promoting Digital Transformation

Guided by its DIC111 medium-term management plan, the DIC Group is actively promoting digital transformation. Having completed preliminary preparations, effective from fiscal year 2020 DIC established the DX Promotion Department—a dedicated department charged with advancing digital transformation—within the Corporate Strategy Unit and stepped up initiatives in individual departments. Technical and production departments are promoting the use of AI technologies in product development and efforts to improve productivity. On the technical side, AI technologies facilitated a significant shortening of the development stage for a new highly heat-resistant, fast-developing novolac resin for use in the production of resists for packaging applications. In production, AI technologies have been introduced into the manufacturing processes for some products to identify factors influencing quality not discernible using conventional methods. Going forward, production departments will also begin looking at the creation of a model factory system with the goal of realizing smart production facilities. These departments will also seek to boost labor productivity beyond current levels by conducting remote monitoring and preventative maintenance of production equipment using sensors and apply VR and augmented reality (AR) in new employee training and the passing on of technologies.

Environment, Safety and Health (ESH)

Toward the Achievement of a Sustainable Society

SDGs Goals 3, 6, 7, 12, 13, 14 and 15

Management System

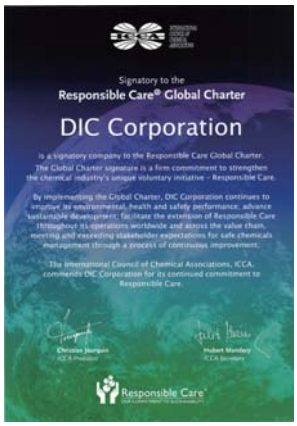
Basic Approach

The DIC Group promotes a broad range of ESH initiatives through its Responsible Care program.

Initiatives to Date

As a global organization that manufactures and sells chemical substances, the DIC Group promotes a broad range of ESH initiatives through its Responsible Care program. Having established its Principle and Policy for the Environment, Safety and Health in 1992, in 1995 DIC pledged to implement the precepts of Responsible Care. Since reaffirming its support for Responsible Care management in January 2006 by signing the CEO's Declaration of Support for the Responsible Care Global Charter, the Company has promoted constant improvements. Today, the Group manages its Responsible Care program in a uniform manner using standardized codes, guided by its Environment, Safety and Health Policy, and works to implement initiatives that exceed regulatory requirements, in line with annual Responsible Care activity plans, and to fully disclose the results thereof.

Note: Responsible care describes voluntary management initiatives undertaken by companies that manufacture or otherwise handle chemical substances, in line with the principles of autonomous action and self-assessment, pledging in their management policies to protecting the environment and ensuring health and safety across the entire life cycle of products, from development to manufacturing, distribution, use and end-of-life disposal, as well as to disclosing related information and promoting improvements.



DIC is a signatory to the International Council of Chemical Associations' Responsible Care Global Charter

Environment, Safety and Health Policy

As a responsible corporate citizen and as a company that manufactures and sells chemical substances, DIC recognizes that care for the environment, safety and health is fundamental to the management of the Company. DIC is committed to the concept of sustainable development in all aspects of its businesses and contributes to the global environment, including biodiversity, by creating environmentally sound products and technologies.

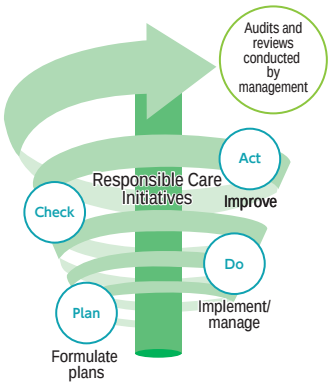
1. We take responsibility for the environmental, safety and health implications of products throughout their life cycles.
2. We continuously set goals and targets for environmental, safety and health improvements.
3. We comply strictly with laws, regulations and agreements relative to the environment, safety and health. For countries lacking such laws, we prioritize safe operations and protection of the environment.
4. We systematically provide education and training on the environment, safety and health.
5. We prepare systems and audit internally to benefit the environment, safety and health.

We disclose these policies internally and externally and ask that all DIC Group companies observe them. The abovementioned "safety" also encompasses security and disaster prevention.

Responsible Care Management System

The DIC Group manages its Responsible Care program in accordance with seven codes*. The first, summarized as "management system," aims to facilitate the uniform administration of six other codes: "occupational safety and health" (protection of the safety and health of employees), "disaster prevention" (prevention of fires and explosions and the discharge of chemicals), "environmental protection" (continuous reduction of chemical emissions and the discharge of waste), "safety in logistics" (reduction of chemical risks associated with the distribution of chemicals), "chemical and product safety" (management of risks associated with chemicals) and "dialogue with society" (communication with local communities regarding ESH). The Group has augmented these codes with an additional internally devised code, and applies the PDCA cycle to ensure ongoing improvements, while also conducting annual internal audits and management reviews.

*The seven Responsible Care codes were developed by the Japan Responsible Care Council (JRCC), which is part of the Japan Chemical Industry Association (JCIA), as a framework for Responsible Care programs with the goal of helping achieve a society that supports efforts to address ESH-related initiatives.



Introduction of the DECS

In fiscal year 2019, the Group introduced the DIC ESH Data Collection System (DECS), a system for recording and storing this data in the cloud to facilitate centralized management. In addition to accelerating collection of data pertaining to environmental conservation, occupational safety and health, and safety and disaster prevention more efficient and making it less labor-intensive, the DECS will help improve the reliability of data for external third-party verification, including external audits of Responsible Care efforts.

VOICE We have introduced an information management system to enhance our Responsible Care program.

Global companies today disclose a variety of sustainability-related information, including on the environment and energy. Previously, the Responsible Care Department would receive necessary data by email from site environmental officers, which it would then aggregate and release. However, because DIC has regional headquarters in the PRC and the Asia–Pacific region, as well as its corporate headquarters in Japan, and more than 70 sites worldwide, the volume of data was massive and management was complicated. For this reason, we introduced a cloud-based service from a Japanese IT vendor and adopted a method whereby Responsible Care officers at each site input data into a common database, making it easily accessible to the Responsible Care Department, as well as by regional headquarters. This centralized data management and streamlined aggregation.

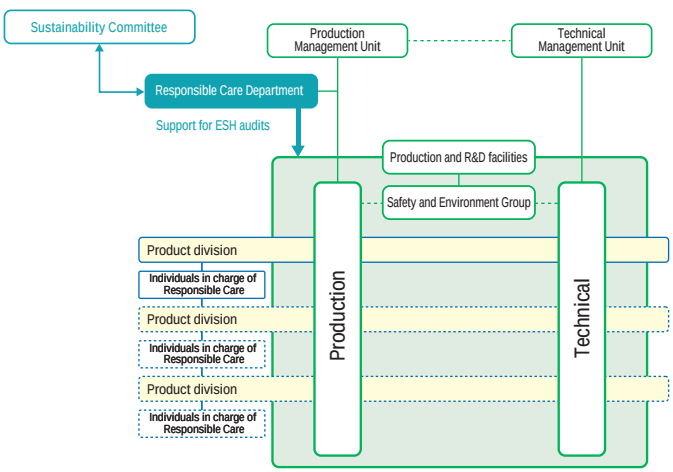
In introducing this system, we took care to carefully explain objectives to Responsible Care officers at each site and prepared an illustrated user manual in Japanese, Chinese and English so as to minimize the burden on individual officers. We also developed a new program and standards for data collection, making it possible to amass more detailed data than in the past. Currently, the system is used to collect data in line with eight individual themes in the three categories of “environment,” “energy” and “occupational safety and health.” We intend to increase the number of themes with the aim of helping to further enhance the effectiveness of our Responsible Care program.

Assistant Manager, Safety and Environment Group, Responsible Care Department, DIC Corporation **Masayuki Iwakubo**

Framework for Promoting Responsible Care

The Sustainability Committee, which answers directly to the president and CEO, is responsible for setting Responsible Care initiatives. Currently chaired by the president, the committee includes business group presidents, administrative unit heads, CEOs of regional headquarters and members of the Audit & Supervisory Board. The committee approves Groupwide sustainability targets and policies, as well as deliberates and evaluates medium-term sustainability policies and annual sustainability initiatives. The DIC Group uses the PDCA cycle to evaluate voluntary Responsible Care initiatives implemented by Group companies, plants and R&D facilities in collaboration with the Safety and Environment Group. The Responsible Care Department provides support to ensure the smooth progress of these initiatives and conducts audits to ensure compliance and improve safety and environmental performance.

Framework for Promoting Responsible Care



Annual Activity Plans

The DIC Group formulates annual Responsible Care activity plans and implements Groupwide initiatives. Based on Group activity plans for fiscal year 2019, regional headquarters developed their own region-specific activity plans, while individual Group companies, in line with the concept of management by objectives (MBO), sought to translate these plans into reality by promoting Responsible Care initiatives and working to contribute through production activities to the realization of an environment-oriented society.

The DIC Group's Responsible Care Activity Plans for Fiscal Year 2019

❶ Management system

Promote compliance with laws, regulations and agreements pertaining to ESH, chemical substance management and security export control. Make use of the PDCA cycle in promoting Responsible Care activities. Advance the creation of an information management system. Reinforce the ESH management systems of regional headquarters (Greater China and the Asia–Pacific region).

❷ Occupational safety and health

In line with the DIC Group's fundamental objective, which remains the achievement of an accident-free workplace, set regional targets for reducing the incidence of occupational accidents in fiscal year 2019.

❸ Disaster prevention

Promote the horizontal deployment of lessons learned from major disasters and work to prevent the recurrence of such accidents. With the aim of reducing process safety accidents, start calculating such accidents in accordance with International Council of Chemical Associations (ICCA) guidelines.

❹ Environmental protection

With the aim of achieving the DIC global target for reducing CO_2 emissions (Scope 1 and 2) (30% from the fiscal year 2013 level by fiscal year 2030), promote energy-saving initiatives and the use of low-carbon electric power. Strive to ensure a grasp of CO_2 emissions over the entire life cycle of products (Scope 3). Maintain/lower the impact of production activities on air and water quality. Step up efforts to maintain/increase the industrial waste recycling rate.

❺ Safety in logistics

Continue to promote the provision of information pertinent to the safe transportation of chemicals.

❻ Chemical and product safety

Promote the creation of a new global system for managing information on chemical substances.

❼ Dialogue with society

Continue to publicize the results of the DIC Group's Responsible Care activities.

Message from the President

DIC's president prepares a message for employees for Environment Month and National Safety Week.

Responsible Care Education

As a company that manufactures and sells chemical substances, DIC incorporates education regarding the importance of Groupwide Responsible Care efforts into training for new employees (both new graduates and mid-career hires). Ongoing education is provided as part of rank-specific training for newly promoted employees.

Deployment at Group Companies

Support for Group Company Responsible Care Initiatives

The Responsible Care Department provides wide-ranging support to Group companies in Japan and overseas, regardless of operating scale (a total of 75 sites), with the goal of enhancing Responsible Care initiatives Groupwide. Of particular note, the department assigns representatives to assist regional headquarters, which oversee Group operations in Greater China and the Asia–Pacific region, as well as supports local initiatives and efforts to foster human resources.

Acquisition of Certification Under ISO 14001

As of December 2019, DIC Group companies responsible for 79% of the Group's production volume had acquired certification under ISO 14001, the International Organization for Standardization's standard for environmental management systems.

Year	2017	2018	2019	2020 (Forecast)
Acquisition rate (%)	74	75	79	81

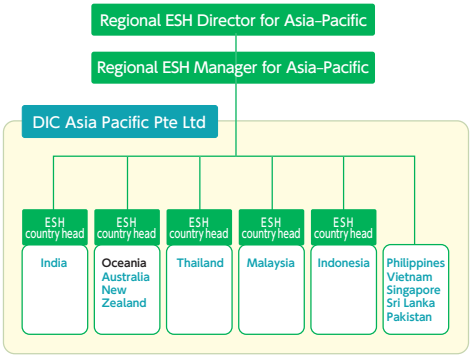
Principal Initiatives in Fiscal Year 2019

Initiatives in Japan

In Japan, a lack of success in reducing occupational accidents and disasters continues to underscore the need to further reinforce the Group's domestic Responsible Care framework and step up preventative measures. DIC and DIC Graphics Corporation hold GM conferences, which are gatherings of ESH officers from principal sites who have been appointed group managers (GMs). GM conferences were held four times in fiscal year 2019. Other Group companies in Japan participate in twice-annual Responsible Care conferences. These various conferences facilitate the discussion of efforts to prevent accidents and disasters, share information on environmental challenges and ensure common awareness of Groupwide rules.

Initiatives in the Asia–Pacific Region

DIC has installed ESH country heads (individuals in charge of ESH initiatives) in 10 countries and territories in the region under the supervision of a regional ESH director in Singapore and has also dispatched an ESH manager for the region from corporate headquarters. An Asia–Pacific region conference is held periodically, enabling country heads to discuss ESH policies, targets and challenges. The 2019 conference was held in November in Singapore, with participants including regional ESH country heads, site ESH officers and regional directors and Responsible Care officers, who met to discuss ESH policies, targets and challenges, as well as energy-saving investments, for the following fiscal year.



Framework for Promoting ESH in the Asia–Pacific Region

Regional OHSAS Certification

The DIC Group in the Asia–Pacific region comprises 16 companies with 22 sites in 10 countries and territories. In addition to diverse customs and languages, a key challenge from an operations perspective is differences in awareness regarding occupational safety. To resolve such differences, it was crucial for the Group to establish common occupational safety standards and work to ensure the effective implementation thereof at all regional Group companies. DIC Asia Pacific, which oversees regional Group operations, has acquired certification under OHSAS 18001, the internationally accepted standard for occupational health and safety management systems, and has begun providing encouragement and support for companies in the region seeking to obtain certification. In fiscal year 2019, the Group also began supporting Group companies' efforts to earn certification under ISO 45001, the International Organization for Standardization's new standard for occupational safety and health. As of December 2019, 18 Group sites in the Asia–Pacific region had earned certification under both ISO 45001 and OHSAS 18001, giving it a regional certification rate of 91%.

Acquisition of Certification Under Both ISO 45001 and OHSAS 18001 (Asia–Pacific Region)

Year	2017	2018	2019	2020 (Forecast)
Acquisition rate (%)	88	88	91	100

Initiatives in Greater China

Steps have been taken recently to tighten the PRC's environmental laws, regulations and standards. Some of the country's standards are now among the most world's most rigorous. Increasingly stringent safety standards have also been applied since the explosions that occurred at the Port of Tianjin in 2015. DIC's efforts to reinforce its ESH framework in Greater China include dispatching an ESH manager from corporate headquarters to serve as regional ESH director and assigning ESH coordinators to oversee efforts in the southern and eastern parts of the country. Teleconferences involving pertinent corporate and regional headquarters, staff are also held regularly to facilitate the prompt resolution of issues.

Once annually, local plant general managers and ESH officers and executives from corporate headquarters in Japan meet for a regional ESH and energy conservation conference. In November 2019, the conference was held at DIC Zhangjiagang Chemicals, with participants confirming the progress of Responsible Care initiatives and discussing challenges and future directions.

VOICE Our team is responsible for promoting ESH in the PRC.

My career since joining DIC Zhangjiagang Chemicals in August 2006 has been entirely in the area of ESH. Over this time, I have also earned various qualifications required of individuals in ESH-related positions, including registered security engineer and safety standardization auditor certification. In 2019, DIC Zhangjiagang Chemicals received a commendation as the top DIC Group company in terms of ESH management at the ninth annual ESH and energy conservation conference for DIC Group sites in the PRC, while I received a commendation as an excellent ESH manager. These honors recognize our outstanding ESH management performance, which reflects the efforts of all employees, who have worked as one over many years to reinforce capabilities.

As an ESH manager, I have always carried out my day-to-day responsibilities with a keen awareness of the importance of safety, paying close attention to safety management on the front lines of production and of the importance of not overlooking near-miss incidents. I also constantly review work procedures from the perspective of ESH with the goal of improving safety management.

Going forward, we will continue to enhance ESH by reinforcing efforts to promote awareness and training programs, as well as to deepen understanding of the philosophy of sustainability, which emphasizes safety, the environment and health. By doing so, we will seek to encourage all employees to voluntarily addresses the challenge of safety management.

ESH manager Yin Yin accepts commendation from DIC (China)'s chairman Shinsuke Toshima

ESH manager, DIC Zhangjiagang Chemicals Co., Ltd. Yin Yin

TOPIC

DIC (China) Conducts Training Program to Improve Safety Management Across Greater China

In June 2019, DIC (China)'s ESH team conducted a safety management improvement training program in Greater China. The program was attended by 26 individuals, including ESH officers and representatives of production and facility departments, from the PRC and Taiwan.

The 2019 program began with the reading of a message prepared by DIC's president and CEO for the PRC's national safety week and focused on the two themes of ISO 45001 auditor training and ESH safety trainer instruction. ISO 45001 auditor training featured lectures on the history of ISO 45001, the International Organization for Standardization's standard for occupational safety and health, in the PRC and an explanation of the standard by a researcher in the country's occupational safety and health management framework and an individual involved in the standard's creation. ESH safety trainer instruction, conducted by highly experienced coaches, emphasized training skills, the preparation of study materials and safety training–related R&D.

The lectures were followed by an examination to earn ISO 45001 auditor qualification. All participants received passing marks. Looking ahead, these individuals will apply the basic expertise gained through this program to initiatives implemented at their respective workplaces. DIC (China)'s ESH team will monitor such initiatives with the goal of further enhancing safety management across the region.

Participants in DIC (China)'s ISO 45001–focused 2019 training program

Europe, the Americas and Africa

The Sun Chemical Group oversees all Responsible Care initiatives by Group companies in Europe, the Americas and Africa. With the aim of sharing overall DIC Group Responsible Care policies and value and facilitating close cooperation with the Sun Chemical Group, ESH officers at DIC corporate headquarters in Tokyo hold periodic ESH conferences.

ESH Auditing

Framework for Promotion

The DIC Group regularly audits Responsible Care initiatives at Group companies, plants and R&D facilities. Audits are conducted by Responsible Care Department specialists with expertise, experience and advanced auditing capabilities, executive officers in charge of production, site administrators and employee union–endorsed members. Using self-assessment checklists, auditors assess the progress of remedial measures implemented in response to issues cited during previous audits. DIC's president and CEO also participates in ESH audits, underscoring top executives' commitment to playing an active role in ensuring the effectiveness of ESH-related initiatives. Overseas, Responsible Care Department specialists and regional headquarters' ESH officers use self-assessment checklists to ascertain the progress of efforts with the aim of enhancing Responsible Care initiatives at individual sites.

ESH audit conducted by DIC's chairman (center) and CEO (right)

Principal Initiatives in Fiscal Year 2019

On-Site Audits Conducted at Sites to Enhance Safety

In Japan, Responsible Care Department specialists have conducted Responsible Care audits at domestic consolidated subsidiaries since fiscal year 2014 to verify initiatives and support improvement activities. As usual, in fiscal year 2019 audits were conducted at DIC's nine principal sites and DIC Graphics' three sites. In addition, third-party safety audits were conducted at the Chiba and Tatebayashi plants as an objective way to identify issues. Owing to a lack of success in reducing occupational accidents and disasters, the Group has also conducted audits using self-assessment checklists at almost all sites belonging to domestic Group companies other than DIC Graphics. In fiscal year 2019, audits centering on rigorous site inspections were conducted at 11 sites belonging to nine domestic Group companies with the aim of improving the level of safety and environmental management.

Similar efforts are also promoted overseas, with audits becoming more stringent every year. In fiscal year 2019, the Group conducted Responsible Care audits at 20 sites belonging to 15 companies in the Asia–Pacific region, confirming steady improvements through application of the PDCA cycle. Audits at four sites in Malaysia were unannounced, making it possible to confirm steady progress.

In Greater China, Responsible Care audits were conducted at 15 sites belonging to 14 companies. In addition, third-party audits were conducted at sites belonging to Changzhou Huari New Material Co., Ltd., DIC Zhangjiagang Chemicals and Nantong DIC Color Co., Ltd., with steps taken to increase the stringency of checks. In Europe, the Americas and Africa, Responsible Care audits were conducted at 37 sites belonging to Sun Chemical Group companies and 10 sites belonging to subsidiary Seiko PMC Corporation, which manufactures chemicals for paper production and resins for printing inks and reprographic products, with audit results and the progress of subsequent remedial measures communicated to DIC. The Group reported one violation of Responsible Care–related regulations overseas in the period under review. Prompt steps were taken to make improvements.

Audit conducted by an external organization at DIC Zhangjiagang Chemicals

* Violation with a penalty exceeding $10,000

Outline of ESH Audits Implemented in Fiscal Year 2019

Audits Conducted at Subsidiaries' Sites in Fiscal Year 2019

Occupational Safety and Health/Disaster Prevention

Occupational Safety and Health

Goals and Achievements of Major Initiatives

Evaluations are based on self-evaluations of current progress. Key: ★★★ = Excellent; ★★ = Satisfactory; ★ = Still needs work

Objectives of initiatives	Goals for fiscal year 2019	Achievements in fiscal year 2019	Evaluation	Goals for fiscal year 2020
Ensure occupational safety and health.	Reduce frequency of occupational accidents resulting in workdays lost. DIC Group in Japan: 1.80 Asia–Pacific region: 2.00 Greater China: 1.50 Americas and Europe: 8.00 (Global DIC Group: 4.44)	Reductions achieved: DIC Group in Japan: 2.95 Asia–Pacific region: 2.80 Greater China: 0.98 Americas and Europe: 4.76 (Global DIC Group: 3.82)	★	Reduce frequency of occupational accidents resulting in workdays lost. DIC Group in Japan: 1.80 Asia–Pacific region: 2.00 Greater China: 1.20 Americas and Europe: 8.00 (Global DIC Group: 4.51)
Prevent disasters.	• Prevent major accidents (e.g., fires resulting in the gutting of structures). • Start calculating process safety accidents.	• Number of major accidents: DIC Group in Japan: 1 Asia–Pacific region: 1 (Global DIC Group: 2) • The calculation of process safety accidents in accordance with ICCA guidelines.	★	• Continue working to prevent major accidents. • Further promote the calculation of process safety accidents in accordance with ICCA guidelines.

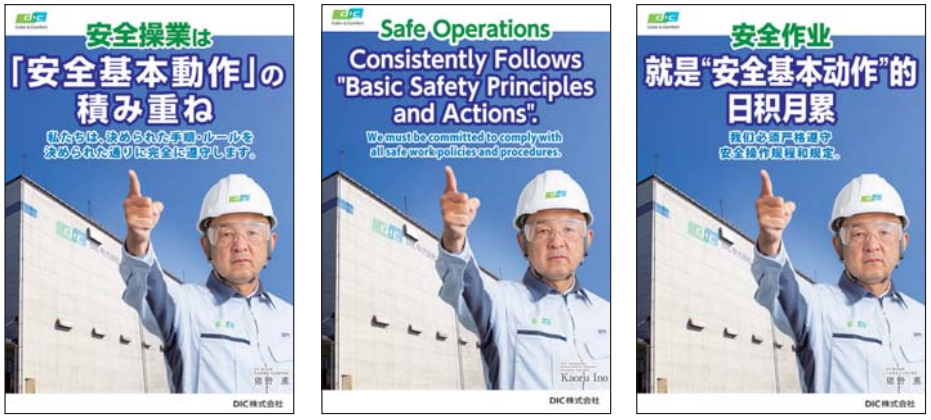
Policies and Organization

Basic Approach

Viewing the prioritization of operational safety as a core management tenet, the DIC Group works tirelessly to prevent accidents and disasters and to boost the level of ESH initiatives.

The DIC Group recognizes operational safety both as fundamental to its businesses and the core component of Responsible Care. The Company thus promotes active occupational safety and health, security and disaster prevention measures to foster a “Safety First” philosophy Groupwide and on the part of every employee.

Because its operations span diverse fields, the DIC Group has numerous processes that use hazardous and toxic materials and rotating devices, including ones that do not involve chemical reactions. Any accident involving such materials or devices has the potential to significantly impact society in general and damage the health of Group and partner company employees and local residents. With the aim of preventing such accidents, the DIC Group has earned the International Organization for Standardization’s Occupational Safety and Health Management System (OSHMS) certification and, based on the results of stringent risk assessments, places a high priority on reducing risks in the workplace by enhancing awareness of *Principles of Safe Conduct* and training highly perceptive safety personnel. The Group also strives to enhance safety through efforts to reinforce its safety infrastructure and create a safety-oriented corporate culture.



Workplace safety posters featuring DIC’s president and CEO in three languages for use at sites in Japan and overseas

Framework for Promotion

Under the supervision of the Sustainability Committee chair (president and CEO), the Responsible Care Department and the Safety and Environment groups of Group companies, plants and research laboratories collaborate to promote a variety of initiatives. The Responsible Care Department holds meetings regularly with site Safety and Environment groups to exchange information, as well as to confirm the status of priority issues and achieve targets and manage the progress of related efforts. To ensure the continuous improvement of occupational safety and health overseas, the Responsible Care Department and regional headquarters work together to conduct Group company–specific risk assessments, analyze occupational accidents and promote remedial measures.

TOPIC

Management's Commitment

Believing that it is important for management to take the lead in promoting the idea of "Safety First," managing executive officer Naoyoshi Furuta prepares a monthly memo for distribution to each individual employee as part of a campaign dubbed "Learning from the Past and Implementing Practical Solutions." Each memo presents a recent actual occupational accident or introduces occupational accidents that are likely to occur at specific times—e.g., heat stroke in summer or static electricity–related accidents in winter—and based thereupon suggests possible countermeasures. This memo is also read out once a month at a morning assembly at each site to promote awareness among employees and encourage a common understanding.

Principal Initiatives in Fiscal Year 2019

Status of Occupational Accidents

The DIC Group sets targets for occupational accidents and promotes a variety of initiatives around the world with the aim of eliminating such accidents. Of particular note, the Group sets domestic and overseas total recordable injury rate (TRIR) targets. In fiscal year 2019, the Group's domestic TRIR was 2.95, up 3.0% from the previous fiscal year and exceeding its 1.80 target for the period. The DIC Group reported 11 accidents resulting in workdays lost during the period. Overseas, the Group's TRIR was 3.82, down 18%, and better than its 4.44 target. Group sites outside Japan reported a combined total of 78 accidents resulting in workdays lost. Looking ahead, the Group will continue working to analyze the causes of occupational accidents resulting in workdays lost and reflect its findings in concrete improvements with the goal of preventing such accidents in the future.

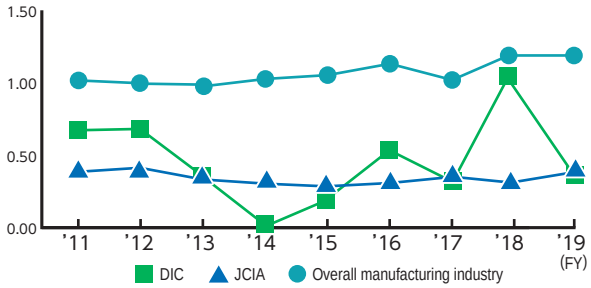
Note: DIC aggregates and reports data on full-time, part-time and contract employees.

Workdays Lost Due to Occupational Accidents (FY2017–2019)

	DIC			DIC Group (Japan)			DIC Group (Global)		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
Number of workdays lost	2	6	2	3	8	11	70	91	78
Frequency rate	0.360	1.071	0.363	0.331	0.848	1.200	1.752	2.211	1.963
Severity rate	0.054	0.021	0.003	0.028	0.013	0.038	–	–	–
TRIR*	2.16	2.50	1.63	2.65	2.86	2.95	3.98	4.83	3.82

* Total recordable injury rate (TRIR): (Number of occupational accidents resulting in workdays lost + Number of occupational accidents not resulting in workdays lost) / Million work hours

Frequency Rate

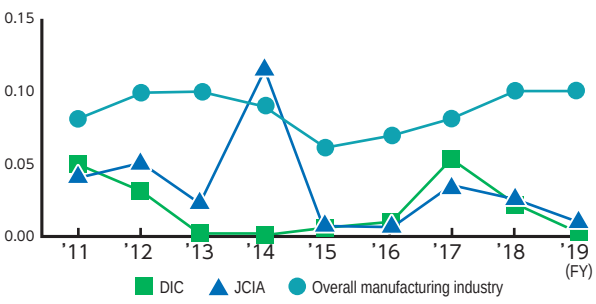


Note: The frequency rate expresses the frequency of accidents resulting in workdays lost in a fiscal year, calculated as the number of deaths or injuries per million work hours.

$$\text{Frequency rate} = \frac{\text{Number of deaths or injuries due to occupational accidents}}{\text{Total work hours}} \times 1{,}000{,}000$$

A frequency rate of 1.00 means one occupational accident resulting in workdays lost in one year at a site with 500 employees.

Severity Rate



Note: The severity rate expresses the number of workdays lost due to occupational accidents per 1,000 work hours.

$$\text{Severity rate} = \frac{\text{Total number of workdays lost due to occupational accidents}}{\text{Total work hours}} \times 1{,}000$$

A severity rate of 0.10 means 100 workdays lost in one year at a site with 500 people.

Efforts to Foster a Safety-Conscious Corporate Culture

In line with the its “Safety First” philosophy, the DIC Group works to foster a safety-conscious corporate culture. In fiscal year 2011, personnel in charge of safety at plants belonging to DIC and subsidiary DIC Graphics created Safe Corporate Climate Cultivation working groups. In addition to meeting regularly to discuss and exchange proposals regarding safety policies and measures, these working groups advise the Sustainability Committee and other bodies and promote a variety of key initiatives.

Fiscal year	Working group initiatives
2012	Working groups presented recommendations on safety policies and produced warning stickers to enhance awareness of workplace hazards.
2013	Working groups prepared safety posters featuring the president and CEO and started reading out key passages from *Principles of Safe Conduct* in workplaces with the aim of making the practices therein routine.
2014	Working groups prepared an illustrated version of *Principles of Safe Conduct* for reading out in workplaces.
2015	Working groups edited *Principles of Safe Conduct* into a tear-off calendar version for distribution at all workplaces. The calendar version was translated into English and Chinese.
2016	Working groups in the PRC began reading out key passages from *Principles of Safe Conduct* to foster a culture of safety.
2017	Working groups updated *Principles of Safe Conduct*.
2018	Working groups published the fifth edition of *Principles of Safe Conduct*.
2019	Working groups commenced production of a version of the fifth edition of *Principles of Safe Conduct* for workplace reading circles.

Pages from an illustrated version of *Principles of Safe Conduct* for workplace reading circles (available in Japanese, English and Chinese)

Reading out passages from *Principles of Safe Conduct*

Basic Initiatives Aimed at Preventing Occupational Accidents

Aggregating and Publishing Occupational Safety and Health Data as a Monthly Report

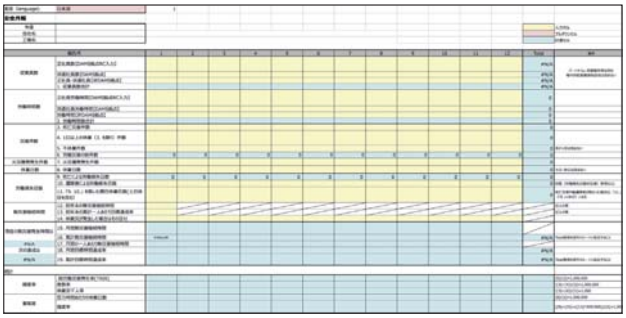
The DIC Group conducts its diverse businesses in accordance with a wide range of national and regional legal systems, working conditions and practices. The risk of accidents and disasters varies from one industry to another because of differences in the facilities, machinery and raw materials used. For the entire Group to work as one to improve occupational safety and health, it is therefore crucial to establish appropriate benchmarks for each region.

DIC promotes the sharing of statistical data on accidents, disasters and reporting procedures for each region, as well as the gathering and sharing of statistical information related to occupational safety. This approach makes it possible to objectively compare and evaluate the operational safety of individual Group companies, establish precise targets for individual countries and regions, and formulate improvement programs.

In fiscal year 2015, the DIC Group established a system for aggregating monthly occupational safety and health data for individual Group companies in Greater China and the Asia–Pacific region and publishing it as a monthly report. This made it easier to more swiftly identify and compare working hours, the number of accidents resulting in workdays lost, occupational accident frequency rate and other monthly data for these regions, thereby further enhancing Groupwide management and regional performances. In fiscal year 2019, the Group introduced the DECS, a system for recording and storing this data in the cloud to facilitate centralized management. (For more information, please see page 65.)

Statistical Occupational Safety and Health Data

- Number of employees
- Number of occupational accidents resulting in workdays lost and not resulting in workdays lost
- Number of workdays lost
- Occupational accident frequency rate
- Total work hours
- Number of accidents involving fires/explosions
- Workdays lost before restart of operations
- Occupational accident severity rate



Monthly report

Conducting Risk Assessments

By understanding potential risks in production processes, facilities and devices, and the hazards of chemical substances, the DIC Group systematically prepares initiatives to prevent accidents and occupational injuries. In Japan, the Group has formulated guidelines for conducting risk assessments when deploying new or modified equipment or changing production processes to identify and evaluate the impact on employees and the community from design through to operation.

With the aim of reducing risks associated with chemical substances in Japan, since fiscal year 2015 the DIC Group has created a framework to facilitate the methodical implementation of risk assessments in line with the policy set forth by the Ministry of Health, Labour and Welfare. Of particular note, in fiscal year 2016 the Group formulated proprietary assessment guidelines, including for assessment procedures, and is considering measures to evaluate hazards and toxicity and lower risks associated with chemicals set forth in Japan's Poisonous and Deleterious Substances Control Act, such as modifying and improving practices for handling such substances. Individual sites have created risk assessment frameworks and developed three-year plans to govern initiatives. The progress of these risk assessments is confirmed through ESH audits.

TOPIC

DIC's Yokkaichi Plant Receives Award as Excellent Safety Site from the Mie Federation of Labor Standards Associations

In October 2019, DIC's Yokkaichi Plant, located in Yokkaichi, Mie Prefecture, received an award as a site with an excellent occupational safety performance from the Mie Federation of Labor Standards Associations. High marks were given to the plant's more than 15 consecutive years of accident- and disaster-free operations (5,562 days as of September 30, 2019) and its extensive record of occupational safety and health initiatives, which include conducting occupational safety and health patrols and implementing safety education and assessing risks associated with facilities and chemical substances based on an annual educational plan. Going forward, the Yokkaichi Plant will continue to promote purposeful occupational safety and health initiatives with the aim of serving as a model for the DIC Group, as well as the chemicals industry as a whole.

Education and Training

Promoting E-Learning–Based Training for Employees

To enhance its ESH and disaster prevention capabilities, the DIC Group recognizes the importance of ensuring that all of its employees gain a broad understanding of chemical substances, production processes, and pertinent laws and regulations. In fiscal year 2016, the Group introduced an e-learning program, having verified the appropriateness of educational materials from the program from the perspective of Responsible Care Department specialists, site ESH officers and production departments. The program, which is structured around laws and regulations pertinent to the operation of production facilities, including the Fire Service Act, the Air Pollution Control Law and the High Pressure Gas Safety Act, was introduced formally for DIC Group companies in Japan in fiscal year 2017, with 137 employees registering to take part. Participants can take up to 16 classes and must score above 80 points to earn certification. A total of 276 employees took part in fiscal year 2018, while in fiscal year 2019 participants numbered 265.

Training Skilled Safety Personnel

To foster skilled safety personnel, the DIC Group provides regular safety education and training on how to handle chemical substances using online resources such as the *Principles of Safe Conduct* guidebook and the Group's Occupational Accident Case Studies database, as well as its *Environment and Safety Guidelines for the R&D Department* and safety data sheets (SDSs). *Principles of Safe Conduct* has been translated into several languages for use by overseas Group companies and is used widely in Greater China and the Asia–Pacific region. The fifth edition of the guidebook, which is updated every 10 years, was published in fiscal year 2018. An animated version based on the fifth edition was also launched in the same year, the Chinese- and English-language versions of which are currently being used as educational tools overseas.

The DIC Group also focuses on Kiken Yochi Training (KYT) ("hazard prediction training") and hands-on safety training on a global basis. In addition to expanding use of KYT, a constructive technique to further increase safety awareness, to all Group companies in Japan, the Group is accelerating deployment in Greater China and the Asia–Pacific region.

Web-based animated version of *Principles of Safe Conduct*

Hands-On Safety Training

The DIC Group's full-fledged hands-on safety training program began in 2012 with the introduction of a mobile initiative using equipment transported from site to site. Since fiscal year 2013, the Group has installed permanent training equipment in Japan (six sites), the PRC (three sites), Taiwan, Malaysia, Indonesia, India and Thailand. Over the past few years, these and other initiatives have helped to almost halve the occupational accident frequency rate* at DIC Group sites in Japan. The Group's hands-on safety training simulates common production floor accidents—including those involving entanglement in rotating devices, falls from high places and incised wounds caused by cutting equipment—based on actual previous examples with the aim of reducing employees' willingness to accept risks and fostering their ability to recognize danger. In doing so, the Group seeks to transform the mindset of employees by encouraging them to think and act on their own to protect themselves and each other from latent risks.

* The frequency rate expresses the frequency of accidents resulting in workdays lost, calculated as the number of deaths or injuries per million work hours.

Disaster Prevention

Policies and Organization

Basic Approach

Any fire, explosion or leak of hazardous substances from a chemicals plant could have a tremendous impact on local residents and the rest of the community and damage the health of employees, including those of partner companies. In addition to establishing a security management system to prevent such accidents, the DIC Group operates and maintains its facilities in line with pertinent laws and regulations. The Group regularly conducts emergency drills and has earthquake and other response measures in place.

To ensure the safety of production equipment, the DIC Group undertakes risk assessments at every stage, from development through to disposal. In 2013, the Group also formulated the DIC Process Risk Management (PRM) Guidelines*, which consist of four assessment techniques and implementation timetables for each and is used to facilitate risk assessments at individual sites. Since identifying priority risks in fiscal year 2016 to aid in effective BCP, the DIC Group has taken steps to reinforce emergency response drills and other initiatives.

* The guidelines outline timetables and implementation frameworks for assessing the handling of chemical substances, production processes, production formulas, machinery and work practices with the aim of comprehensively identifying and steadily reducing risks associated with production and R&D processes.

Framework for Promotion

Under the supervision of the Sustainability Committee chair (currently the president and CEO), the Responsible Care Department and the Safety and Environment groups of Group companies, plants and research laboratories collaborate to promote a variety of initiatives. The Responsible Care Department holds meetings regularly with site Safety and Environment groups to exchange information, as well as to confirm the status of priority issues and achieve targets and manage the progress of related efforts.

Principal Initiatives in Fiscal Year 2019

Status of Facility Accidents

On August 3, 2019, DIC reported an accident at the Saitama Plant involving a major fire in which a hazardous materials warehouse burned to the ground. Regrettably, this accident–the cause of which remains under investigation–caused a major disruption to the local community. There was also one accident involving a fire at a DIC Group site in Malaysia on September 9. Fortunately, no casualties resulted from either of these accidents, To prevent recurrence, the Group is currently reviewing its disaster prevention equipment and safety management systems.

Process Safety Management

Since fiscal year 2019, DIC has calculated process safety accidents at DIC Group sites in Japan in accordance with ICCA guidelines. The Group reported six process safety accidents in Japan in fiscal year 2019. The process safety accident frequency rate—the number of such accidents per 200,000 work hours—was 0.11.

Facility Safety Assessment

Assessment Procedures

DIC Group production facilities have an array of application-specific equipment, ranging from units where chemical reactions are conducted to machine presses and other processing equipment. When modifying processes or upgrading/replacing equipment, the Group assesses safety at every stage, from process design and construction through to operation, maintenance and final disposal, in line with risk assessment guidelines for reaction formulas, processes and equipment, to ensure higher safety levels for new processes and facilities. In fiscal year 2015, DIC revised risk assessment guidelines for machinery and equipment and prepared educational materials to prevent electrostatic accidents.

Accident and Disaster Analysis and Timely Information

DIC collects and compiles information on internal and external accidents, disasters and problems into its Occupational Accident Case Studies and Accident Case Studies databases. After identifying the causes of accidents or problems, establishing points to be checked and formulating countermeasures, the Company incorporates database information into safety education for DIC and DIC Group companies in Japan and overseas.

Assessment by the Safety Competency Enhancement Center

A company's safety competency can be defined as its ability to maintain safety levels at its various sites. In fiscal year 2013, DIC introduced an assessment system* as a means of objectively evaluating and enhancing its safety competency. This system was developed by the Japan Society of Safety Engineering (JSSE) and engineers in the chemicals industry as a common benchmark and is currently used by companies in Japan that are members of the Safety Competency Enhancement Center.

To advance use of its assessment system, in fiscal year 2015 the Safety Competency Enhancement Center formulated a version for processing sites and a prioritized version that streamlines evaluations. In fiscal year 2016, the center reviewed and revamped criteria for assessing safety infrastructure, as a result of which application of the system has expanded to include non-chemicals industry companies. Safety Competency Enhancement Center inspections were conducted at the Yokkaichi and Saitama plants in fiscal year 2017, the Komaki and Sakai plants in fiscal year 2018 and the Chiba and Tatebayashi plants in fiscal year 2019, with each facility using assessment results to implement further improvements. In December 2019, DIC asked the center to provide the Company's president and CEO with an overall report on the results of the six inspections conducted to date, facilitating the sharing of information regarding safety and disaster prevention across the management team.

* The assessment system encompasses questions about safety infrastructure (technical considerations) and culture of safety (operation and management of organizational culture).

TOPIC

Initiatives to Prevent Electrostatic Accidents

Recognizing that static electricity is a key cause of fires for chemical companies, the DIC Group has organized static electricity safety sessions guided by an expert in this field at sites in Japan since fiscal year 2017. In fiscal year 2019, the Group expanded this initiative to include the overseas DIC Group. In March 2019, sessions were held at multiple sites in Indonesia, led by the same instructor that has a solid track record of leading sessions in Japan.

Overseas sessions in fiscal year 2019 were divided into three parts: An inspection of site electrostatic accident prevention measures, a lecture on static electricity and confirmation of areas identified during the inspection as requiring remedial measures. In addition to an academic component, these sessions included a demonstration of static electricity, which enabled participants to experience the relationship between the strength of an electric spark that can be felt by humans and the minimum energy required for ignition. The demonstration also included a targeted explanation about grounding and specific grounding procedures that are effective in preventing electrostatic accidents. The combination of academic study and on-site demonstration focused on measures to prevent electric sparks enabled participants to gain valuable knowledge about static electricity beyond what is possible with video-based training.

DIC Group Sites in Indonesia Where Static Electricity Safety Sessions Were Held

- PT. DIC Graphics' Pulogadung Plant (Manufacture and sale of printing inks)
- PT DIC ASTRA Chemicals (Manufacture and sale of plastic colorants and compounds, among others)
- PT. DIC Graphics' Karawang Plant (Manufacture and sale of organic pigments)
- P.T. Pardic Jaya Chemicals (Manufacture and sale of synthetic resins)

Emergency Response Drills

In addition to daily security patrols and periodic equipment checks, the DIC Group conducts regular emergency response drills based on BCPs, particularly at production sites in Japan and overseas.

Comprehensive disaster drill at the Sakai Plant, a designated special disaster protection area

Comprehensive disaster drill at the Tokyo Plant

TOPIC

DIC's Sakai Plant Conducts Comprehensive Disaster Drill Using Nankai Trough Megathrust Earthquake Scenario

In September 2019, DIC's Sakai Plant hosted a comprehensive disaster drill for the Sakai–Senboku coast*. Approximately 220 individuals participated, including employees of companies belonging to the Sakai–Senboku Coast Special Disaster Protection Area Council and the Osaka prefectural government.

The scenario developed for the drill was that a Nankai Trough megathrust earthquake with a seismic intensity of close to 5 has occurred, triggering a massive tsunami and damaging plant tanks, causing solvents to leak from tanks, penetrate the oil barrier and catch fire. Drill exercises were diverse and included measures to be taken immediately after a major tsunami advisory, confirming the safety of and suspending operations of equipment, guiding employees to safety, reporting circumstances to the fire department, rescuing injured individuals and extinguishing fires. This allowed participants to demonstrate skills acquired through everyday practice.

* The drill was organized by the Sakai–Senboku Coast Special Disaster Protection Area Council in line with the Act on the Prevention of Disaster in Petroleum Industrial Complexes and Other Petroleum Facilities.

Hands-On Safety Training

DIC continues to deploy hands-on safety training in Japan and overseas. Since fiscal year 2013, permanent training equipment has been installed at six sites in Japan and three sites in the PRC, as well as in Taiwan, Malaysia, Indonesia, India and Thailand. As of the end of fiscal year 2019, the cumulative number of DIC Group employees participating in hands-on safety training reached 9,000 in Japan and close to 6,000 overseas.

Number of Hands-On Safety Training Participants (Fiscal Year 2019)

	DIC Group in Japan	DIC Group overseas (Greater China: 4 companies; Asia–Pacific region: 4 companies)	Total
FY2019	316	1,456	1,772
Cumulative total (FY2012–2019)	9,121	5,850	14,971

Initiatives in Japan

In fiscal year 2014, the DIC Group opened the Saitama Hands-On Safety Center, a facility boasting equipment that allows the simulation of an array of accidents, with the goal of fostering skilled safety personnel by incorporating hands-on safety training in new employee and rank-specific training programs. In the same year, DIC and DIC Graphics began including hands-on safety training and KYT in the training curricula for new employees. The Chiba, Sakai, Hokuriku, Saitama, Kashima and other plants have also established their own hands-on safety training equipment and curricula to further embed safety into the Group's culture. In fiscal year 2015, the Group downsized six types of hands-on training equipment for lending to individual sites as part of a mobile training initiative. The Responsible Care Department places a high emphasis on fostering employee hands-on training instructors for this initiative and has established an instructors licensing system.

Training for new employees at the Saitama Plant

Hands-on safety training simulating an accident involving a fall

VOICE I participated in a program to foster employee hands-on training instructors.

Having previously taken part in hands-on training at the Kashima Plant, this year I participated in a program to foster employee hands-on training instructors that qualified me as a second-class instructor. The content of the program ranged from creating guidelines for assigned hands-on training exercises and practice in conducting training sessions. The latter in particular was a first for me.

I found the whole experience extremely valuable in that it further heightened my awareness of safety—the ultimate goal of hands-on training—and gave me an appreciation of the difficulty of the approach used in this training, which is to give participants hints that encourage them to take what they learn back to their workplaces to discuss with their colleagues and come up with answers themselves. I look forward to polishing my ability to conduct hands-on training in a manner that sharpens the ability of participants to grasp the specific objectives of individual exercises.

Safety and Environment Group, Kashima Plant, DIC Corporation **Tetsuya Ishikawa**

Initiatives at Overseas Group Companies

Group companies overseas are also deploying hands-on safety training. In Greater China, hands-on safety training equipment has been installed at Nantong DIC Color, DIC Graphics (Guangzhou) and Changzhou Huari New Material, in the PRC, and DIC Graphics Chia Lung Corp. in Taiwan. In the Asia–Pacific region, equipment has been installed at DIC Compounds (Malaysia) Sdn. Bhd., DIC ASTRA Chemicals in Indonesia, Thailand's Siam Chemical Industry Co., Ltd. and DIC (India) Ltd.'s plant in Noida. These companies provide hands-on safety training for employees across their respective regions, as well as education for safety instructors. In fiscal year 2019, the cumulative number of participants in hands-on safety training across the global DIC Group surpassed 15,000.

Climate Change

Basic Philosophy

The DIC Group works to reduce CO_2 emissions over the entire life cycle of its products and, through its business activities, to lower risks associated with climate change.

Initiatives Aimed at Preventing Global Warming

Recognizing climate change as an issue of the utmost importance to society and a critical factor affecting its businesses, the DIC Group is working as one to reduce energy consumption and promote decarbonization and in its DIC111 medium-term management plan, announced in fiscal year 2019, has pledged to reduce greenhouse gas emissions from its sites. As a manufacturer of fine chemicals with a global presence, the Group is also leveraging its technological capabilities to develop products that will contribute to the realization of a low-carbon society.

At the 2015 United Nations Climate Change Conference (the 21 annual session of the Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC), participants adopted the Paris Agreement, a move aimed at accelerating efforts to tackle this urgent challenge. In May 2019, the DIC Group declared its support for the TCFD, which was established under the auspices of the Financial Stability Board (FSB) and announced in June 2017, pledging to disclose climate-related information in line with TCFD recommendations going forward.

Initiatives Aimed at Preventing Global Warming

With global warming, a principal cause of climate change, an increasingly pressing issue for the entire world, the DIC Group is actively promoting related initiatives as outlined below.

1. Undertake energy-saving initiatives worldwide
2. Deploy effective strategies through working group activities
3. Operate energy-saving cogeneration systems (combined heat and electric power generating facilities)
4. Employ energy from renewable sources (biomass boilers, wind power and solar power) at suitable sites
5. Extend energy-saving initiatives to DIC Group companies overseas
6. When installing or expanding facilities, purposefully select energy-efficient equipment and formulate related rules (investment in environmental value)

Note: A total of 16 of the DIC Group's 32 sites and 20 offices and research facilities in Japan have earned certification under the country's Designated Energy Management Factory system.

Goals and Achievements of Major Initiatives

Evaluations are based on self-evaluations of current progress. Key: ★★★ = Excellent; ★★ = Satisfactory; ★ = Still needs work

Objective of initiatives	Goals for fiscal year 2019	Achievements in fiscal year 2019	Evaluation	Goals for fiscal year 2020
Reduce emissions of CO_2 at sites (Scope 1 and 2).	DIC Group (global): Reduce CO_2 emissions at DIC Group sites (Scope 1 and 2) by 30% from the fiscal year 2013 level by fiscal year 2030 (average annual decrease of 2.1%).	CO_2 emissions: 577,056 tonnes • Down 6.6% from fiscal year 2018 (617,964 tonnes) • Down 20.2% from fiscal year 2013 (722,955 tonnes)	★★★ ★★★	Reduce CO_2 emissions at DIC Group sites (Scope 1 and 2) by 30% from the fiscal year 2013 level by fiscal year 2030 (average annual decrease of 2.1%).
	DIC Group (Japan): In line with the global target, reduce CO_2 emissions at DIC Group sites (Scope 1 and 2) by 30% from the fiscal year 2013 level by fiscal year 2030 (average annual decrease of 2.1%).	1. CO_2 emissions: 220,776 tonnes • Down 4.8% from fiscal year 2018 (231,820 tonnes) • Down 9.7% from fiscal year 2013 (244,377 tonnes) 2. Energy consumption per unit of production: 3.706 GJ/tonne • Down 5.1% from fiscal year 2018 (3.094 GJ/tonne) • Down 11.1% from fiscal year 2013 (4.170 GJ/tonne)	★★★	1. In line with the global target, reduce CO_2 emissions at DIC Group sites (Scope 1 and 2) by 30% from the fiscal year 2013 level by fiscal year 2030 (average annual decrease of 2.1%). 2. Reduce energy consumption per unit of production by 17% from the fiscal year 2013 level by fiscal year 2030 (average annual decrease of 1.0%). (Comply with Japan's Act on the Rational Use of Energy.)

Reference:

CO_2 emissions per unit of production (global DIC Group) in fiscal year 2019: 270.0 kg/tonne
- Down 7.4% from fiscal year 2018 (291.5 kg/tonne)
- Down 17.4% from fiscal year 2013 (327.0 kg/tonne)

CO_2 emissions per unit of production (DIC Group in Japan) in fiscal year 2019: 195.6 kg/tonne
- Down 8.1% from fiscal year 2018 (212.7 kg/tonne)
- Down 15.6% from fiscal year 2013 (231.7 kg/tonne)

Framework for Promotion

DIC and DIC Group companies in Japan have established an Energy-Saving Promotion Committee at each site. Committee activities include confirming the progress of initiatives, engaging in discussions and conducting patrols. DIC has also set up an Energy-Saving Working Group at each site, comprising members chosen by the site, to foster the exchange of information and research pertaining to new items and to promote the horizontal deployment of effective measures across the Group. This combination of site- and Group-level initiatives forms the framework under which the DIC Group endeavors to reduce its CO_2 emissions. Overseas, DIC Group companies promote a wide range of independent energy-saving initiatives that align with the Group's policy. The Production Management Unit provides support on multiple fronts, including the deployment of management systems and the training of employees. Critical initiatives are debated by and the progress thereof is reported on by the Sustainability Committee, which answers directly to the president and CEO.

Principal Initiatives in Fiscal Year 2019

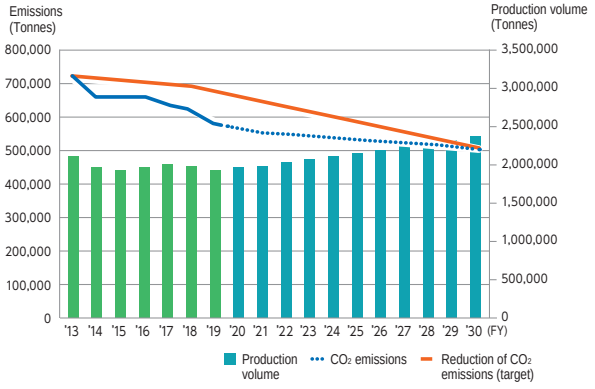
1 Energy Consumption and CO_2 Emissions by the Global DIC Group

Energy consumption by the global DIC Group in fiscal year 2019 edged down 1.7% from fiscal year 2018 and 14.2% from the fiscal year 2013 base year. CO_2 emissions by the global DIC Group amounted to 577,056 tonnes, down 6.6% from fiscal year 2018 and 20.2% from fiscal year 2013. Global CO_2 emissions per unit of production—expressed in terms of kilograms per tonne—were 270 kilograms, down 7.4% from fiscal year 2018 and 17.4% from the base year.

The DIC Group's diverse product portfolio includes printing inks, polymers, pigments, LCs, engineering plastics and compounds. Recent years have seen an uptrend in the output of energy-intensive fine chemicals and a downtrend in the output of general-purpose items, the production of which is comparatively energy efficient. Against this backdrop, the Group's success in achieving a reduction in the volume of CO_2 it emits worldwide in excess of its target for the year included efforts by companies worldwide to break down the target—an annual average decrease of 2.1% from fiscal year 2018, set forth in the DIC111 medium-term management plan to ensure achievement of its long-term target of a 30% reduction from the fiscal year 2013 level by fiscal year 2030—and to promote energy-saving and decarbonization initiatives beyond what had been necessary to achieve its previous annual reduction target of 1.0%. Some of these initiatives are outlined below.

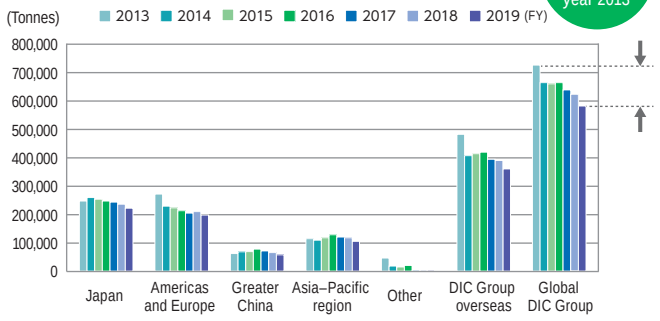
Going forward, the Group will continue to implement a variety of energy-saving measures, including introducing highly efficient facilities, promoting process improvements and improving capacity utilization rates, while at the same time further advancing its use of renewable energy by shifting to biomass and other clean fuels and installing solar power facilities.

Global CO_2 Emissions: Results, Forecasts and Target for Fiscal Year 2030



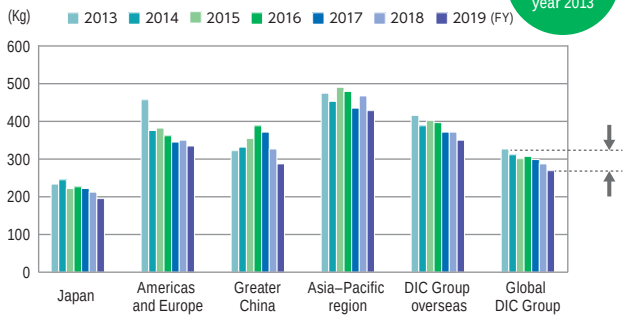
Global CO_2 Emissions

-20.2% from fiscal year 2013



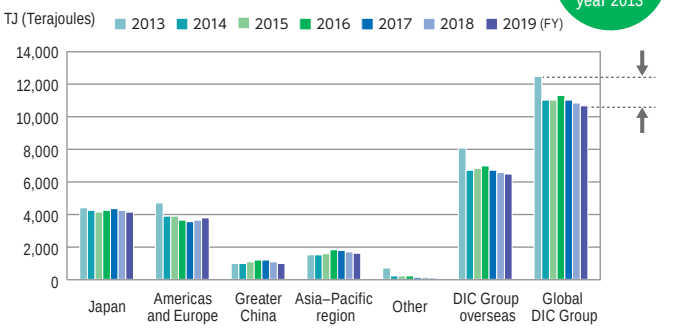
Global CO_2 Emissions per Unit of Production

-17.4% from fiscal year 2013



Global Energy Consumption

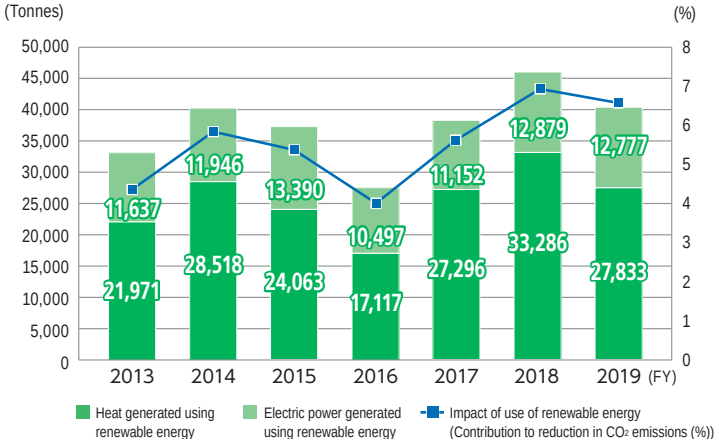
-14.2% from fiscal year 2013



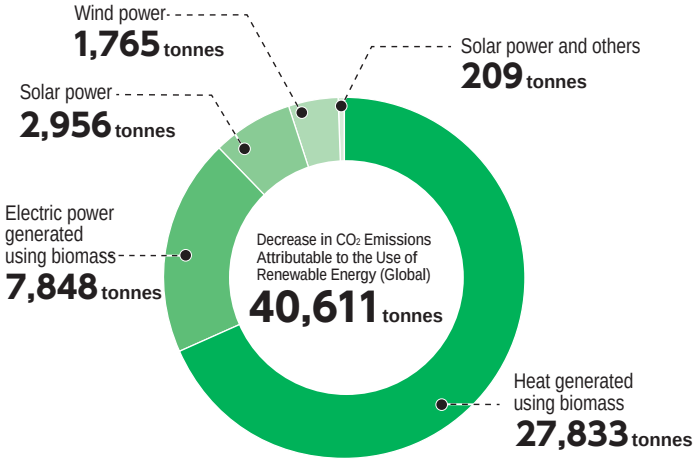
Factors Contributing to Change in Global CO_2 Emissions

	Factors	Impact on CO_2 emissions (tonnes)		Decrease (%)
DIC Group in Japan	Decline in production volume (-3.2% from fiscal year 2018)	-5,079	-11,044	1.8%
	Decrease in incineration of waste oil and waste plastics (particularly at the Chiba Plant)	-4,674		
	Implementation of 551 energy-saving initiatives at sites, including expansion of solar power facilities (1,277 kW)	-3,748		
	Purchase of low-carbon electric power (including from existing electric power companies with improved CO_2 emissions factors)	-3,183		
	Decrease attributable to other efforts to increase efficiency	-1,094		
	Increase in power generated using renewable energy (Hokuriku Plant)	-370		
	Change in product mix (increase in output of energy-intensive products)	5,429		
	Decrease in power generated using renewable energy (Kashima Plant) (decline in wind power generated, among others)	1,675		
DIC Group overseas	Asia–Pacific region: Decline in production volume (-3.2% from fiscal year 2018) (Karawang Plant (pigments): -10.0%)	-7,499	-12,559	4.8%
	Asia–Pacific region: Energy-saving initiatives and increased productivity	-2,079		
	Asia–Pacific region: Change in CO_2 emissions factor of electric power used overseas, from 0.530 to 0.4853 (Source: Emissions Factors 2019, IEA)	-3,696		
	Asia–Pacific region: Change in product mix and in energy consumption not directly attributable to production	2,304		
	Asia–Pacific region: Other factors	-1,589		
	Greater China: Level production volume (-0.1% from fiscal year 2018)	-61	-6,655	
	Greater China: Energy-saving initiatives and increased productivity	-2,934		
	Greater China: Change in CO_2 emissions factor of electric power used overseas, from 0.530 to 0.4853	-2,736		
	Greater China: Change in product mix and in energy consumption not directly attributable to production	1,229		
	Greater China: Other factors	-2,153		
	Sun Chemical Group: Decline in production volume (-2.4% from fiscal year 2018)	-3,165	-11,223	
	Sun Chemical Group: Impact of energy-saving initiatives and increased productivity	-2,066		
	Sun Chemical Group: Installation of solar power facilities in North America (generating capacity: 800 kW)	-405		
	Sun Chemical Group: Change in CO_2 emissions factor of electric power used overseas, from 0.530 to 0.4853	-11,522		
	Sun Chemical Group: Change in product mix and in energy consumption not directly attributable to production	4,632		
	Sun Chemical Group: Other factors	1,302		
	Other: Changes in energy sources used at U.S. subsidiary Earthrise Nutritionals, LLC	762	573	
	Other: Change in CO_2 emissions factor of electric power used overseas, from 0.530 to 0.4853	-189		
	Change in CO_2 emissions (tonnes)		-40,908	
	Decline in CO_2 emissions (%)		6.6%	
	CO_2 emissions in fiscal year 2018		617,964	
	CO_2 emissions in fiscal year 2019		577,056	

Reduction in Global CO_2 Emissions Attributable to the Use of Renewable Energy



Breakdown of Reduction in Global CO_2 Emissions Attributable to the Use of Renewable Energy in Fiscal Year 2019 (40,611 Tonnes)



In fiscal year 2019, the use of renewable energy accounted for a reduction in CO_2 emissions by the global DIC Group of 6.6%, or 40,611 tonnes, to 577,056 tonnes.
[40,611 / (577,056 + 40,611)]

Reduction in Global CO_2 Emissions Attributable to the Use of Renewable Energy (Tonnes/%)

	2013	2014	2015	2016	2017	2018	2019
Reduction attributable to the use of heat generated using biomass	21,971	28,518	24,063	17,117	27,296	33,286	27,833
Reduction attributable to the use of electric power generated using biomass	11,037	11,946	13,390	10,497	11,152	12,879	12,777
Total reduction attributable to the use of renewable energy	33,008	40,464	37,453	27,614	38,448	46,166	40,611
Total reduction attributable to the use of renewable energy (%)	4.4%	5.8%	5.4%	4.0%	5.7%	7.0%	6.6%
Total global CO_2 emissions	722,955	657,456	658,811	659,378	634,741	617,964	577,056

	2018	2019	Change from previous fiscal year
Reduction attributable to the use of heat generated using biomass	33,286	27,833	-16.4%
Reduction attributable to the use of electric power generated using biomass	7,936	7,848	-1.1%
Reduction attributable to the use of solar power	1,984	2,956	49.0%
Reduction attributable to the use of wind power	2,690	1,765	-34.4%
Reduction attributable to the use of small hydroelectric power	270	209	-22.4%
Total reduction attributable to the use of renewable energy	46,166	40,611	-12.0%

2 Energy Consumption and CO_2 Emissions by the DIC Group in Japan

Energy consumption by the DIC Group in Japan—the 52 sites in Japan operated by DIC and domestic Group companies—in fiscal year 2019 edged down 1.7% from fiscal year 2018 and 4.9% from the fiscal year 2013 base year. Energy consumption per unit of production totaled 3.706 GJ/tonne, down 5.1% from fiscal year 2018 and 11.1% from the base year. In contrast, CO_2 emissions by the Group in Japan amounted to 220,776 tonnes, down 4.8% from fiscal year 2018 and 9.7% from fiscal year 2013, while CO_2 emissions per unit of production amounted to 195.6 kilograms, down 8.1% from fiscal year 2018 and 15.6% from the base year.

Principal factors behind the decline in CO_2 emissions by the Group in Japan included the implementation of 551 energy-saving initiatives at sites, as well as the start of operations of solar power facilities at five sites, including the Tatebayashi Plant, with a combined annual generating capacity of 1,440 kW. As of December 31, 2019, the total generating capacity of solar power facilities at DIC Group sites in Japan was 3,040 kW (all for internal consumption).

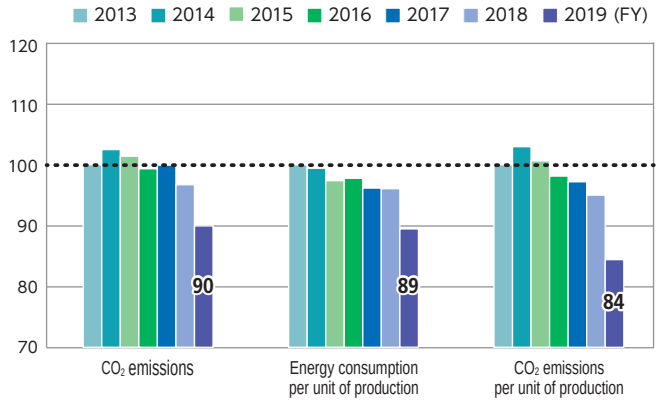
Other contributing factors included the fact that the change in CO_2 emissions attributable to a decrease in production volume was essentially level, despite a 3.4% decline in production volume, owing to an increase in the production of comparatively energy-intensive products. In addition, at the Chiba Plant, a decrease in the incineration of waste oil and waste plastics using a rotary kiln resulted in a decline in emissions attributable to the incineration of waste equivalent to 2.0% of the Group's fiscal year 2018 production volume.

The DIC Group in Japan purchases a total of 201 million kWh of electric power from domestic electric power companies annually (contract volume: 50,000 kWh) and when renewing annual electric power supply contracts selects suppliers based not only on costs but also low CO_2 emissions factor. In fiscal year 2019, the Group was able to purchase a greater amount of low-carbon electric power than in the previous period, which accounted for a 1.4% decrease in domestic CO_2 emissions. Looking ahead, the Group will continue working to expand its purchases of low-carbon electric power.

Factors Contributing to Change in CO_2 Emissions in Japan

Factors	Impact on CO_2 emissions (tonnes)	Impact on CO_2 emissions (%)
Decline in production volume	-5,079	-2.2%
Decrease in incineration of waste oil and waste plastics (particularly at the Chiba Plant)	-4,674	-2.0%
Implementation of 551 energy-saving initiatives at sites, including expansion of solar power facilities (1,440 kW)	-3,748	-1.6%
Purchase of low-carbon electric power (including from existing electric power companies with improved CO_2 emissions factors)	-3,183	-1.4%
Decrease attributable to other efforts to increase efficiency	-1,094	-0.5%
Increase in power generated using renewable energy (Hokuriku Plant)	-370	-0.2%
Change in product mix (increase in output of energy-intensive products)	5,429	2.3%
Decrease in power generated using renewable energy (Kashima Plant)	1,675	0.7%
Change in CO_2 emissions (tonnes)		-11,044
Decline in CO_2 emissions (%)		4.8%
CO_2 emissions in fiscal year 2018		231,820
CO_2 emissions in fiscal year 2019		220,776

Changes in CO_2 Emissions, Energy Consumption per Unit of Production and CO_2 Emissions per Unit of Production in Japan Since Fiscal Year 2013



Key Energy-Saving Initiatives in Japan in Fiscal Year 2019

No	Production facility	Production floor Production process	Energy-saving initiative	Details of initiative	Category	Reduction in annual energy consumption (GJ)	Reduction in annual CO_2 emissions (tonnes)
1	Tatebayashi	Utility control group	Installation of solar power system	A solar power system with generating capacity of 1,250 kW was installed.	Electric power	12,573	597
2	Tatebayashi	DIC Plastics	Introduction of electric injection molding unit	A 1,300-tonne electric injection molding unit was introduced, replacing a hydraulic unit.	Electric power	1,817	87
3	Komaki	PPS compounds production team	Optimization of dryer 15 airflow	The volume of steam used was reduced.	Heat	2,967	151
4	Kashima	Utility control group	Improvement of steam trap management	Defective traps were replaced, reducing steam loss.	Heat	2,135	108
5	Kashima	DIC EP (J-3)	Increase in waste heat recovery	The temperature range of the waste heat recovery heat source was adjusted.	Heat	1,309	68
6	Kashima	Functional additives production team 2	Shortening of production process times	Reduction of process time.	Electric power	1,072	52
7	Chiba	J production floor	Change of steam branch line	The steam line for the P-34 tank yard was changed.	Heat	1,668	93
8	Chiba	D production floor	Stoppage of refrigerator 130	The refrigerator was shut down when not in use.	Electric power	1,832	86
9	Chiba	C production floor	Optimization of methanol rectifying tower operation	The distillation rate was doubled, reducing steam use.	Heat	1,128	63
10	Chiba	Utility control group	Decrease in operation of electric IG compressors	Aged IG compressors were replaced.	Electric power	1,074	50
11	Chiba	Utility control group	Installation of solar power system	A solar power system with generating capacity of 100 kW was installed on the roof of a laboratory.	Electric power	986	46
12	Saitama	Coating team 1	Review of deodorizing system operation	The catalytic deodorizer was shut down when not in use.	Heat	1,824	91
13	Saitama	LC production team	Replacement of air-cooled chiller	The existing unit was replaced with a high-efficiency air-cooled module chiller.	Electric power	1,686	82
14	Sakai	Utility control group	Replacement of flue boiler economizer	The aged economizer was replaced to improve waste heat recovery.	Heat	830	41
15	Hokuriku	Production team 3, J production floor	Improvement of steam trap management	Leaking steam traps were replaced.	Heat	632	31
16	KJ Chemicals	M-5 plant	Replacement of two chillers	Two aged chillers were replaced with high-efficiency models.	Electric power	1,243	58
17	Seiko PMC	Chiba Research Laboratory	Improvement of air conditioning system	Air conditioners were replaced, double-sash windows were installed and the roof was insulated.	Electric power	1,610	76
				Subtotal (17 key initiatives)		36,377	1,777
				Others (539 initiatives)		38,224	1,971
				Total (all initiatives in Japan)		74,601	3,748

3 Efforts to Promote the Use of Renewable Energy in Japan

Renewable Energy as a Percentage of Total Energy Used in Japan: 11.0%

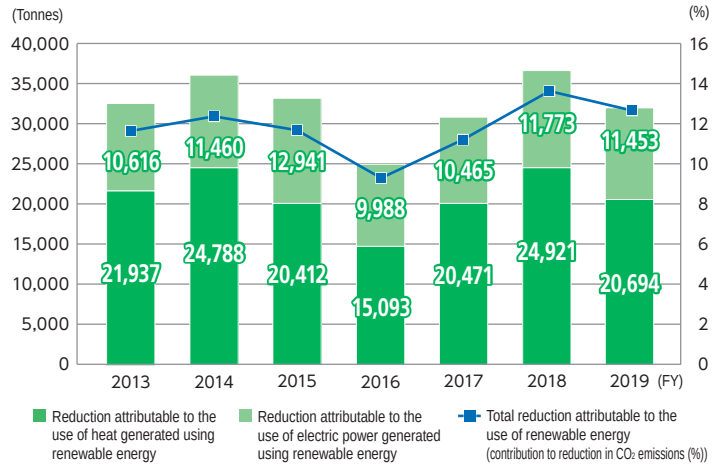
The bulk of renewable energy used by DIC Group companies in Japan is natural energy generated by a biomass boiler and wind and solar power facilities at the Kashima Plant. In fiscal year 2019, DIC Group companies in Japan used 519,000 GJ of renewable energy (equivalent to 13,391 kl of crude oil), down 11.5% from fiscal year 2018 and representing 11.0% of total energy (heat and electric power) consumed by these companies. The decrease in renewable energy use was attributable to a variety of factors, including a sharp drop in the amount of electric power generated by the Kashima Plant's wind power system (two 2,300 kW–capacity wind turbines) as a result of repairs, which required close to three months to complete, and a decline in the positive impact of biomass boiler performance.

In fiscal year 2019, DIC completed the installation of solar power systems at five sites in Japan (the Tatebayashi, Chiba, Saitama and Yokkaichi plants and the Central Research Laboratories) with a combined annual generating capacity of 1,440 kW. As a consequence, the total generating capacity of solar power facilities at DIC Group sites in Japan as of December 31, 2019, was 3,040 kW. Solar power generated by the DIC Group in Japan in fiscal year 2019 soared 71.0%, to 3,364,000 kWh, from 1,968,000 kWh in fiscal year 2018.

The use of renewable energy by DIC Group companies in Japan in fiscal year 2019 accounted for a reduction in CO_2 emissions of 32,146 tonnes, or 12.7%, from the previous fiscal year.

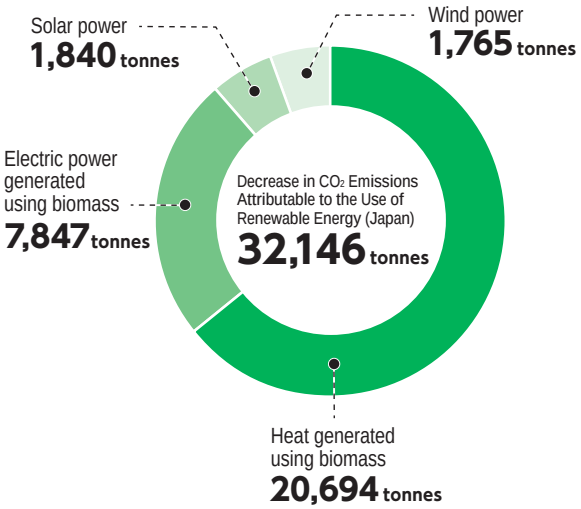
In fiscal year 2020, DIC will install solar power facilities at an additional six sites in Japan (the Sakai and Komaki plants, the Central Research Laboratories and Group companies DIC Kyushu Polymer Co., Ltd., and DIC Kitanihon Polymer Co., Ltd. (the Hokkaido and Tohoku plants)), which will add 1,277 kW (all for internal consumption) to the Group's domestic solar power generating capacity, began operating in January 2020. Going forward, DIC will continue to take decisive steps to advance its use of renewable energy with the aim of achieving its long-term target for reducing emissions of CO_2 from DIC Group sites by 30% from the fiscal year 2013 level by fiscal year 2030.

Reduction in CO_2 Emissions in Japan Attributable to the Use of Renewable Energy



In fiscal year 2019, the use of renewable energy accounted for a reduction in CO_2 emissions by the DIC Group in Japan of 12.7%, or 32,146 tonnes, to 220,776 tonnes.
[32,146 / (220,776 + 32,146)]

Breakdown of Reduction in CO_2 Emissions in Japan Attributable to the Use of Renewable Energy in Fiscal Year 2019



Reduction in CO_2 Emissions in Japan Attributable to the Use of Renewable Energy (Tonnes/%)

	2013	2014	2015	2016	2017	2018	2019
Reduction attributable to the use of heat generated using renewable energy	21,937	24,788	20,412	15,093	20,471	24,921	20,694
Reduction attributable to the use of electric power generated using renewable energy	10,616	11,460	12,941	9,988	10,465	11,773	11,453
Total reduction attributable to the use of renewable energy	32,552	36,248	33,353	25,081	30,936	36,693	32,146
Total reduction attributable to the use of renewable energy (%)	11.8%	12.4%	11.7%	9.4%	11.2%	13.7%	12.7%
Total CO_2 emissions by the DIC Group in Japan	244,377	255,114	250,720	242,194	244,395	231,820	220,776

	2018	2019	Change from previous fiscal year
Reduction attributable to the use of heat generated using biomass	24,921	20,694	-17.0%
Reduction attributable to the use of electric power generated using biomass	7,936	7,847	-1.1%
Reduction attributable to the use of solar power	1,147	1,840	60.5%
Reduction attributable to the use of wind power	2,690	1,765	-34.4%
Reduction attributable to the use of small hydroelectric power	0	0	–
Total reduction in attributable to the use of renewable energy	36,693	32,146	-12.4%

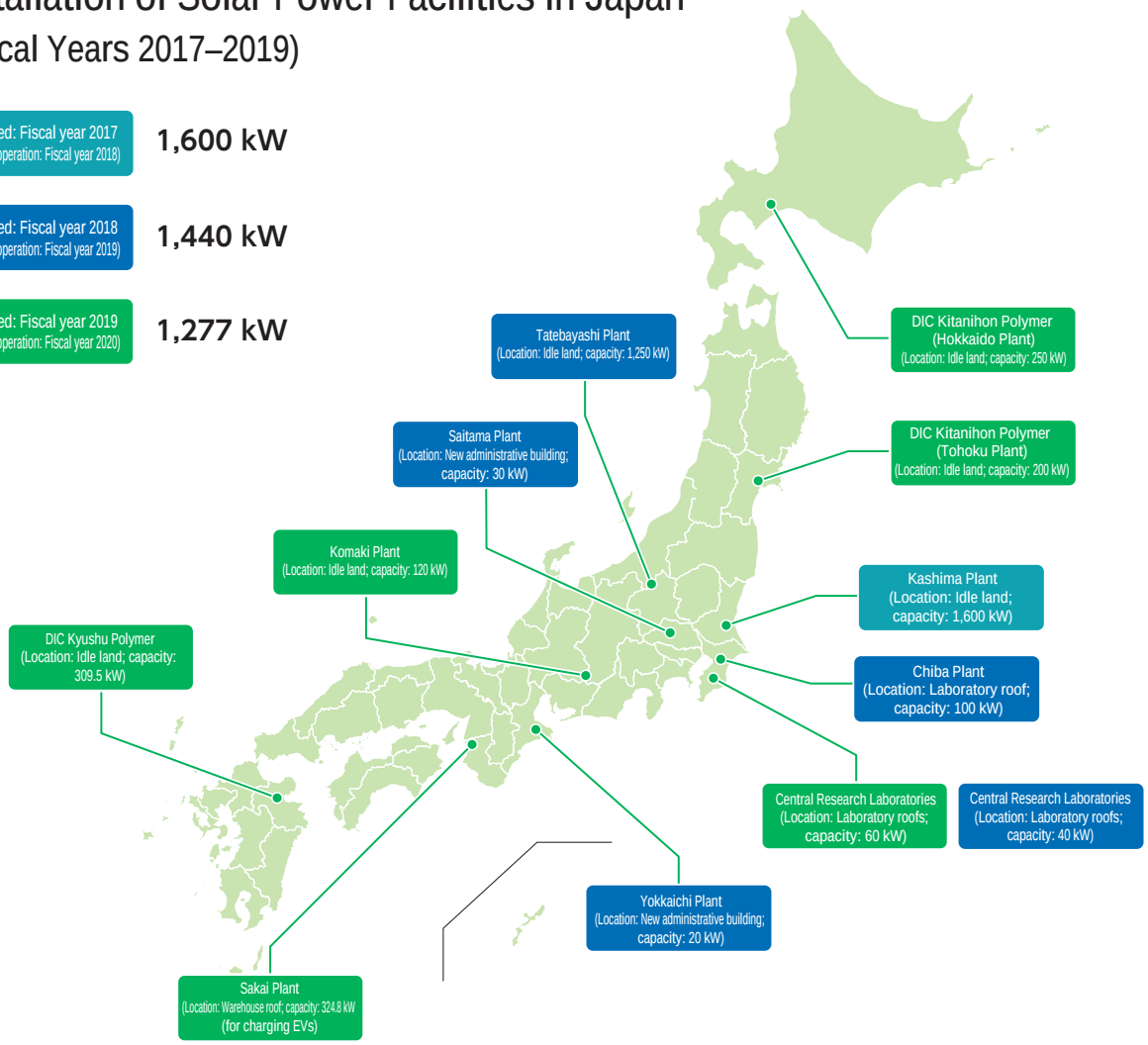
	Up to and including fiscal year 2017	Fiscal year 2018	Fiscal year 2019	Fiscal year 2020
Biomass boiler (wood chip–fired) • Heat generated in fiscal year 2019: 452,000 GJ (generated using heat: 66%; generated using electric power: 34%) • Electric power generating capacity in fiscal year 2019: Approx. 4,000 kW (electric power generated: 15,695,000 kWh)	Kashima Plant • Steam produced: Maximum of 30 tonnes/hour • Approximately 70% of steam generated used in production processes • Remainder of steam produced used to power turbine generating electric power for internal consumption • Generating capacity: 4,000 kW	Hokuriku Plant • Steam produced: Maximum of 2.5 tonnes/hour • All steam produced used in production processes • No electric power generating function • Commenced operation in January 2018	—	—
Wind power Electric power generating capacity in fiscal year 2019: Approx. 4,600 kW (electric power generated: 3,530,000 kWh)	Kashima Plant • Generating capacity: 4,600 kW • Facility: Two 2,300 kW–capacity wind turbines	—	—	—
Solar power Electric power generating capacity in fiscal year 2019: Approx. 4,495 kW (electric power generated: 3,364,000 kWh)	Kashima Plant • Generating capacity: 100 kW DIC Decor • Generating capacity: 20 kW	Kashima Plant • Generating capacity: 1,600 kW • Number of panels: 5,588 (each 278 W) • Commenced operation in January 2018	Tatebayashi Plant • Generating capacity: 1,270 kW Chiba Plant • Generating capacity: 100 kW Central Research Laboratories • Generating capacity: 40 kW Saitama Plant • Generating capacity: 30 kW Yokkaichi Plant • Generating capacity: 20 kW Total: 1,500 kW Note: All facilities commenced operation in January 2019.	Sakai Plant • Generating capacity: 325 kW DIC Kyushu Polymer • Generating capacity: 310 kW DIC Kitanihon Polymer Hokkaido Plant • Generating capacity: 250 kW DIC Kitanihon Polymer Tohoku Plant • Generating capacity: 200 kW Komaki Plant • Generating capacity: 132 kW Central Research Laboratories • Generating capacity: 60 kW Total: 1,277 kW Note: All facilities commenced operation in January 2020.

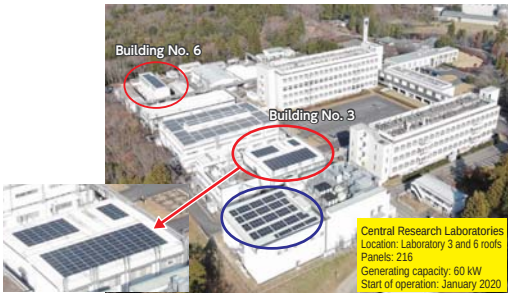
Installation of Solar Power Facilities in Japan
(Fiscal Years 2017–2019)

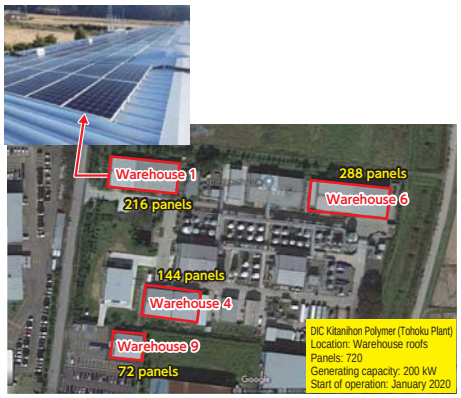
Installed: Fiscal year 2017 (Start of operation: Fiscal year 2018) **1,600 kW**

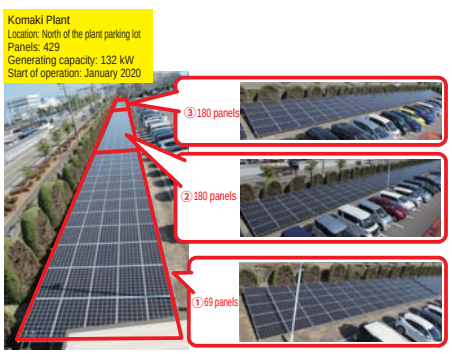
Installed: Fiscal year 2018 (Start of operation: Fiscal year 2019) **1,440 kW**

Installed: Fiscal year 2019 (Start of operation: Fiscal year 2020) **1,277 kW**





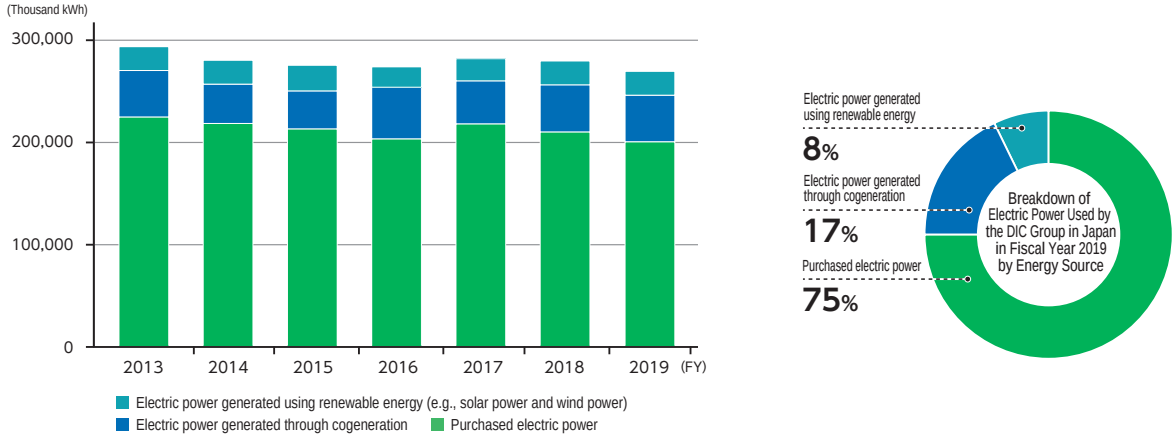




4 Independent Electric Power Generation in Japan

In fiscal year 2019, electric power consumption by the DIC Group in Japan declined 2.9% from the previous fiscal year, to 270,970,000 kWh, approximately 25.1% of which was generated independently, with electric power generated using renewable energy accounting for 8.3% and that generated using cogeneration systems representing 16.8%. While independently generated solar power was up from fiscal year 2018, wind power edged down 0.9%.

Electric Power Used by the DIC Group in Japan by Energy Source



DIC Wins New Energy Foundation Chairman's Award in the Adoption and Application Category of the 2018 New Energy Awards

In December 2018, DIC won a New Energy Foundation Chairman's Award in the Adoption and Application Category of the 2018 New Energy Awards in recognition of the expanded use of renewable energy at the Kashima Plant. The awards program, which was presented by the New Energy Foundation, was established with the aim of encouraging the introduction of new energy and promoting awareness by commending particularly excellent initiatives.

The Kashima Plant has installed multiple renewable energy–powered generating facilities, including biomass and methane gas boilers, as well as wind power and solar power systems. As a consequence, 50% of electric power and 80% of heat consumed annually by the site is generated by using renewable energy. These facilities also contributed to a reduction in annual CO_2 emissions in fiscal year 2018 of more than 36,000 tonnes. Looking ahead, the department responsible for the plant's energy supply will continue working to enhance the combustion efficiency of generating facilities, including biomass and methane gas boilers, by upgrading maintenance and management technologies and accumulating know-how.

The Chairman's Award recognizes the positive results of these steadfast efforts. DIC will deploy know-how accumulated by the Kashima Plant at sites both in Japan and overseas with the aim of increasing its use of renewable energy and reducing its emissions of greenhouse gases around the world.

Reductions in Annual CO_2 Emissions Attributable to the Use of Renewable Energy at the Kashima Plant

Biomass boiler
(Annual reduction: 32,000 tonnes)

Wind power system
(Annual reduction: 2,200 tonnes)

Methane gas boiler
(Annual reduction: 600 tonnes)

Megasolar power system
(Annual reduction: 1,200 tonnes)

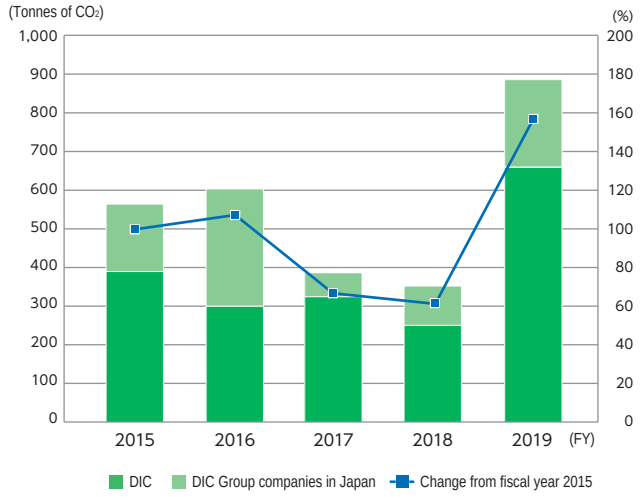
5 Protecting the Ozone Layer

Hydrofluorocarbons (HFCs) are used widely as refrigerants in equipment and facilities. While not an ozone-depleting substance (ODS), HFCs have a warming potential 100–10,000 times that of CO_2 and their use is expected to account for a 0.5°C increase in the global average temperature by the end of the 21st century. At the 28th Meeting of the Parties in Kigali, Rwanda, held in October 2016, the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer reached an agreement to phase out the production and use of HFCs (the Kigali Amendment). Japan subsequently amended its Act on the Protection of the Ozone Layer Through the Control of Specified Substances and Other Measures in line with the amendment, which as of January 10, 2019, had been ratified by 65 Parties. Having surpassed the condition of ratification by at least 20 Parties, the Kigali Amendment entered into force on January 1, 2019.

In April 2015, Japan also revised its Fluorocarbons Recovery and Destruction Law. The same month, the Act on Rational Use and Proper Management of Fluorocarbons entered into force, compelling stakeholders to ascertain and report leaks of fluorocarbons from commercial equipment and facilities.

In fiscal year 2019, leaked fluorocarbons from DIC sites amounted to 886 tonnes of CO_2. (Leaks in excess of 1,000 tonnes per site or per company must be reported to the Japanese authorities.) The Company has worked to effectively manage fluorocarbons since the Act on Rational Use and Proper Management of Fluorocarbons entered into force in 2015 and has managed to keep leaks below the level requiring reporting. Leaked fluorocarbons in fiscal year 2019 were higher than in an average year as a consequence of the replacement of a substantial number of chillers. (Leaked fluorocarbons are calculated as the difference between amount filled into new equipment and amount recovered when equipment is dismantled.) The DIC Group will continue to select air conditioning and other equipment using nonfluorocarbon and other refrigerants that do not negatively impact the environment with the aim of reducing the amount of leaked fluorocarbons for which it is responsible.

Leaks of Fluorocarbons by the DIC Group in Japan (CO_2 Equivalent)

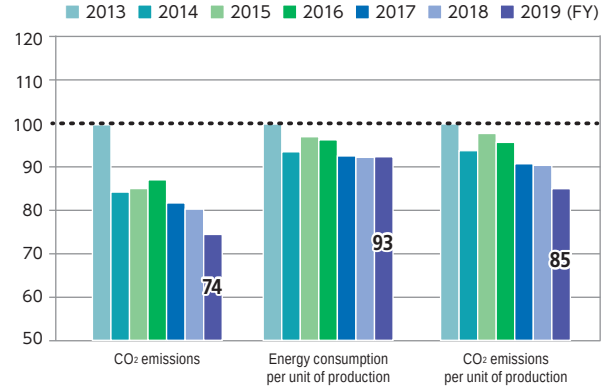


6 Energy Consumption and CO_2 Emissions by the DIC Group Overseas

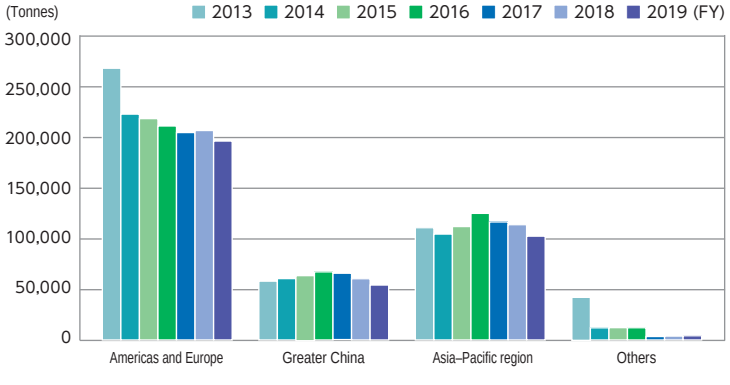
With production volume by the DIC Group overseas in fiscal year 2019 down 2.1% from fiscal year 2018, CO_2 emissions declined 7.7%, or 25.6% from the fiscal year 2013 base year, and CO_2 emissions per unit of production declined 5.7%, or 14.7% from fiscal year 2013. Energy consumption edged down 1.7%, or 19.2% from the base year.

Factors contributing to the decrease in CO_2 emissions included efforts by individual DIC Group companies to break down the Group's emissions reduction targets and promote decarbonization initiatives, the installation of solar power facilities with an annual generating capacity of approximately 800 kW by Sun Chemical in the United States, and the improvement of the CO_2 emissions factors of electric power consumed by overseas Group companies in line with the factors published by the International Energy Agency (IEA).

Changes in CO_2 Emissions, Energy Consumption per Unit of Production and CO_2 Emissions per Unit of Production Overseas Since Fiscal Year 2013



CO_2 Emissions by Region



Laws and regulations, as well as infrastructure, differ between countries and regions. The DIC Group strives to promote energy savings and efficient operations wherever it is active and in so doing sets precedents for the global chemicals industry.

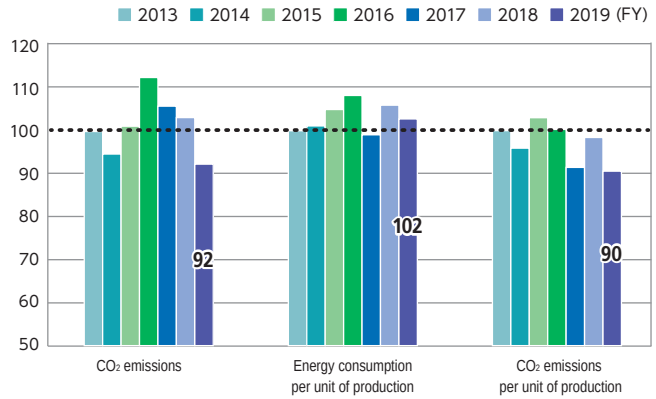
DIC Group companies overseas continue to implement a broad range of energy-saving initiatives, including improving production efficiency, reducing base load energy consumption, choosing high-efficiency models when replacing equipment and switching to LED lighting. The Group is also promoting the increased use of renewable energy. In fiscal year 2019, Sun Chemical, based in the United States, installed solar power facilities with an annual generating capacity of approximately 800 kW. In addition, corporate headquarters continued stepping up collaboration with overseas Group companies through energy-saving analyses and support for individual projects. During the period, energy-saving analyses were conducted at two sites in the Asia–Pacific region (DIC Compounds (Malaysia) and DIC Epoxy (Malaysia) Sdn. Bhd.) and one site in Greater China (DIC Synthetic Resins (Zhongshan)). At the same time, a project was promoted whereby effective initiatives are awarded "Good Job" accreditation and deployed horizontally at Group companies in Japan. This initiative also involves using the process of introducing best practices at production facilities as an opportunity to foster young employees.

Asia–Pacific Region

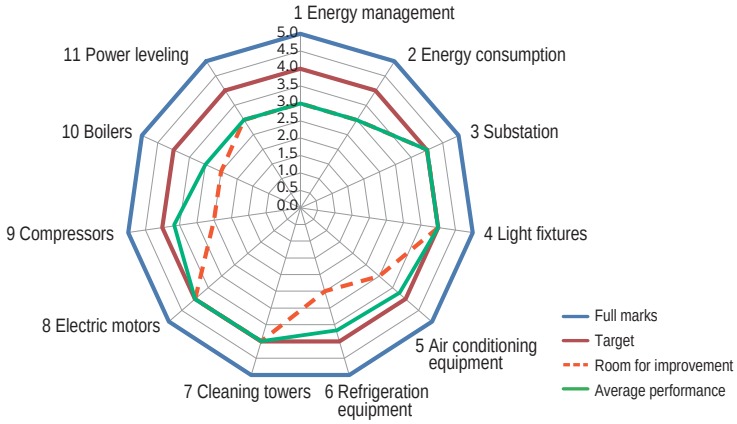
The 22 DIC Group sites in the Asia–Pacific region account for roughly 18% of the Group's total global CO_2 emissions. Production volume in fiscal year 2019 was down 3.2% from fiscal year 2018, although it was up 1.9% from the fiscal year 2013 base year. Energy consumption by Group companies across the region decreased 6.6% from the previous fiscal year, but was 4.5% higher than in the base year, while CO_2 emissions declined 10.9% from fiscal year 2018, or 7.8% from fiscal year 2013. Indonesia is home to the Group's mother plant for pigments, production of which is comparatively energy intensive. The pigments business accounts for more than 50% of energy consumption and CO_2 emissions in the Asia–Pacific region, underscoring its influence on results for the region as a whole. Accordingly, the Group continues to promote a variety of initiatives to reduce the business' CO_2 emissions by reducing energy consumption, including by replacing a portion of the coal used to fire boilers with palm kernel shells (PKS), a biomass fuel, an effort that began in fiscal year 2016 and earning certification under ISO 50001, the International Organization for Standardization's benchmark for energy management systems.

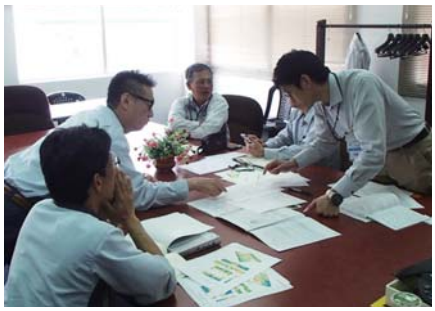
Since fiscal year 2014, the DIC Group has conducted energy-saving analyses overseas as well as in Japan. In fiscal year 2019, energy-saving analyses were conducted at two companies in the Asia–Pacific region: DIC Epoxy (Malaysia) and DIC Compounds (Malaysia). As part of its effort to ensure achievement of the CO_2 emissions target set for the global DIC Group, corporate headquarters assists regional Group companies by formulating and implementing energy-saving plans; promoting ongoing energy-saving analyses to support the identification of energy-saving themes and the implementation of remedial measures; deploying a practical energy management manual and best practice case study materials to establish management practices and promote horizontal deployment; and launching and providing support for energy-saving and carbon-reduction projects at suitable sites.

Changes in CO_2 Emissions, Energy Consumption per Unit of Production and CO_2 Emissions per Unit of Production in the Asia–Pacific Region Since Fiscal Year 2013



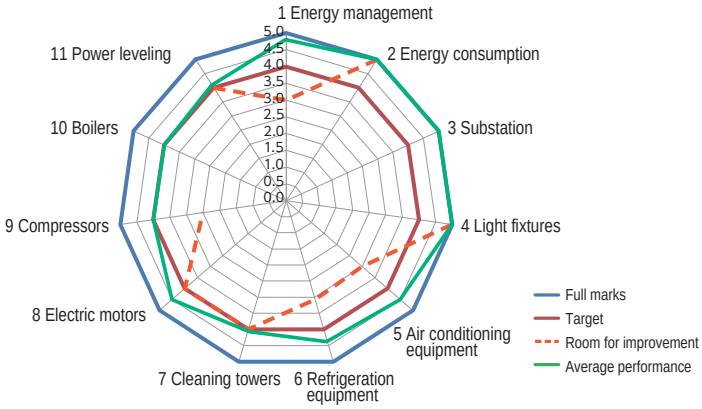
Energy-Saving Analysis Radar Chart (DIC Epoxy (Malaysia) Sdn. Bhd.)





Energy-saving analysis at DIC Epoxy (Malaysia)

Energy-Saving Analysis Radar Chart (DIC Compounds (Malaysia) Sdn. Bhd.)



Energy-saving analysis at DIC Compounds (Malaysia)

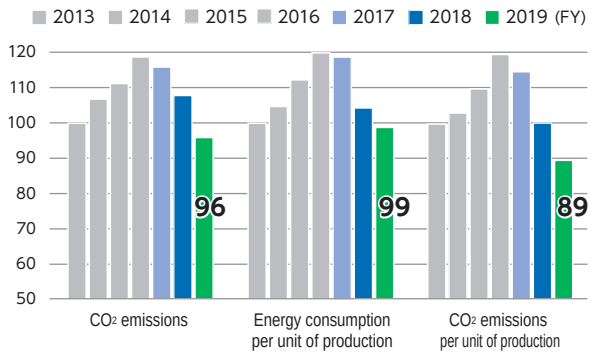
Greater China

The DIC Group's 18 sites in Greater China account for approximately 9% of the Group's total global CO_2 emissions. Production volume in fiscal year 2019 was essentially level with fiscal year 2018, but up 7.5% from the fiscal year 2013 base year. Nonetheless, energy consumption by Group companies across the region was down 5.5% from the previous fiscal year, although it was 6.0% higher than in the base year, while CO_2 emissions declined 10.8% from fiscal year 2018, or 3.8% from fiscal year 2013. The fact that energy consumption declined 5.5% despite a higher production volume was attributable primarily to significant improvements in energy consumption per unit of production at manufacturers Nantong DIC Color (pigments and inks) and Changzhou Huari New Material (synthetic resins), both of which operate large-scale production facilities in the region, underpinned by the implementation of energy-saving measures.

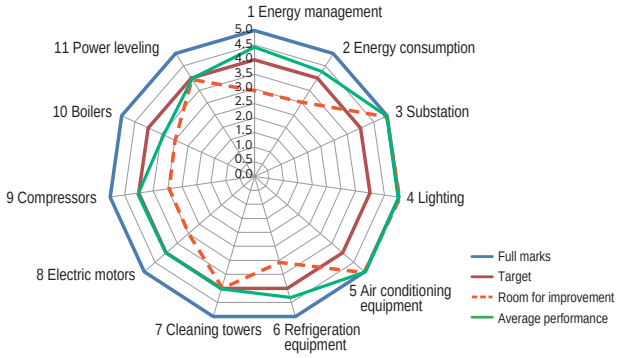
Qingdao Liquid Crystal, which manufactures LC materials, installed solar power facilities with an annual generating capacity of 400 kW in April 2017 and has implemented energy-saving measures in the years since—namely, the systematic replacement of existing air conditioning equipment and light fixtures—that have contributed to a sharp improvement in energy consumption per unit of production. As a consequence, the company's CO_2 emissions in fiscal year 2019 were down 10.8% from fiscal year 2018.

As in the Asia–Pacific region, the DIC Group has conducted energy-saving analyses in Greater China since fiscal year 2014. In fiscal year 2019, an energy-saving analysis was conducted at DIC Synthetic Resins (Zhongshan), located in the southern part of the PRC.

Changes in CO_2 Emissions, Energy Consumption per Unit of Production and CO_2 Emissions per Unit of Production in Greater China Since Fiscal Year 2013



Energy-Saving Analysis Radar Chart (DIC Synthetic Resins (Zhongshan) Co., Ltd.)



Energy-saving analysis at DIC Synthetic Resins (Zhongshan)

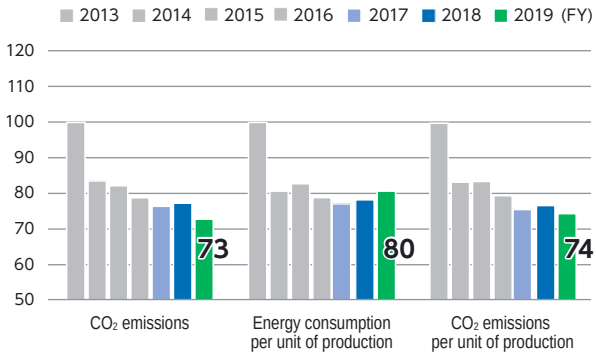
Americas and Europe

The DIC Group has 122 sites in the Americas and Europe (this category also includes sites in Africa), which account for roughly 34% of the Group's CO_2 emissions. In fiscal year 2019, production volume was down 2.4% from the previous fiscal year and 1.7% from the fiscal year 2013 base year. Energy consumption by DIC Group companies across the region rose 1.3% from the previous period, but was down 21.0% from fiscal year 2013, while CO_2 emissions declined 5.4% from fiscal year 2018 and 27.3% from the base year.

DIC Group companies in the Americas and Europe promote a variety of measures with the aim of lowering CO_2 emissions. These include making use of biomass energy (landfill biogas), solar and small hydroelectric power; employing outsourcing to contract energy-efficiency consultants, among others, to advance the reduction of energy consumption; and integrating and enhancing the efficiency of regional production facilities. These initiatives have yielded consistently positive results since fiscal year 2014.

In fiscal year 2019, the Group's regional headquarters, Sun Chemical, installed solar power facilities with an annual generating capacity of approximately 800 kW with the goal of expanding its use of renewable energy. Going forward, companies in the Americas and Europe will continue to implement ambitious initiatives that contribute to the reduction of its global CO_2 emissions.

Changes in CO_2 Emissions, Energy Consumption per Unit of Production and CO_2 Emissions per Unit of Production in the Americas and Europe Since Fiscal Year 2013



Sun Chemical's Approach to Sustainability

Sun Chemical promotes innovation with the aim of improving the sustainability of its manufacturing processes and products, maintaining a constant awareness of environmental impact. The company strives to use manufacturing processes that demonstrate environmental excellence through reduced waste generation, lower energy and water use, and a strong safety performance as measured using key metrics such as greenhouse gas emissions, energy and water consumption, carbon footprint and safety record. Sun Chemical is also committed to meeting local regulatory requirements in the countries and territories in which it operates and to working proactively with government, industry organizations and business partners in its value chain to better define, measure and promote sustainability.

Product stewardship and risk management are important components of Sun Chemical's sustainability policy. The company continues to take a responsible, analytically based approach to fulfilling its role as a steadfast leader in this area. Through such ongoing efforts, the company increases environmental efficiency by helping its customers enhance the sustainability of their manufacturing processes and products. Sun Chemical's long-standing reputation for quality, service and innovation and its dedication to improving sustainability influences both its daily operations and its global strategic direction.

Along with DIC, Sun Chemical has committed to a long-term strategic target for CO_2 emissions, which is to achieve a reduction of at least 30% by fiscal year 2030, with fiscal year 2013 as the base year, following the Paris Agreement, which succeeded the Kyoto Protocol (1990–2012) as the global framework for addressing the challenge of dealing with greenhouse gas emissions. This level, if implemented across all industries, would limit the increase in global average temperature due to climate change to below 2.0°C above pre-industrial levels. To achieve this target, Sun Chemical will focus on investments in sustainable energy, as well as on measures to improve the efficiency of its manufacturing processes.

Sun Chemical Steps Up Investment in Renewable Energy by Introducing Solar Panels

Sun Chemical has concluded a solar power purchase agreement (PPA) with Onyx Renewable Partners and installed solar panels on the roof of the parking structure at its R&D site in Carlstadt, in the U.S. state of New Jersey. The use of clean energy thus generated was expected to reduce the facility's carbon footprint. Installation of the panels began in fall 2017 and was completed in January 2018. The system came on line in March 2018.

Sun Chemical has since completed a year-round solar panel operating configuration at the site that makes it possible to generate enough solar power on sunny days to satisfy 90% of the site's needs. Between May 14, 2018 and May 13, 2019, the system generated a total of 871 MWh of power, reducing CO_2 emissions by an estimated 1,358,092 pounds (616 tonnes) over the same period.

Solar panels installed on the roof of the Carlstadt R&D site's parking structure

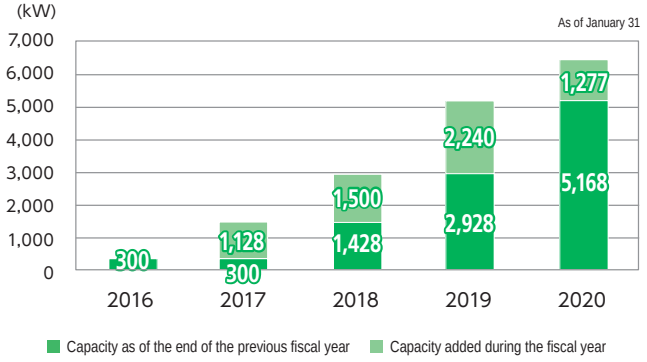
Adoption of Renewable Energy by DIC Group Companies Overseas

Against a global trend toward decarbonization, including by popularizing the use of renewable energy, DIC Group companies in the Asia–Pacific region, Greater China, and the Americas and Europe are making use of government subsidies and support to, for example, install biomass boilers and solar power facilities. In fiscal year 2019, new solar power facilities with a combined annual generating capacity of 2,320 kW (1,440 kW in Japan and 800 kW in the United States) commenced operation. In January 2020, additional new facilities with an annual generating capacity of 1,277 kW came on line. Accordingly, as of January 2020 the Group's global solar power generating capacity (for internal consumption) was 6,445 kW, comprising 4,341 kW in Japan and 2,104 kW overseas. The Group will continue to promote efforts to expand its solar power generating facilities worldwide.

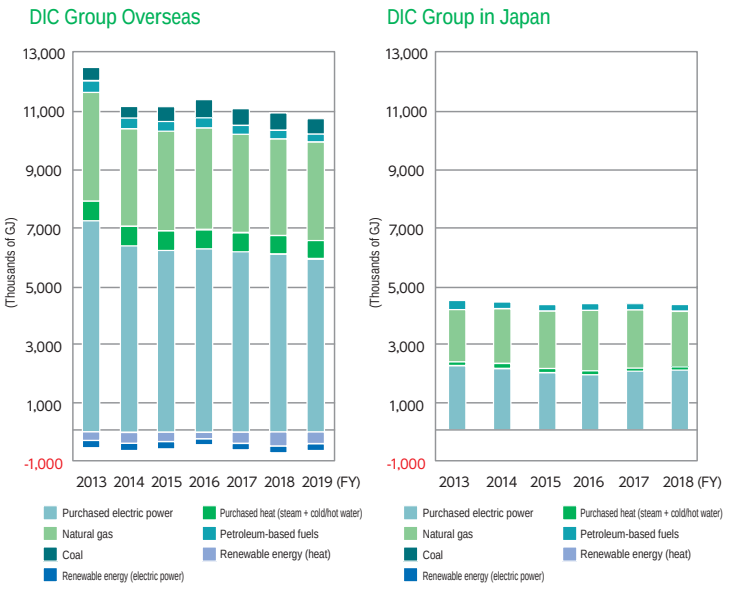
In contrast, owing to the suspension of operations of the Kashima Plant's wind power system (two 2,300 kW–capacity wind turbines) for approximately three months for repairs, wind power generated in fiscal year 2019 fell 34.0%, to 3,530,000 kWh, from 5,379,000 kWh in the previous fiscal year. In addition, renewable energy generated by the Kashima Plant's biomass boiler (maximum steam produced: 30 tonnes/hour; annual generating capacity: 4,000 kW) declined 12%, to 451,751 GJ, from 514,466 GJ in fiscal year 2018.

In fiscal year 2019, the DIC Group's use of PKS, a biomass fuel, at its pigments production facility in Indonesia declined 16%, to 48,738 tonnes, from 58,308 tonnes in fiscal year 2018. This was commensurate with a decrease in the amount of mainstay fuel coal used (because the percentage of coal in the fuel mix is fixed). As a consequence, the global DIC Group used a total of 650,996 GJ of renewable energy in fiscal year 2019, down 10.6% from 728,183 GJ in fiscal year 2018. The use of renewable energy accounted for a reduction in the Group's global CO_2 emissions of 40,611 tonnes.

The DIC Group's Global Solar Power Generating Capacity (For Internal Consumption)



Energy Mix



Initiatives in Areas Other than Production (Offices and Research Facilities)

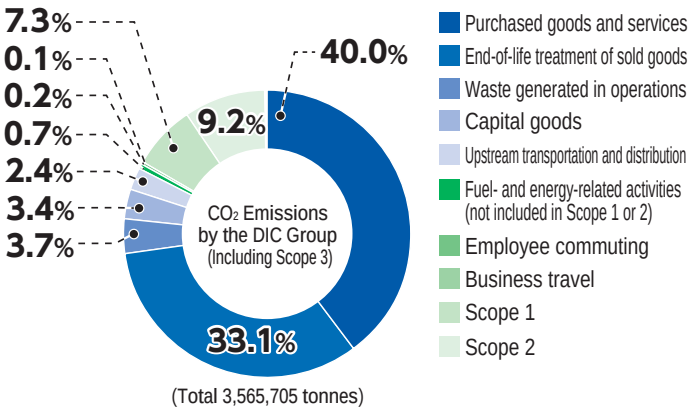
In fiscal year 2019, energy consumed by the DIC Group's 21 offices and research facilities in Japan (excluding the Central Research Laboratories) declined 6.0%. Of particular note, DIC's headquarters, the most energy intensive of the 21 domestic sites, achieved a decrease of 3%. Energy consumption by the eight offices and research facilities of DIC Group company Seiko PMC Corporation declined 13%, owing primarily to the replacement of air conditioning equipment and light fixtures at its Chiba Research Laboratory with high-efficiency units. Principal energy-saving initiatives implemented include replacing aged light fixtures and air conditioning equipment with newer, high-efficiency models that satisfy standards set by the Energy Conservation Center, Japan (ECCJ) for its Top Runner program, turning off lights when not needed and implementing mandatory 22°C winter and 28ºC summer air conditioning settings, working with facility management companies to implement diligent energy-saving measures and promoting efforts in line with Japan's Cool Biz and Warm Biz campaigns.

Grasping CO_2 Emissions Across the Supply Chain

Regarding CO_2 emissions across its supply chain (Scope 3* emissions), in fiscal year 2017 DIC participated in a lecture on the Science Based Targets (SBT) initiative organized by Japan's Ministry of the Environment. As a consequence, DIC now reports global data for all categories of Scope 3. The Company also obtains third-party verification for its data for waste generated in operations.

* Scope 3 emissions are indirect emissions from production, transport, shipment, commuting and other activities in the supply chain.

Emissions (Including Scope 3) in Fiscal Year 2019



(Total 3,565,705 tonnes)

Preventing Environmental Pollution

Goals and Achievements of Major Initiatives

Evaluations are based on self-evaluations of current progress. Key: ★★★ = Excellent; ★★ = Satisfactory; ★ = Still needs work

Objective of initiatives	Goal for fiscal year 2019	Achievement in fiscal year 2019	Evaluation	Goal for fiscal year 2020
Reduce VOC emissions into the air.	DIC Group (Japan): 366 tonnes (essentially level with fiscal year 2018)	DIC Group (Japan): • Emissions attributable to normal activities totaled 345 tonnes, down 6% from fiscal year 2018. • Owing to an accident involving a major fire at the Saitama Plant total emissions climbed 48%, to 541 tonnes.	★	DIC Group (Japan): 345 tonnes (essentially level with emissions attributable to normal activities in fiscal year 2019)

Policies and Organization

Basic Approach

The DIC Group works to grasp the environmental impact of its operating activities and promotes systematic measures to reduce its environmental footprint. The Group also advances efforts aimed at preventing environmental pollution.

Since chemicals companies handle a considerably greater volume and more diverse range of chemical substances than companies in other industries, they must be extremely vigilant to prevent discharges of substances into the environment. Against this backdrop, the DIC Group strives to ensure a grasp of the environmental impact of its operations and promotes systematic efforts to prevent environmental pollution. DIC has worked since fiscal year 2000 to reduce emissions into the air, water and soil of substances designated under pertinent laws and regulations in Japan—including the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof, the Soil Contamination Countermeasures Act, the Pollutant Release and Transfer Register (PRTR) Law, the Ozone Layer Protection Law, the Act on Rational Use and Proper Management of Fluorocarbons and the Law Concerning Special Measures for Promotion of Proper Treatment of PCB Wastes—and of substances targeted under a voluntary scheme created by the Japan Chemical Industry Association (JCIA)*. Other DIC Group companies in Japan have done the same since fiscal year 2005.

* The JCIA is a general incorporated association. As one of Japan's major industry organizations, JCIA is a member of the International Council of Chemical Associations (ICCA) and pursues the healthy development of the chemical industry with other chemical–industrial organizations around the world.

Framework for Promotion

The chair of the Sustainability Committee (president and CEO), oversees the planning and promotion of environmental conservation initiatives by the Responsible Care Department and production and R&D site Safety and Environment groups. To ensure compliance with pertinent laws and regulations, the Responsible Care Department monitors legal and regulatory trends worldwide to ensure sites are able to comply promptly and effectively.

Principal Initiatives in Fiscal Year 2019

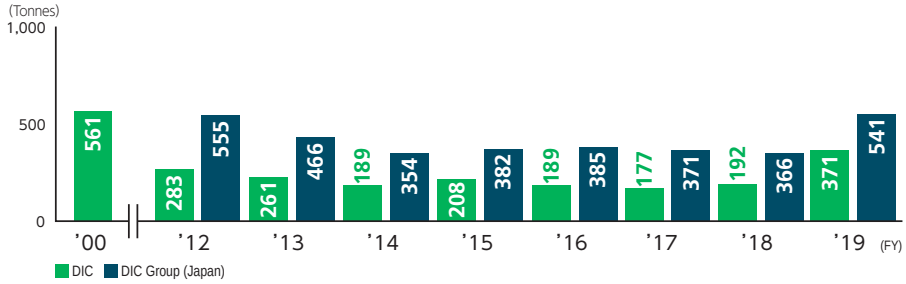
1 Reducing Emissions of VOCs

Having succeeded in achieving a voluntary target—set in fiscal year 2007—for reducing emissions of VOCs into the air of 30% from the fiscal year 2000 level by fiscal year 2010, DIC Group companies in Japan continue to pursue steady annual reductions through facility improvements and emissions management.

In fiscal year 2019, DIC reported emissions of VOCs attributable to normal activities of 176 tonnes, but owing to an accident involving a major fire at the Saitama Plant in August 2019 that resulted in the incineration of products and the release of VOCs, its total emissions of VOCs amounted to 371 tonnes, climbing 93% from fiscal year 2018. Owing to this accident, total emissions of VOCs by the DIC Group in Japan in fiscal year 2019 amounted to 541 tonnes, up 48% from fiscal year 2018, despite emissions attributable to normal activities being only 345 tonnes. Overseas, Group companies in Greater China and the Asia–Pacific region continued to promote efforts to reduce emissions. In the PRC, in particular, the Group is updating equipment and stepping up emissions management practices in response to the tightening of pertinent local regulations.

Emissions of Targeted Chemical Substances into the Air

(551 Substances, Including those Designated by the PRTR*, and One Substance Group)



* Japan's PRTR Law requires reporting on 462 class-1 chemical substances designated under the country's PRTR scheme.

Emissions of VOCs into the Air in Fiscal Year 2019

DIC	DIC Group (Japan)
+93% from fiscal year 2018	+48% from fiscal year 2018

In fiscal year 2019, the DIC Group in Japan monitored discharges of 462 class-1 chemical substances designated by the country's PRTR and of 89 PRTR-designated chemical substances (other than class-1) and one substance group (chain hydrocarbons with up to 4–8 carbon atoms) targeted by the JCIA. During the period, DIC and DIC Group companies in Japan produced and/or used 103 and 117 of these substances, respectively, in units exceeding 1.0 tonne.

Number of Targeted Chemical Substances Used and/or Produced in Japan in Amounts Exceeding 1.0 Tonne in Fiscal Year 2019

Environmental Emissions of Targeted Chemical Substances (551 Substances, Including those Designated by Japan's PRTR, and One Substance Group) in Japan in Fiscal Year 2019

	DIC	DIC Group (Japan)
Emissions into the air	371 tonnes	541 tonnes
Emissions into water	30 tonnes	31 tonnes
Emissions into soil	0 tonnes	0 tonnes
Total	401 tonnes	572 tonnes

Targeted Chemical Substances for Which Emissions Exceeded 10.0 Tonnes in Fiscal Year 2019

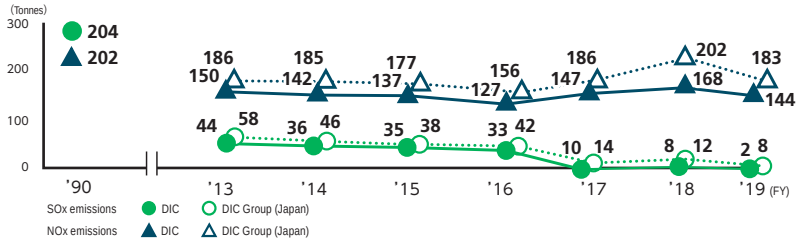
Substance	DIC	DIC Group (Japan)
	Emissions into the environment	Emissions into the environment
Ethyl acetate	137 tonnes	191 tonnes
Toluene	98 tonnes	104 tonnes
Methyl ethyl ketone	69 tonnes	85 tonnes
Acetone	18 tonnes	41 tonnes
Styrene	7 tonnes	33 tonnes
Propyl alcohol	4 tonnes	17 tonnes
N-methylpyrrolidone	16 tonnes	16 tonnes
Butyl acetate	0 tonnes	13 tonnes
n-hexane	10 tonnes	13 tonnes

2 Reducing SOx, NOx and COD

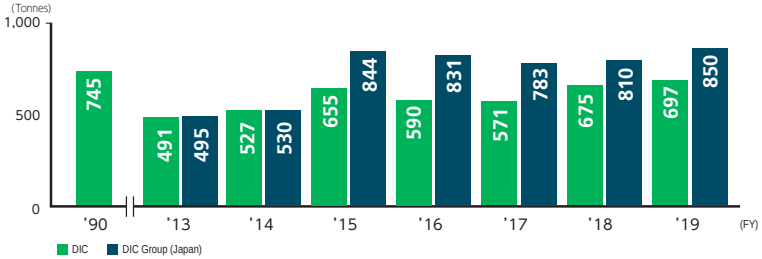
Taking fiscal year 1990 as the base year, DIC Group companies in Japan have worked to reduce sulfur oxide (SOx) and nitrogen oxide (NOx) emissions—key causes of acid rain—from boilers. The Group has also worked to reduce chemical oxygen demand (COD), an indicator of the quality of wastewater. In fiscal year 2019, DIC's emissions of SOx and NOx amounted to 2 tonnes, a decrease of 76% from fiscal year 2018, and 144 tonnes, down 15%. The decrease in SOx emissions reflected a shift to higher-grade fuels for biomass boilers. Thanks to these declines, emissions of SOx and NOx by the DIC Group in Japan were also both down from the fiscal year 2018 level. However, owing to changes to product portfolios, DIC's COD increased 3%, to 697 tonnes, while that of the DIC Group in Japan rose 6%, to 850 tonnes. The Group will continue taking steps to reduce COD load rates by enhancing its water quality management.

Overseas, DIC Group companies are switching fuel from diesel to natural gas and diesel- and heavy oil–fired boilers to biomass boilers at sites with appropriate infrastructure. To reduce COD, the Group is promoting the reuse of water and installing environment-friendly closed-loop recycling and wastewater treatment systems that purify wastewater to a level that exceeds that mandated by law.

SOx and NOx Emissions Volumes in Japan



COD in Japan



3 Complying with Regulations Governing Emissions of Dioxins

In Japan, the DIC Group monitors emissions of dioxins from waste incinerators that produce these byproducts, a group of compounds with varying toxicities. At present, the Group has six such facilities. Continuous efforts to reduce emissions levels have enabled the Group to achieve results that greatly surpass standards specified in the Act on Special Measures Against Dioxins.

Dioxins in Waste Gas and Wastewater Emissions from DIC Group Incinerators in Japan

Site	Scale of facility (Incinerating capacity)	Waste gas		Wastewater	
		Standard (ng-TEC/Nm³)	Emissions reported in fiscal year 2019 (ng-TEC/Nm³)	Standard (ng-TEC/l)	Emissions reported in fiscal year 2017 (ng-TEC/l)
Chiba Plant (DIC)	Approx. 3.0 tonnes/hr	5	0.88	10	0.07
Hokuriku Plant (DIC)	0.28 tonne/hr	5	0	10	0.01
DIC Interior Co., Ltd.	Approx. 0.1 tonne/hr	10	0.3	NA	–
Hokkaido Plant (DIC Kitanihon Polymer Co., Ltd.)	Approx. 0.2 tonne/hr	10	0	NA	–
Tohoku Plant (DIC Kitanihon Polymer Co., Ltd.)	Approx. 0.2 tonne/hr	10	0.43	NA	–
Harima Plant (Seiko PMC Corporation)	Approx. 0.2 tonne/hr	10	0.1	NA	–

4 Ensuring the Appropriate Collection and Storage of PCBs

The DIC Group in Japan continues working to ensure the appropriate collection, storage and management of equipment containing polychlorinated biphenyls (PCBs), including older-model transformers, capacitors and stabilizers, in accordance with the Law Concerning Special Measures for Promotion of Proper Treatment of PCB Wastes. The Group also ensures that PCBs are disposed of in accordance with the practices of Japan Environmental Storage & Safety Corporation (JESCO).

5 Responding to Asbestos Risks

The DIC Group ensures awareness of potential risks associated with asbestos during demolition or when retrofitting equipment, and takes care to respond in an appropriate manner. In fiscal year 2019, materials containing asbestos were discovered during the removal of existing equipment in Japan. These materials were disposed of in accordance with the Ordinance on the Prevention of Health Impairment due to Asbestos (Ministry of Health, Labour and Welfare Ordinance No. 21 of 2005).

Preventing Marine Pollution Resulting from Waste Plastics

In recent years, waste plastic and marine plastics, a result of the improper disposal of end-of-life plastic containers and other products, have become issues of major concern worldwide. In Japan, the DIC Group works to prevent pollution of the environment, particularly through measures to preclude leaks of raw materials from production facilities and by recycling of waste plastic generated in production processes. In fiscal year 2019, approximately 55% of waste plastic generated by the Group was recycled. Approximately 95% of this was reused, including through the recovery of energy from fuel utilization.

As the issue of marine plastics is one that cannot be resolved by any one company, key initiatives are being promoted by industrial and public–private partnerships around the world. In Japan, five chemicals industry organizations have joined forces to establish the Japan Initiative for Marine Environment (JaIME) in September 2018. January 2019 brought the creation of the Japan Clean Ocean Material Alliance (CLOMA), a Ministry of Economy, Trade and Industry–led alliance of companies in the plastic products supply chain in the chemicals, distribution and retail industries. DIC is a member of both JaIME and CLOMA, which ensures it has access to the most up-to-date information. The Company has also organized projects involving various departments concerned with the circular economy to promote the collection of plastics and shift to alternative and/or biodegradable materials.

Managing Industrial Waste

Goals and Achievements of Major Initiatives

Evaluations are based on self-evaluations of current progress. Key: ★★★ = Excellent; ★★ = Satisfactory; ★ = Still needs work

Objectives of initiatives	Goals for fiscal year 2019	Achievements in fiscal year 2019	Evaluation	Goals for fiscal year 2020
• Reduce industrial waste disposed of as landfill ("zero emissions"). • Reduce industrial waste generated by production facilities.	• Reduce industrial waste disposed of as landfill. DIC Group (Japan): 196 tonnes (-5% from fiscal year 2018) • Reduce industrial waste generated by production facilities. DIC Group (Japan): 31,689 tonnes (-2% from fiscal year 2018)	• Industrial waste disposed of as landfill DIC Group (Japan): 217 tonnes (+6% from fiscal year 2018) • Industrial waste generated by production facilities DIC Group (Japan): 34,586 tonnes (+7% from fiscal year 2018) • Impact of fire at Saitama Plant: +51,673 tonnes (+60% from fiscal year 2018)	★	• Reduce industrial waste disposed of as landfill. DIC Group (Japan): 206 tonnes (-5% from fiscal year 2019) • Reduce industrial waste generated by production facilities. DIC Group (Japan): 33,894 tonnes (-2% from fiscal year 2019)
Promote recycling.	Promote recycling at DIC Group companies.	• DIC Group (Japan) resource recycling rate: 95% (+2.0 percentage points from fiscal year 2018) • A target was set for the resource recycling rate.	★★	Promote recycling at DIC Group companies in Japan.

Policies and Framework for Implementation

Basic Approach

In addition to recycling and reuse of materials, the DIC Group works to minimize the impact of its industrial waste disposal practices.

The DIC Group aims to minimize industrial waste and promote the recycling and reuse of materials. Since fiscal year 2001, DIC has promoted zero emissions initiatives, the goal of which is to reduce the volume of waste disposed of as landfill by 95% from the fiscal year 2000 level. In fiscal year 2008, the Company expanded the scope of these initiatives to include Group companies in Japan. With the aim of expanding efforts across the global DIC Group, in fiscal year 2013 DIC introduced MBO at overseas Group companies. DIC subcontracts the treatment of industrial waste to be disposed of as landfill and ensures that waste is properly treated by promoting strict compliance and on-site confirmation by designated departments at each of its production sites.

Principal Initiatives in Fiscal Year 2019

The DIC Group works to fully grasp and manage industrial waste from generation at production facility through to discharge, intermediate treatment and final disposal as landfill. The Group works actively to reduce its disposal of industrial waste as landfill by recycling cinders, dust and sludge, among others, into roadbed materials and raw materials for cement, using thermal recycling to recover waste heat and minimizing production losses by increasing throughput yields.

Initiatives by the DIC Group in Japan

In fiscal year 2019, the total volume of industrial waste generated by DIC Group production facilities in Japan as a result of normal activities at amounted to 34,586 tonnes, an increase of 7% from fiscal year 2018. An accident occurred at the Saitama Plant on August 3, 2019, involving a major fire that led to the discharge of a significant volume of wastewater and sludge. As a consequence, the total volume of industrial waste generated by DIC Group production facilities in Japan climbed 60% from fiscal year 2018, to 51,673 tonnes. In contrast, because the greater portion of waste resulting from the fire was recycled, the total amount of industrial waste disposed of as landfill by Group companies in Japan rose only 6%, to 217 tonnes. Going forward, the Group will accelerate efforts to reduce the volume of industrial waste generated by sites that is disposed of as landfill in line with its goal of achieving zero emissions.

DIC Group companies in Japan also continued working to ensure the appropriate disposal of PCBs. In addition, these companies promoted the rigorous management of unprocessed waste, including transformers, capacitors and stabilizers, through proper collection and storage in dedicated warehouses.

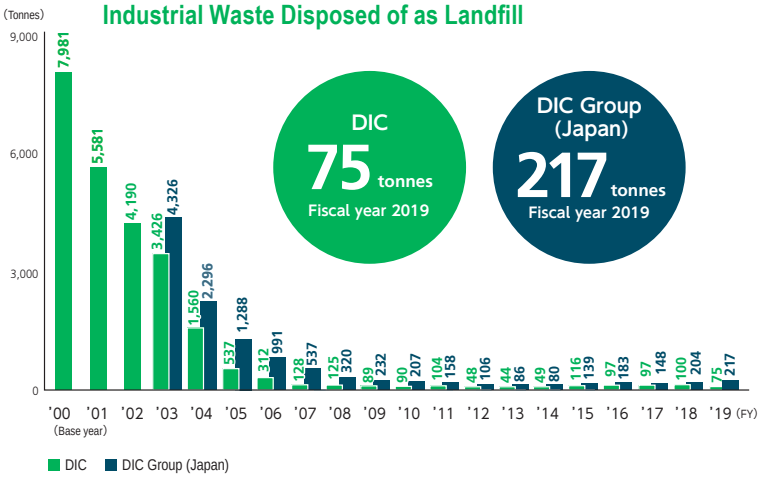
Industrial Waste Generated by Production Facilities in Fiscal Year 2019

DIC Group (Japan)

+60%

from fiscal year 2018

Industrial Waste Disposed of as Landfill



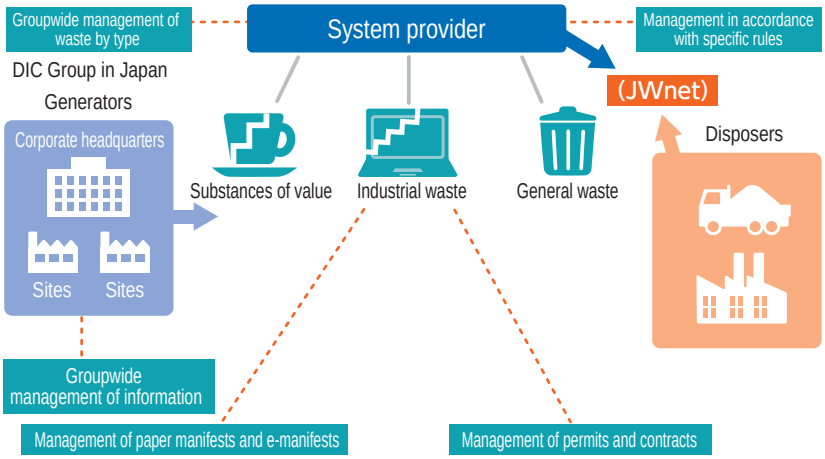
DIC
75 tonnes
Fiscal year 2019

DIC Group (Japan)
217 tonnes
Fiscal year 2019

Deployment of a Comprehensive Industrial Waste Management System

In fiscal year 2016, the DIC Group in Japan resolved to introduce GENESYS ECO, a comprehensive industrial waste management system for use with the country's Electronic Manifest (e-Manifest) system. The e-Manifest system manages the movement of industrial waste by facilitating the electronic transmission of manifest information and tracking of the flow of waste from generation to final disposal. Unlike paper manifests, the e-Manifest system offers easy data input and eliminates the need for administrative reporting and storage by generators. In fiscal year 2019, DIC completed the deployment of GENESYS ECO at all 36 of the Group's manufacturing sites in Japan. In a subsequent survey, individuals using the new system gave it a generally positive review.

Comprehensive Industrial Waste Management System



VOICE GENESYS ECO has helped to both save labor and ensure legal compliance.

Owing to the partial revision of Japan's Waste Management and Public Cleansing Law, Japanese companies with sites that discharge 50 tonnes or more of what is classified as "specially controlled industrial waste" are obliged to introduce the e-Manifest system by April 2020. DIC took swift steps to comply with this requirement, achieving full-scale introduction in fiscal year 2017. The following year, we expanded deployment to include Group companies and systematized manifest notification, thereby lowering the risk of legal violations. Further, simplifying procedures for issuing manifests and automating annual reporting to authorities has helped us to both save labor and ensure compliance. However, because the timing of deployment has varied, the capabilities of pertinent personnel vary from one site to another. Accordingly, we will take steps to further standardize procedures and correct disparities in skill levels.

Manager, Safety and Environment Group, Sakai Plant, DIC Corporation **Eiji Ishii**

Initiatives by the DIC Group Overseas

In addition to ensuring the disposal of industrial waste in a manner that complies with national and regional legal and regulatory requirements, the DIC Group's overseas production facilities work to minimize industrial waste through the voluntary recycling and reuse of materials.

Production bases in the Americas and Europe, Greater China and the Asia–Pacific region are introducing new waste treatment facilities and promoting the horizontal deployment of best practices, including those aimed at improving production processes, with the aim of achieving reductions in industrial waste generated. In fiscal year 2019, industrial waste generated by DIC Group production sites overseas declined 6%, to 62,828 tonnes, owing primarily to the reduction of industrial waste generated in the Americas and Europe and in Greater China. The same factor was behind a 19% decrease in total volume of industrial waste disposed of as landfill by the DIC Group overseas, to 20,233 tonnes. Looking ahead, the DIC Group's regional headquarters in these regions will focus on further reinforcing compliance with local laws and regulations, while at the same time cooperating with DIC's Responsible Care and production management departments to further curb the generation of industrial waste and the disposal of such waste as landfill by the DIC Group overseas.

Industrial Waste Generated by the Global DIC Group in Fiscal Year 2019

The definition of "industrial waste"—including whether it encompasses both toxic and nontoxic substances, and both hazardous and nonhazardous substances—vary in different countries and regions, as does the methods used to dispose of such waste. The DIC Group works to ensure the management of industrial waste in a manner appropriate for the degree of danger posed and in accordance with the laws of the countries and regions in which its sites are located. The Group also grasps and manages processes for managing industrial waste on a global basis, from generation to discharge by production facilities, intermediate treatment and final disposal as landfill.

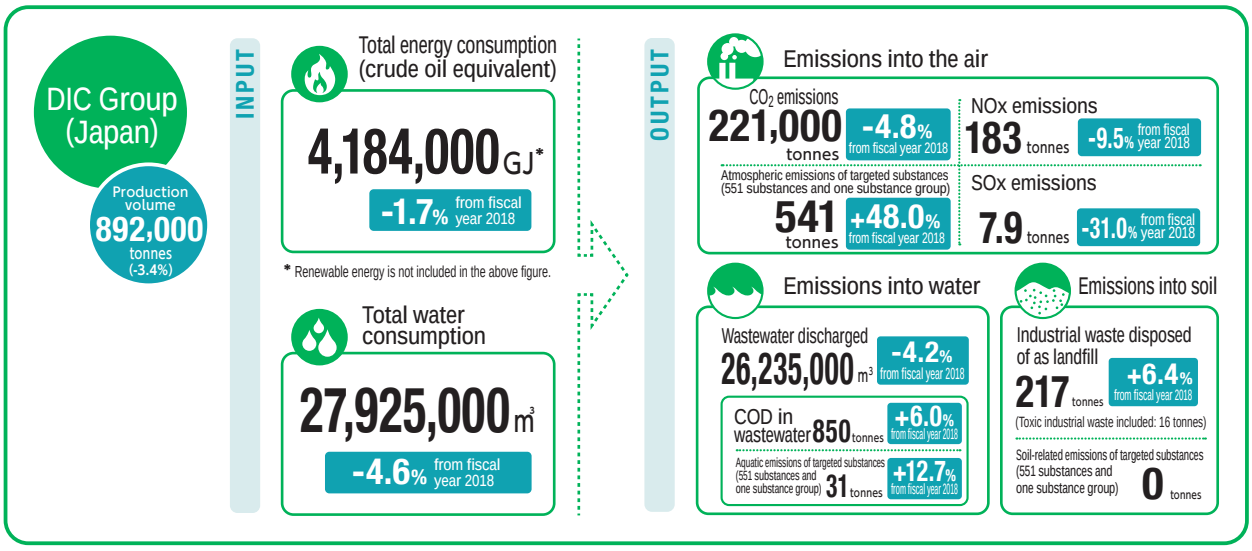
The table below provides detailed data on industrial waste generated by the DIC Group in Japan and overseas in fiscal year 2019. The Group collects data for volume generated, volume discharged by production facilities, volume recycled (material recycling), waste heat recovered (including boiler recovery of waste heat boiler from incineration), waste heat not recovered (including simple incineration) and volume disposed of as landfill for industrial waste, which it categorizes as "toxic" or "nontoxic."

		Volume generated (Tonnes)	Volume discharged by production facilities (Tonnes)	Volume recycled (Tonnes)	Waste heat recovered (Tonnes)	Waste heat not recovered (Tonnes)	Volume disposed of as landfill (Tonnes)
Nontoxic	Japan	55,085	45,103	36,285	15,688	2,911	201
	Overseas	39,194	39,119	16,341	2,535	2,657	17,661
Toxic	Japan	8,116	6,570	3,152	4,667	281	16
	Overseas	29,925	23,709	8,631	10,691	8,031	2,572
Aggregate	Japan	63,202	51,673	39,437	20,356	3,192	217
	Overseas	69,119	62,828	24,972	13,226	10,687	20,233
Total		132,320	114,501	64,409	33,582	13,879	20,450

Environmental Impact of Groupwide Environmental Initiatives

The DIC Group quantifies the environmental inputs (consumption of energy and other resources) and outputs (emissions into the environment) of its operating activities, and uses its findings to formulate comprehensive and efficient strategies for reducing its environmental footprint.

The chart below is a comprehensive illustration of the environmental impact of the DIC Group's operating activities in Japan and overseas in fiscal year 2019. The chart shows environmental impact for two input items (total energy consumption and total water consumption) and three output items (emissions into the air, emissions into water and emissions into soil) in the following categories: CO_2 emissions, wastewater discharged, industrial waste disposed of as landfill, emissions of targeted substances into air (551 chemical substances—including those designated under the PRTR*1—and one substance group*2) (Japan only), emissions of NOx, emissions of SOx and COD in wastewater.



*1 A PRTR is a scheme for assessing, aggregating and disseminating data on the source of hazardous chemicals, amounts released into the environment and amounts transferred off-site from industrial establishments via waste products.

*2 The "551 substances and one substance group" comprises 462 chemical substances designated by Japan's PRTR and 89 PRTR-designated substances (other than class-1) and one substance group (chain hydrocarbons with up to 4–8 carbon atoms) targeted for study by JCIA.

Managing Water Resources

Goals and Achievements of Major Initiatives

Evaluations are based on self-evaluations of current progress. Key: ★★★ = Excellent; ★★ = Satisfactory; ★ = Still needs work

Objective of initiatives	Goals for fiscal year 2019	Achievements in fiscal year 2019	Evaluation	Goals for fiscal year 2020
Maintain a firm grasp of water risks relevant to DIC Group operations and ensure the effective use of water resources.	• Further advance efforts to centralize data for fresh water withdrawn, water used and wastewater discharged. • Promote the conservation and effective use of water resources.	• The scope and accuracy of data collection were enhanced. • Steps were taken to promote the conservation and effective use of water resources.	★★ ★★	• Enhance the accuracy of water management and fully grasp the impact of water risks relevant to DIC Group operations. • Promote the conservation and effective use of water resources.

Policies and Organization

Basic Approach

The DIC Group maintains a firm grasp of water risks relevant to the Group's operations and promotes various initiatives designed to ensure the effective use of water resources. Water resources are essential in the production of the DIC Group's broad range of fine chemicals. For example, in manufacturing processes water is used in heating and cooling, washing, chemical removal and wastewater drainage systems. The Group maintains a firm grasp of risks associated with crucial water resources and promotes various initiatives designed to ensure their effective use.

Principal Initiatives in Fiscal Year 2019

Usable fresh water accounts for only around 0.01% of the earth's total fresh water resources. Accordingly, finding effective ways to conserve and manage water resources is a crucial global challenge. The DIC Group withdraws fresh water (tap water and industrial water) for use in production processes and air conditioning and for drinking, among others. The Group also discharges wastewater—after purifying it in accordance with internal standards that exceed official standards in the countries and territories in which it has operations—into rivers and other fresh water bodies. In Japan, the Central Research Laboratories, in Chiba Prefecture, recovers purified wastewater (graywater) and reuses it on-site in research, as a result of which it currently discharges no wastewater, thereby reducing its impact on water resources. The Group also promotes the recycling and reuse of water.

In fiscal year 2019, the DIC Group once again used the GRI's guideline*1 to collect data on water withdrawn and discharged. Fresh water withdrawn by the global DIC Group in the period amounted to 39,012,000 m^3, a decline of 2% from fiscal year 2018. This total comprised withdrawals by the DIC Group in Japan of 27,925,000 m^3, down 5%, and by Group companies overseas of 11,087,000 m^3, up 6%. Wastewater discharged by the global DIC Group in the period amounted to 35,401,000 m^3, down 1% from the previous period.

The Group has also used the Aqueduct*2 water risk assessment tool to map and analyze initial water risk at 186 sites worldwide, which account for 75% of its global production. With the aim of enhancing its ability to manage water resources, the Group also reviewed the status of water recycling efforts. Looking ahead, the Group will continue working to enhance initiatives designed to help protect and ensure the effective use of precious water resources.

*1 This guideline is included in the GRI's G4 Sustainability Reporting Guidelines.

*2 DIC uses the World Resources Institute (WRI) Aqueduct Water Risk Atlas to map water risks such as stress, droughts and floods at 186 sites worldwide.

Water risk map

Closed System Installed at the Central Research Laboratories

At DIC's Central Research Laboratories, groundwater is used to supply the approximately 60 m^3 of water consumed by the site daily, of which 2/3 is for "domestic" (general) use and 1/3 is for "research" (industrial) use. Domestic wastewater (graywater) is recovered, treated using a combined septic system and reused as non-potable water for flushing toilets, while industrial wastewater is biologically or physically/chemically treated, purifying it to a level comparable with tap water, and then reused in research for, among others, cooling and the washing of instruments. Residual water is disposed of into the atmosphere using an evapotranspiration device, the final component of a fully closed system that means all water is treated, reused or disposed of on-site. Looking ahead, the Central Research Laboratories will continue working to reduce the amount of water it withdraws by promoting the introduction of purification equipment to improve the quality of reused water.

Scope of Reporting for the Management of Water Resources

Effective from fiscal year 2017, the DIC Group adopted a new format for gathering data on the management of water resources based on the GRI Guidelines that calls for collecting data on the withdrawal of fresh water by source and the discharge of wastewater by destination. With this change, the Group also began calculating water recycled, but various difficulties prevented a calculation of the total volume. Going forward, the Group will continue to take steps to ensure the accuracy of this calculation.

Correction of Water Management Data for Fiscal Year 2018

Some of the data for fresh water withdrawn and wastewater discharged by the DIC Group in Japan and the global DIC Group published in DIC Report 2019 was incorrect. The corrected data is shown below.

Fresh Water Withdrawn and Wastewater Discharged by the DIC Group in Fiscal Year 2018 (Data Published in DIC Report 2019)

Fresh water withdrawn in fiscal year 2018 (1,000 m³)

	DIC Group in Japan	Global DIC Group
Surface water	15,248	19,790
Groundwater	6,116	7,844
Rainwater	0	0
Wastewater generated by other organizations	2,178	3,335
Tap water/ industrial water	7,458	24,057
Others	22	72
Total	31,022	55,098
Total in fiscal year 2017	32,327	41,308
Change from previous fiscal year	-4.0%	33.4%

Wastewater discharged in fiscal year 2018 (1,000 m³)

	DIC Group in Japan	Global DIC Group
Rivers	18,871	21,139
Oceans	7,077	7,078
External treatment facilities	3,731	10,377
Below ground	0	3
Third parties	0	0
Others	14	4,451
Total	29,694	43,049
Total in fiscal year 2017	31,025	38,822
Change from previous fiscal year	-4.3%	10.9%

Fresh Water Withdrawn and Wastewater Discharged by the DIC Group in Fiscal Year 2018 (Corrected Data)

Fresh water withdrawn in fiscal year 2018 (1,000 m³)

	DIC Group in Japan	Global DIC Group
Surface water	15,248	19,867
Groundwater	6,116	8,003
Rainwater	0	0
Wastewater generated by other organizations	2,178	2,180
Tap water/ industrial water	5,697	9,575
Others	22	72
Total	29,261	39,697
Total in fiscal year 2017	32,327	41,308
Change from previous fiscal year	-9%	-4%

Wastewater discharged in fiscal year 2018 (1,000 m³)

	DIC Group in Japan	Global DIC Group
Rivers	17,109	19,377
Oceans	7,077	7,078
External treatment facilities	3,185	4,636
Below ground	0	3
Third parties	0	0
Others	14	4,707
Total	27,385	35,802
Total in fiscal year 2017	31,025	38,822
Change from previous fiscal year	-12%	-8%

Fresh Water Withdrawn and Wastewater Discharged by the DIC Group in Fiscal Year 2019

In fiscal year 2019, the DIC Group in Japan withdrew 27,925,000 m³ of fresh water, down 5% from fiscal year 2018, and discharged 26,235,000 m³ of wastewater, a decrease of 4%. In contrast, the DIC Group overseas withdrew 11,087,000 m³ of fresh water, up 6%, and discharged 9,166,000 m³ of wastewater, an increase of 9%. However, owing to the substantial declines in Japan, fresh water withdrawn by the global DIC Group slipped 2%, to 39,012,000 m³, while wastewater discharged edged down 1%, to 35,401,000 m³.

Fresh water withdrawn in fiscal year 2019 (1,000 m³)

	DIC Group in Japan	DIC Group Overseas	Global DIC Group
Surface water	13,754	5,353	19,107
Groundwater	6,214	1,776	7,990
Rainwater	0	3	3
Wastewater generated by other organizations	2,295	0	2,295
Tap water/ industrial water	5,642	3,926	9,555
Others	20	29	49
Total	27,925	11,087	39,012
Total in fiscal year 2018	29,261	10,436	39,697
Change from previous fiscal year	-5%	6%	-2%

Wastewater discharged in fiscal year 2019 (1,000 m³)

	DIC Group in Japan	DIC Group Overseas	Global DIC Group
Rivers	15,684	2,253	17,937
Oceans	6,882	2	6,884
External treatment facilities	3,665	1,579	5,243
Below ground	3	8	11
Third parties	0	0	0
Others	0	5,326	5,326
Total	26,235	9,166	35,401
Total in fiscal year 2018	27,385	8,416	35,802
Change from previous fiscal year	-4%	9%	-1%

Soil and Groundwater Pollution

Japan's Water Pollution Control Act was revised in 2012 to tighten structural standards governing equipment installed to prevent groundwater contamination by toxic substances. In addition to complying strictly with this Act and with the Soil Contamination Countermeasures Act, the DIC Group in Japan implements soil and groundwater surveys and countermeasures as necessary and assesses related environmental and safety risks.

TOPIC

Installation of Wastewater Odor Scrubber at Qingdao DIC Liquid Crystal

In late October 2019, Qingdao DIC Liquid Crystal invested approximately RmB500,000 to install an odor scrubber at its wastewater treatment facility in an effort to prevent release into the atmosphere and minimize environmental impact, and also lower the risk of complaints from neighboring companies. The scrubber captures odors by sealing the basins and tanks from which they originate, including oxidation, sedimentation pits and fresh water pits, and collecting foul air via pipework and fans. Microorganisms are used to biologically remove odors from the collected air and the treated gas is discharged through an existing chimney. The scrubber commenced operation in January 2020, as a result of which odors have been essentially eliminated, greatly improving the environment in the vicinity of the company.

Graywater pit after sealing and treatment to remove odors

Biodiversity

Basic Approach

The DIC Group works to grasp the impact of its operating activities on biodiversity and to use land and natural capital in a sustainable manner.

Preserving Biodiversity

Protecting Satoyama Areas*

The DIC Group recognizes the preservation of biodiversity as a critical challenge. As part of DIC Management School, the Group's training module for senior management in Japan, in January 2011 a lecture was given by an outside expert on the relationship between corporate activities and biodiversity. The lecture was attended by 85 executives from corporate headquarters, as well as from plants and Group companies across the country, and prompted the launch of a wide range of related initiatives. For example, the same year brought the launch of an initiative designed to ensure an effective grasp of the relationship between the Group's operating activities and biodiversity at all stages of its products' life cycles, from R&D and the procurement of raw materials through to end-of-life disposal or recycling. In April 2011, experts from the Chiba Biodiversity Center, a prefectural government organization, observed the 30-hectare natural forest and gardens in Sakura, Chiba Prefecture, occupied by the Central Research Laboratories and the Kawamura Memorial DIC Museum of Art, giving DIC's biodiversity management efforts high marks and offering advice for future initiatives.

From the beginning, DIC has used a closed system for circulating and reusing groundwater for the Central Research Laboratories and hired a waste processing firm to ensure no wastewater escaped from the site. The site's *satoyama* landscape makes it an ideal home for 200 tree and 500 flower varieties, as well as for an abundance of other wildlife, including birds and insects. Loved by the local community, the site has welcomed approximately 200,000 visitors annually since the opening of the Kawamura Memorial DIC Museum of Art in 1990.

* *Satoyama* is a Japanese term applied to the area between mountain foothills and arable flat land.

The forest and gardens of the site occupied by the Central Research Laboratories and Kawamura Memorial DIC Museum of Art is always alive with seasonal flowers and foliage.

Establishment of a Biodiversity Satellite

The lush greenery of the Central Research Laboratories boasts a diverse range of naturally growing trees, including cedar, sawtooth oak and Japanese chinquapin. To preserve the natural environment, visitors to the site are prohibited from collecting plants and wildlife and are instead encouraged to enjoy the pristine natural scenery as is. In cooperation with the Chiba Biodiversity Center, the Kawamura Memorial DIC Museum of Art established a biodiversity satellite, a special display area in a small rest cabin on the site. Designed with the aim of fostering greater understanding of the importance of biodiversity, the satellite features permanent exhibits, including information panels and other materials related to biodiversity prepared by the organization, as well as introduces rare species native to Chiba and provides information on prefectural biodiversity initiatives.

Biodiversity satellite

Safety in Logistics

Responsible Logistics

Goals and Achievements of Major Initiatives

Evaluations are based on self-evaluations of current progress. Key: ★★★ = Excellent; ★★ = Satisfactory; ★ = Still needs work

Objective of initiatives	Goal for fiscal year 2019	Achievements in fiscal year 2019	Evaluation	Goal for fiscal year 2020
Reduce CO_2 emissions attributable to logistics.	Reduce energy consumption per unit of production attributable to logistics by 1% by promoting modal shift and improving transport efficiency.	1. Energy consumption per unit of production attributable to logistics rose 1%. 2. CO_2 emissions attributable to logistics declined 2%.	★ ★	Reduce energy consumption per unit of production attributable to logistics by 1% by promoting modal shift and improving transport efficiency.

Basic Approach

The DIC Group works with logistics partners to minimize risks, including by supplying information needed for the safe transport of its products.

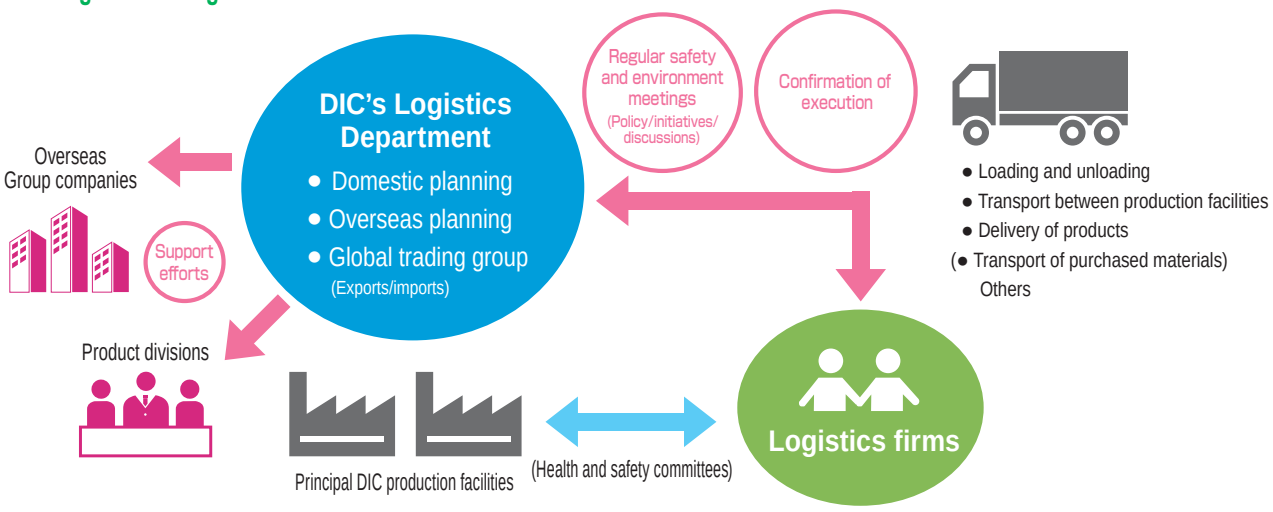
Policies and Framework for Promotion

Having positioned the reduction of CO_2 emissions attributable to the transport of its products as a key aspect of its commitment to promoting Responsible Care, DIC sets annual targets and promotes related initiatives on an ongoing basis. DIC's logistics configuration—components of which include transport between production facilities, the transport of products to customers and international logistics—previously centered on a dedicated subsidiary, established in 1999, which operated under the direct supervision of DIC. In a bid to rationalize and increase the efficiency of logistics, in 2011 DIC transferred ownership of the subsidiary to a partner firm and began to outsource its logistics. Since then, the Company has worked closely with this and other partner firms to improve the safety of, and reduce CO_2 emissions attributable to, logistics. With the aim of responding better to social imperatives associated with the transport of chemicals over the medium term, in January 2016 DIC combined the logistics components of its various departments to create an independent Logistics Department.

The Logistics Department, which consists of the Domestic Planning Group and the Overseas Planning & International Trade Administration Group, is charged with advancing initiatives to enhance the safety and reduce the environmental impact of logistics. The Domestic Planning Group, as a consignor, coordinates with logistics partners—third-party logistics (3PL)*1 firms—to formulate logistics policies and promote plans designed to enhance the efficiency of domestic logistics. The Overseas Planning & International Trade Administration Group is charged with planning and devising measures to optimize logistics across Asia, promoting Groupwide efforts to capitalize on free trade agreements (FTAs)*2 and implementing proposals for reducing import–export costs.

*1 3PLs are firms that provide partial or complete outsourced logistics services.
*2 FTAs are agreements between two or more countries or customs territories to eliminate trade barriers for a set period of time, thereby encouraging trade.

DIC's Logistics Configuration



Reducing Environmental Impact and Supporting White Logistics

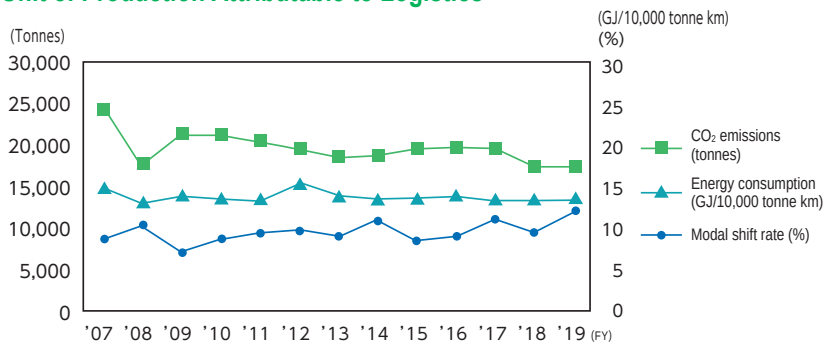
The volume of products transported in Japan in fiscal year 2019 slipped 2.1% and energy consumption and CO_2 emissions attributable to logistics edged down 1.7% and 1.8%, respectively. Energy consumption per unit of production attributable to logistics worsened, rising 1.0%. This was despite a 29% increase in the volume of products shipped using modes of transport qualifying as "modal shift" and an improvement in the modal shift rate to 12.7%, from 9.7% in fiscal year 2018, and reflected a decline in the volume of products transported, which pushed down load-carrying efficiency for both local and charter transport.

In Japan, a critical shortage of qualified drivers and the reduction of driver working hours as a result of government efforts to promote work style reforms continue to pose challenges for the logistics industry. As part of its effort to address such challenges, in November 2019 the Company declared its support for the White Logistics Movement, an initiative put forward by the Ministry of Land, Infrastructure, Transport and Tourism, the Ministry of Economy, Trade and Industry, and the Ministry of Agriculture, Forestry and Fisheries to improve the work environment in the logistics industry. Because extensive specialized knowledge and skill in handling hazardous and toxic substances is required, the shortage of drivers able to transport chemicals is particularly severe. DIC's decision to support this movement reflects its ongoing commitment to working with logistics partners to enhance transport efficiency and advance modal shift.

In fiscal year 2017, DIC began exploring the idea of shared logistics and in the second half of fiscal year 2019 commenced actual collaboration with multiple other companies. While the number of products eligible for shared logistics is currently limited, the Company will continue working to expand volume to facilitate the use of larger vehicles and improve load-carrying efficiency, thereby reducing resulting CO_2 emissions.

Overseas, DIC has emphasized support for efforts to enhance logistics in the Asia–Pacific region, but in fiscal year 2019 expanded its focus to include Greater China. To promote rationalization and enhance transport efficiency in Greater China, the Company has sounded out core local Group companies to better grasp their needs and in fiscal year 2020 will expand the scope of its efforts. In collaboration with the logistics manager for Greater China, who is based in Hong Kong, DIC will formulate strategies for leveraging its expert capabilities to improve transport efficiency across the region and begin preparing to capitalize on the Regional Comprehensive Economic Partnership (RCEP), which is scheduled to go into effect in the near future, to maximize tax-saving benefits for the entire DIC Group. Looking ahead, DIC aims to optimize efficiency by establishing a logistics network linking logistics teams in the Asia–Pacific region, Greater China and the Logistics Department.

CO_2 Emissions and Energy Consumption per Unit of Production Attributable to Logistics



Working with logistics partners to increase load-carrying efficiency

Safety Management in Logistics

Safety Management Initiatives

The firms to which the DIC Group outsources logistics use containers that comply with the Fire Service Act and other transportation laws, as well as with related UN standards. The Group supplies information needed to display labels complying with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) as well as provides SDSs and other documentation to ensure safe shipping in Japan and overseas.

In Japan, the Logistics Department cooperates with logistics partners, meeting regularly to discuss measures for improving the safety of both loading and transport work. Of particular note, logistics quality issues that cause trouble for customers—including leaks, undelivered cargo and delivery errors—are designated as incidents for priority attention and targets, number of incidents, cause and countermeasures are confirmed at monthly meetings. In fiscal year 2019, the incident rate was 35 ppm, a significant improvement from 47 ppm in fiscal year 2018. This was attributable to a variety of steady efforts, including providing continuous training for individuals handling liquid containers and strengthening inspections to raise the awareness of logistics staff. In addition, members of plant health and safety committees attend each other's meetings to exchange information and promote on-site safety improvement initiatives.

The Logistics Department also inspects the offices of logistics partners located on-site at its 20 main domestic production facilities. In fiscal year 2019, inspections were conducted at seven of these offices, during which issues were pointed out and improvements confirmed. DIC further endeavors to maintain and enhance safety by requiring transport personnel to carry Yellow Cards*.

* Yellow Cards are part of activities recommended by the JCIA. These cards contain information about the correct actions to take if an accident occurs. They provide contact details to ensure proper responses by transportation companies, firefighters and police officers if an accident occurs during the transport of chemical substances. Transport personnel must carry these cards at all times.

Regular meetings with logistics partners

Yellow Card carried by transport personnel

TOPIC

Cushioning Materials Are Supplied to Route Operators at the Time of Shipping

Regular shipments of products usually involve issues such as damage and the soiling of packaging during transport. In response, DIC has explored the implementation of a measures to counter such issues, including the use of cushioning and nonslip materials when packing products, and has begun implementing and evaluating the impact at certain sites. Such efforts have earned favorable reviews, including for reducing damage to packages and accidents caused by falling loads, as a result of which the Company plans to expand the range of eligible products in the future.

Packing with cushioning materials and retaining clips

VOICE My goal is to transform the Logistics Department into an entity that can respond swiftly to changes in the operating environment.

We have declared our support for the White Logistics Movement and continue to take steps to ensure that DIC remains a preferred shipper. However, recent events that threaten to undermine corporate activities—notably the spread of COVID-19 and the resulting postponement of the Tokyo 2020 Olympic and Paralympic Games—have underscored the need to do whatever we can to protect and maintain our supply chains.

The Logistics Department is important as it brings together customers and our products. To contend with the sometimes dizzying changes in the operating environment, we will continue working with our logistics partners to determine the best ways to deliver our products in a manner that meets customers' needs while at the same time maintaining a keen awareness of the need to also respond to sociocultural changes.

General Manager, Logistics Department, DIC Corporation **Kenichi Tsuruta**

Ensuring the Safety of Chemical Substances

Goals and Achievements of Major Initiatives

Evaluations are based on self-evaluations of current progress. Key: ★★★ = Excellent; ★★ = Satisfactory; ★ = Still needs work

Objectives of initiatives	Goals for fiscal year 2019	Achievements in fiscal year 2019	Evaluation	Goals for fiscal year 2020
• Enhance functions of the comprehensive system for managing information on chemical substances. • Continue to expand deployment of the Wercs at DIC Group companies overseas.	• Start creating a new global system that integrates the functions of the comprehensive system for managing information on chemical substances for domestic products and the SDS and label creation systems for export products. • Deploy the Wercs at DIC Group companies in Greater China.	• A project was inaugurated and efforts to start creating a new global system began. • Deployment of the Wercs at Group companies in Greater China was completed as planned.	★★★ ★★	• Continue working to create a new comprehensive global system for managing information on chemical substances. • Deploy the Wercs at DIC Group companies in the Philippines.
• Review efforts to comply with regulations in Japan. • Comply with regulations overseas	• Promote compliance with the revision of chemical substance volume reporting requirements in Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. • Complete advance registration of chemical substances to which K-REACH applies. • Promote compliance with Taiwan's TCSCCA.	• Thanks to efforts to revise the process for gathering information and modify the system for aggregating data, compliance was achieved by the deadline. • Advance registration of required chemical substances was completed. • Steps were taken to appropriately confirm developments such as the issue of guidance by local authorities.	★★★ ★★★ ★★	• Commence review of business flows between sites. • Maintain status of chemical substances for which advance K-REACH registration was completed and prepare to reregister existing chemical substances. • Promote compliance with Taiwan's TCSCCA.

Policies and Organization

Basic Approach

The DIC Group continues working to provide appropriate information to stakeholders to ensure the appropriate handling of its products over the entire life cycles.

In 2002, countries and territories participating in the World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa, including the United States, European Union member states and Japan, agreed on a goal for the management of chemical substances to minimize the impact thereof on human health and the environment by 2020. In 2015, the UN General Assembly set the SDGs, a collection of common goals designed as a blueprint for global society.

As a comprehensive chemicals manufacturer with operations around the world, the DIC Group created uniform standards for managing chemical substances that exceed legal and regulatory standards well before the WSSD. In line with its Environment, Safety and Health Policy (established in 1992), the Group views product stewardship* as the foundation of Responsible Care and works to provide stakeholders with information on the appropriate handling of its products over their entire life cycle. The Group has also promoted efforts to eliminate substances of high concern specified in the Montreal Protocol on Substances that Deplete the Ozone Layer, the Stockholm Convention on Persistent Organic Pollutants and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, as well as to develop alternatives that exert less of an impact on the environment. To this end, the DIC Group has established bases in Greater China and the Asia–Pacific region, better positioning it to disseminate information to Group companies around the world.

* Product stewardship is a philosophy that emphasizes assessing product-specific risks and sharing findings and information on appropriate handling with stakeholders with the aim of reducing the ESH impact of products over their entire life cycle, i.e., from the development of chemical substances through to procurement, production, transport, sale, use and disposal or recycling.

Managing Chemical Substances

1 Changing Trends in Chemical Substance Management

In 2003, the UN Economic Commission for Europe (UNECE) issued the first edition of the GHS*1. Many countries have since introduced the GHS, including Japan, which in 2006 compelled use of the system in the Industrial Safety and Health Act. As part of its efforts to ensure effective product stewardship, the foundation of Responsible Care, and to emphasize the management of chemical substances across its entire supply chain, DIC sought to respond to this development, as well as to provide customers with crucial hazard-related information. Concurrent with the enforcement of the act in 2006, the Company began providing GHS-compliant SDSs*2. In 2009, DIC developed CIRIUS (Chemical Substance Information Comprehensive Management System), a proprietary system that centralizes the management of information on chemical substances in raw materials and products, as well as automatically checks various laws and regulations—including the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture etc.—thereby facilitating swift responses to customers' requests for information.

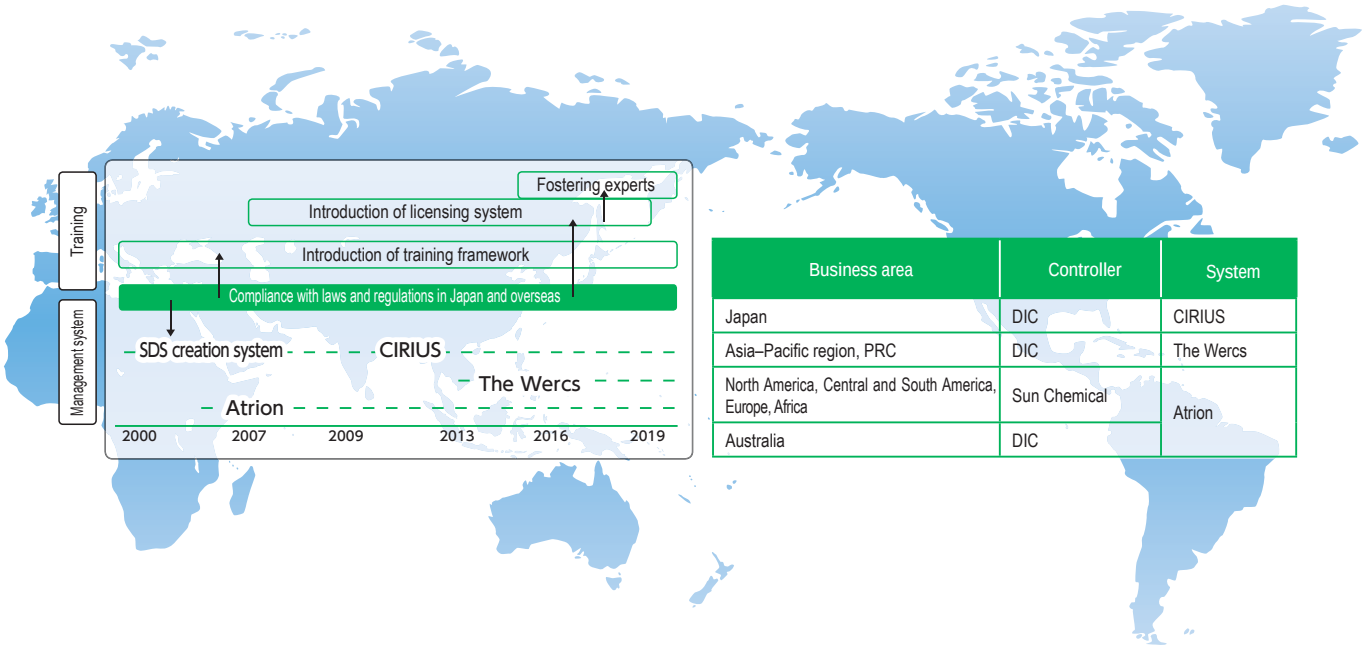
In 2013, DIC began using the Wercs, a global SDS and label creation system that facilitates the translation of data into 46 languages, for products destined for overseas markets. In 2015, the Company also began deploying the Wercs at overseas Group companies. At present, the system is in use at 23 companies in 11 countries and territories. The Sun

Chemical Group has used Atrion International Inc.'s chemical substance information management system since 2006, enabling it to provide highly accurate information to its customers worldwide.

Recognizing the importance of specialized expertise in the area of chemical substance management, DIC has trained employees in the manufacture, import and handling of chemical substances in accordance with applicable laws and regulations since 2000. In 2007, the Company introduced a proprietary licensing system designed to maintain and enhance the skills of its in-house chemical substance management experts.

*1 The GHS was formally adopted by the UN in 2003 to facilitate the uniform global classification and labeling of hazard information for chemicals.
*2 SDSs contain information on the hazards of chemicals to ensure their safe handling.

The DIC Group's Comprehensive Global Chemical Information Systems



Business area	Controller	System
Japan	DIC	CIRIUS
Asia–Pacific region, PRC	DIC	The Wercs
North America, Central and South America, Europe, Africa	Sun Chemical	Atrion
Australia	DIC	

2 Principal Initiatives in Fiscal Year 2019

Laws and regulations governing chemical substances are updated every year. In fiscal year 2019, the DIC Group took steps to address revisions to, among others, Japan's Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., and the ROK's Act on the Registration and Evaluation of Chemicals (K-REACH). At the same time, the Group collaborated with related departments in Japan and overseas to gather information and formulate countermeasures in a timely manner in response to developments surrounding the United Kingdom's withdrawal from the European Union, Taiwan's Toxic and Chemical Substances of Concern Control Act (TCSCCA) and the PRC's Measures for Environmental Administration of New Chemical Substances (China REACH).

In the area of systems for managing information on chemical substances, the Group kicked off the Global Chemical Information Project (GCIP) to oversee efforts to create a new global system, thereby positioning it better to respond effectively to legal and regulatory changes. The new system will integrate CIRIUS and the Wercs, facilitating the swift provision of consistent, accurate information to customers across the DIC Group and improving the ability of Group companies in the PRC and the Asia–Pacific region to ensure legal and regulatory compliance. The Group's goal is to begin deploying this system globally in fiscal year 2024.

3 Efforts Going Forward

Promoting the Creation of a New Comprehensive Global System for Managing Chemical Substance Information

Guided by its DIC111 medium-term management plan, one theme of which is to reengineer business processes, DIC will continue to advance the creation of a new global chemical substance information management system that integrates CIRIUS and the Wercs with the goal of beginning to use the new system in fiscal year 2024. The Company is also pushing ahead with the creation of an information management framework to ensure the effective management of information using the new system.

Given the recent tightening of regulations governing chemical substances, the scope of related information that must be managed has expanded and the demands on individuals responsible have become significantly greater and more complex. Requests from customers to conduct research on chemical substances are also expanding, underscoring the importance of ensuring an appropriate global response to changing circumstances. Having conducted a preliminary study in recent years, the Responsible Care Department reached the conclusion that the optimal approach was to integrate and strengthen existing systems to create a new global chemical substance information management system and to establish a new information management framework, prompting it to embark on this process. Going forward, the Responsible Care Department will continue working with other departments involved in the management of chemical substances, as well as with overseas DIC Group companies, to realize this new information management system and framework.

VOICE After the WSSD goal for 2020, our priority will be to address the SDGs and other new goals.

Almost 30 years have passed since the adoption of the WSSD's goal for 2020. To contribute to the achievement of this goal, Japan has implemented a variety of chemical substance management initiatives that reflect the intent of the UN's Strategic Approach to International Chemicals Management (SAICM). It is expected that the SDGs—as the successor to the goal for 2020—and the first post-SAICM goal for the global chemicals industry will be discussed at the International Conference on Chemicals Management (ICCM), scheduled for October 2020.

The DIC Group's ability to maintain its position as a leading global chemicals company will depend on its ability to address these new goals. As a member of the Responsible Care Department's Chemical Management Group, I look forward to helping the Group take active and earnest steps to contribute to the achievement of these goals.

Group Manager, Chemical Management Group, Responsible Care Department, DIC Corporation **Akira Matsumoto**

Creating a New Global System for Managing Chemical Information

Starting Up a New Project

In July 2019, DIC inaugurated a project to oversee the creation a new global system for managing chemical substances and established a project team consisting of representatives from departments well-versed in chemical substance management who were invited to play a role in creation of the new system. In addition to system design and development, the project team reviewed and standardized procedures to be used globally for gathering information to ensure smooth operations. From October through December 2019, team members visited 11 overseas Group companies in three countries to learn about their procedures for managing chemical substances, and reflected findings in the items to be considered as part of the project. In addition, these inquiries underscored the team's understanding that Group companies were also anxious for a chemical substance information management system.

In fiscal year 2020, the team will continue to promote the construction of the new system and aims to visit overseas DIC Group companies it was unable to travel to in fiscal year 2019. The team will also commence full-fledged efforts to build a chemical substance information management system. The team is confident that tying these efforts to systems design and development work will help enhance the new system's effectiveness.

Designing and Developing a New Global System

DIC is applying capabilities, experience and expertise accumulated in the design, development and operation of CIRIUS and the Wercs to designing and developing its new global system. The Company also recognizes that a unified global system for managing chemical substance information will enhance its operational efficiency and thus create a framework for data integration with its SAP system.

Individual divisions and departments make use of chemical substance information in its particular work. Accordingly, the system will be used not only by experts in the management of chemical substances but also by diverse other employees across the global DIC Group. The Group is thus aware of the importance of designing the interface so that even non-experts can easily extract and use essential information. The new system will store confidential information on, among others, the chemical composition of products and raw materials. For this reason, and because of the wide range of individuals using the system, meticulous attention to security is a key consideration in system design and development.

A Global Information Management Framework

Techniques used to manage chemical substance information vary greatly depending on country/territory and site, as does the quality of management. Given the expected further tightening of laws and regulations governing chemical substances and the increasing number and changing nature of substances used, implementing an organized global approach is essential. One of the ways the DIC Group is addressing this challenge is through the creation of a new global system. The Group recognizes that introducing a new system is only part of the solution, and so it has also commenced efforts to establish a new information management framework to support administration of the new system after creation and deployment. By the time the new system goes into operation, the Group will have implemented the new framework in Greater China and the Asia–Pacific region, as well as in Japan, its principal operating base, leveraging know-how accumulated in Japan to integrate information management, thereby ensuring consistent quality, securing compliance and strengthening governance. To this end, DIC established a chemical substance information management group in fiscal year 2019. In April 2020, the Group also commenced chemical substance information management efforts in Shanghai.

Complying with Laws and Regulations

1 Complying with Laws and Regulations in Japan

DIC recognizes legal and regulatory compliance as central to risk management. In Japan, this includes fulfilling without exception obligations related to the reporting of new chemical substances set forth in the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., and the Industrial Health and Safety Act, and to the keeping of records on manufacturing, importing and sales laid out in the Poisonous and Deleterious Substances Control Act. To enhance the reliability of its compliance efforts, the Group has implemented diverse measures, from collecting and analyzing information to formulating guidelines, promoting awareness among Group companies and customers and integrating management using CIRIUS.

With the enforcement in fiscal year 2019 of the revised Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., the focus of regulations on production volume shifted from assessed hazards (hazard assessment) toward risk when released into the environment (risk assessment). DIC responded promptly to the revised Act's more complex manufacturing and import volume notification requirements. There were no violations of domestic laws requiring the registration or reporting of chemical substances by the Group in Japan in fiscal year 2019.

Outlook for Principal Initiatives for Fiscal Year 2020

The PRTR is scheduled to be revised in fiscal year 2020. This is expected to result in emphasis being placed on efforts to minimize risks associated with the handling of chemical substances over the entire life cycle of products, with standards for assessing the amount of substances present in the environment shifting from manufacturing and import volume to release amount. Substances included in the register are also expected to be revised. DIC will take active steps to comply with the revised PRTR, as well as to provide basic PRTR information to customers. The Company will also promote the creation of SDSs that comply with JIS Z 7253, the Japanese Industrial Standards (JIS) standard for hazard communication for GHS-compliant labeling and SDSs. DIC will also take decisive steps to address the WSSD goal that supersedes the goal for 2020, which is expected to be discussed at the ICCM, paying close attention to how the new goal is reflected in policies, laws and regulations.

2 Complying with Global Laws and Regulations

Recent years have brought the establishment and amendment of major laws and regulations governing chemical substances across East Asia. Key examples in fiscal year 2019 included revisions to the ROK's K-REACH, as well as developments surrounding the PRC's China REACH and changes to Taiwan's TCSCCA.

In North America and Europe, as of 2018 the DIC Group had completed registration of existing chemical substances required by substantial revisions to the U.S. Toxic Substances Control Act (TSCA) in 2016 requiring a comprehensive inventory reset (review of existing chemical substances on the TSCA list) and by the enactment of the European Union Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) legislation. The Group is also capitalizing on its global network to respond swiftly to changes in Southeast Asia, including the mandatory deployment of the GHS and the introduction of new systems for registering chemical substances in Thailand and Vietnam.

DIC gathers the latest information on chemical substances in overseas markets through local consultants, as well as through its global network, including experts within Sun Chemical and other Group companies, ensuring its ability to respond effectively to revisions to laws and regulations and to provide information to Group companies and customers. As a leading member of the JCIA's working group charged with collecting Japanese companies' opinions and proposals regarding the enactment and revision of laws and regulations, DIC conducts dialogue with government authorities, playing a leading role in ensuring the legal and regulatory compliance of JCIA member companies. There were no violations of laws regarding the registration or reporting of chemical substances by the Group overseas in fiscal year 2019.

Outlook for Principal Initiatives for Fiscal Year 2020

The expected enforcement of China REACH in the PRC may require a major overhaul of the DIC Group's system for managing chemical substances. Accordingly, the DIC Group will continue to closely monitor developments surrounding this legislation and will respond swiftly as necessary. The Group will also press ahead without delay to complete the registration of existing chemical substances required by the ROK's K-REACH and Taiwan's TCSCCA legislation by the respective registration deadlines.

The DIC Group also aims to complete preregistration of chemical substances required under Turkey's new KKDIK regulation (an acronym consisting of the first letters of each word in "registration, evaluation, authorization and restriction of chemicals" in Turkish), also known as Turkish REACH, by the end of 2020. The Group will also continue to keep abreast of ongoing preparations for the enactment of legislation obliging GHS compliance in India and will submit opinions and proposals through relevant industry associations and take necessary steps.

VOICE We are working to properly understand and comply with diverse laws and regulations.

DIC Korea sells products imported from other DIC Group companies. Given the increasingly diverse and specialized chemical substance laws and regulations that importers in the ROK must comply with, including K-REACH, in fiscal year 2019 we established the Import Control Team to oversee related efforts. As a part of this team, I am responsible for making certain that the chemicals we import comply with applicable laws and regulations, as well as for assisting customers in this market to do the same. Correctly understanding and implementing a wide range of laws and regulations is the team's fundamental and most important job, and our ability to work closely with related parties to respond in a timely manner is directly linked to the Group's profitability. We also believe it is important to inform local customers about DIC's policy regarding managing the safety of chemicals so that they can feel secure purchasing DIC Group products. Going forward, we will continue to hone our ability to ensure legal and regulatory compliance.

Import Control Team, DIC Korea Corp. **Gu Gyo-ok**

Training and Systems

In line with the principles of product stewardship, DIC recognizes the importance of greater employee awareness and knowledge to ongoing efforts to improve the safety of chemicals and manufactured products. The Company places considerable importance on training for individuals involved in the manufacture, import and handling of chemical substances in accordance with applicable laws and regulations and endeavors to improve employees' awareness and knowledge of applicable laws and regulations in Japan and overseas, which it provides through its program to foster experts and its proprietary licensing system.

Fostering Experts

As a comprehensive global chemicals manufacturer, DIC recognizes legal and regulatory compliance as central to risk management and promotes training designed to foster experts in this area. The Company began offering an entry-level course on laws and regulations governing chemical substances in fiscal year 2014. By providing in-depth training annually to a limited number of individuals, DIC has succeeded in raising awareness of compliance across its entire labor force. A cumulative total of 204 individuals have taken part in this training to date.

Beginning in fiscal year 2020, DIC has expanded the scope of this training to focus particularly on sites with technical departments. The Company is also currently working to design a course and preparing study materials to facilitate the creation of a high-level course designed to impart advanced knowledge about key laws and regulations such as the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., and the Poisonous and Deleterious Substances Control Act in Japan.

Licensing System in Japan

Under its proprietary licensing system, DIC provides mandatory specialized training for individuals in Japan engaged in the export and import of chemical substances and issues licenses to employees who have completed training and passed in-house examinations. Licenses are valid for two or three years, depending on the particular business. Training for individuals involved in exporting and importing chemical substances focuses on the Foreign Exchange and Foreign Trade Act, while that for individuals involved exclusively in importing centers on the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., the Industrial Health and Safety Act and the Poisonous and Deleterious Substances Control Act. To renew a license, an employee must once again go through training and pass the in-house examination. As of fiscal year 2019, 1,527 employees held a Class A export license, which requires high–level specialized knowledge, and 183 held a Class B export license, which pertains to ancillary operations, while a further 84 had completed an advanced license course, which demands superior capabilities that was introduced in fiscal year 2015. In addition, 318 individuals held import licenses.

Looking ahead, DIC will continue to deepen the hierarchy of export licenses, and review the content of training its actual operations. The Company is also considering the establishment of a licensing system for employees involved in the preparation of certificates of origin, which have come to play a more important role in recent international FTAs in recent years.

Training at Overseas Group Companies

With the full-fledged deployment of the Wercs, since fiscal year 2017 legal and regulatory officers in Greater China and the Asia–Pacific region have provided training in the use of the system tailored to local laws and regulations. Through such efforts, the DIC Group seeks not only to enhance employees' understanding of the system's advantages and operating procedures but also to reinforce their awareness of the importance of legal and regulatory compliance.

In light of the increasingly complex and sophisticated nature of requirements in these regions, a result of the tightening of laws and regulations in pertinent countries, territories and regions, legal and regulatory personnel from Japan, as well as local experts, are invited to conduct training sessions. In the PRC, in particular, laws and regulations are applied at each stage of a product's life cycle, from the procurement of raw materials and research through manufacturing, sale and disposal. These laws and regulations are frequently enacted and amended, making them difficult to interpret.

In advance of expected substantial revisions to China REACH in fiscal year 2020, local external experts were invited to conduct seminars at Group companies in the PRC on the current status of chemical substance management and precautions for companies, including requesting administrative permits for hazardous chemicals, the essence of laws and regulations pertaining to implementation of the GHS, an overview of procedures for declaring new chemical substances, laws and regulations pertaining to the transport of hazardous goods, and supervision of the import and export of dangerous goods. Suppliers were also invited to participate in this seminar as part of an effort to improve the management of chemical substances by sharing legal and regulatory information. The DIC Group will continue to promote cooperation among legal and regulatory officers from corporate headquarters and regional and overseas Group companies with the aim of further enhancing compliance.

Seminar on the management of chemical substances conducted by an external expert (Changzhou Huari New Material)

VOICE We are working to expand legal compliance training.

In the modern world, legal and regulatory compliance is required across the board, from the manufacture and import of products through to sales, handling and export. A company that is unable to respond effectively cannot remain a going concern. Frameworks and systems designed to ensure compliance are important, but compliance cannot be achieved without the understanding of each and every employee of the DIC Group.

The Group's product portfolio is extensive, so the number of laws and regulations with which we must comply is considerable. We currently provide wide-ranging training regarding laws and regulations governing chemical substances. As one of the people in charge of this training, I will work to step up training to better respond to needs pertaining to employees and products to contribute to increasingly effective compliance.

Manager, Chemical Management Group, Responsible Care Department, DIC Corporation **Hirofumi Higashino**

Assessing and Managing Risks

The DIC Group promotes efforts to manage product-specific ESH risks and share related information with stakeholders with the aim of reducing the ESH impact of products over their entire life cycle—i.e., from the development of chemical substances through to procurement, production, transport, sales, use and disposal or recycling.

The most important challenge in risk management is to assess risks in a manner that provides insight into trends related to, among others, the evolution of laws and regulations governing chemical substances and changing product life cycles. To accurately assess the risks associated with a product, it is crucial to secure information on the degree of exposure for people and the environment when the product is used, as well as to examine SDS and chemSHERPA hazard and toxicity information. To facilitate the more efficient gathering and dissemination of information necessary for the assessment of risks, the Group is currently creating a new chemical substance information management system (for more information, please see page 106) and has formulated the DIC Sustainability Index (page 17) and is working with technology, production and sales departments to enhance the accuracy of assessments. By thus ensuring the appropriate disclosure of information necessary to assess risks, the Group is confident that it will be able to provide a safer environment for the stakeholders using these products.

In developing new products, the DIC Group also promotes effective management by making use of the aforementioned two platforms, as well as evaluation sheets for environment-friendly products (page 137), to assess hazard and toxicity risks, with the objective of providing ever-safer new products.

Socially Responsible Procurement

In line with the DIC Group Universal Purchasing Policy, DIC formulated the DIC Group Green Procurement Guidelines, which prohibit the procurement of materials containing hazardous substances in the seven categories below. The guidelines mandate the submission of a DIC Raw Materials Survey, an SDS and a chemSHERPA*, as well as a DIC Group Green Procurement Guidelines Survey, when purchasing raw materials, thereby creating a system for eliminating substances of concern. Submission of a Conflict Minerals Survey is also required.

1. Substances the production of which is prohibited, as outlined in Article 55 of Japan's Industrial Health and Safety Act;
2. Substances designated as class 1 specified chemical substances in Japan's Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.;
3. Substances designated for monitoring under Japan's Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.;
4. Chemical substances the production of which is already prohibited, as detailed in Japan's Act on the Protection of the Ozone Layer Through the Control of Specified Substances and Other Measures (ozone-depleting substances listed in the Montreal Protocol);
5. Specified particulates denoted in Japan's Air Pollution Control Act;
6. Specified poisonous substances indicated in Japan's Poisonous and Deleterious Substances Control Act; and
7. Specified substances detailed in the Stockholm Convention on Persistent Organic Pollutants.

* chemSHERPA is a scheme designed to facilitate the accurate and efficient sharing of information on chemical substances in products across the entire supply chain. DIC began using chemSHERPA in late fiscal year 2017.

Position on the Use of Animals in Testing

In line with the "3Rs" of animal use in research ("Replacement, Reduction, Refinement"), which are guidelines designed to ensure the more ethical use of animals in testing, the DIC Group actively promotes safe evaluation using quantitative structure–activity relationship (QSAR) models, which do not employ animals, and alternatives to animal testing.

Safe Product Transport

The DIC Group has created Yellow Cards containing simplified SDSs. This provides critical information to transport personnel, facilitating appropriate responses in the unlikely event of an accident to protect the environment and ensure safety. (For more information on safety in logistics, please see page 101.)

Engaging with Society

Basic Approach

DIC actively discloses information and publicizes its Responsible Care initiatives, as well as endeavors to disseminate knowledge regarding ESH-related issues and respond appropriately to public concerns.

Information Disclosure and Engaging with Society

The DIC Group strives to increase the transparency of its activities through the active disclosure of information and at the same time promotes dialogue with stakeholders by, among others, providing safety- and environment-related data through Group websites, the DIC Report and other media, as well as by holding environmental presentations for local residents at production facilities.

The DIC Group also promotes a variety of efforts to deepen its engagement with society. In Japan, such efforts include preparing site reports, inviting junior and senior high school students in for hands-on lab lessons, participating in community disaster drills and providing assistance for local festivals and other local events. Overseas Group sites seek to advance dialogue and interaction with local communities by participating in tree plantings and other activities aimed at helping prevent global warming and preserve biodiversity.

Bon odori event at DIC Graphics' Tokyo Plant

Site report

Comprehensive disaster drill for the Sakai–Senboku Special Disaster Protection Area hosted by the Sakai Plant

TOPIC

Responsible Care Regional Town Hall Meeting Is Conducted

In February 2019, the Komaki Plant conducted the 9th Responsible Care Aichi Regional Town Hall Meeting. The event was attended by approximately 70 individuals, including government officials and representatives of other companies with operations in the area. In his opening remarks, Komaki Plant general manager Kazuyuki Okutani said, "Safety and environmental initiatives are critical for chemicals manufacturers. In recent years, demands that companies address ESG-related issues have intensified. Our goal in holding today's town hall meeting is to encourage a broad understanding of our efforts by regional stakeholders with the aim of ensuring peace of mind."

Responsible Care town hall meetings, which are sponsored by the JRCC, with the support of the JCIA, are held to provide details on chemicals manufacturers' environmental conservation and disaster prevention initiatives with the aim of deepening understanding between manufacturers and stakeholders in the communities where they have production facilities. The 2019 event was the ninth held by DIC in Aichi Prefecture. As an active proponent of Responsible Care, DIC will continue to conduct town hall meetings as a way of engaging with local stakeholders.

9th Responsible Care Aichi Regional Town Hall Meeting

Town hall meeting participants

Quality

Enhancing Product Quality and Customer Satisfaction

Goals and Achievements of Major Initiatives

Evaluations are based on self-evaluations of current progress. Key: ★★★ = Excellent; ★★ = Satisfactory; ★ = Still needs work

Objective of initiatives	Goals for fiscal year 2019	Achievements in fiscal year 2019	Evaluation	Goals for fiscal year 2020
Secure product quality.	Reinforce the quality assurance framework by, among others, modifying the corporate culture and improving employee ethics, and continue to implement quality audits to prevent quality issues from arising.	Three slogans were formulated to increase awareness, which employees were encouraged to repeat as a way to boost morale. Guidelines for the creation of delivery specifications were revised and put into use.	★★	Prevent quality problems from arising by strengthening the quality assurance framework and conducting quality audits that reflect a strong awareness of the customer's perspective.
	Ensure a level of quality that fulfills the DIC Group's corporate social responsibility. Collect and organize information on raw materials pertinent to safety, compliance with laws and regulations, and environmental protection and provide appropriate product information.	Efforts to maintain the provision of appropriate product information proceeded apace, including through the use of CIRIUS to manage information on raw materials and provide appropriate product information.	★★★	Provide products and services that deliver a level of quality that matches the expectations and meets the needs of both customers and society.

Basic Approach

Along with its Environment, Safety and Health Policy, the DIC Group views the improvement of product quality as a theme that is essential to upholding a sound operating foundation. Accordingly, the Group seeks to ensure every employee shares the sentiment conveyed in its Quality Policy and works continuously to enhance quality and ensure customer satisfaction.

DIC's Quality Policy Contribute to the prosperity of customers and society by consistently providing reliable products (Updated in May 2015)

Framework for Promotion

To better leverage its agility and comprehensive capabilities, DIC has established a matrix-like quality management configuration that positions product divisions on the vertical axis and the Technical Management Unit and Production Management Unit on the horizontal axis. DIC introduced this configuration in fiscal year 2015, establishing the Quality Assurance Department within the Production Administration Division (today's Production Management Unit) and quality assurance groups within individual product divisions. This framework enables swift and effective responses to quality issues.

Based on the Group's quality management system (QMS) for product divisions, the quality assurance groups oversee product-specific quality management, while the Quality Assurance Department provides external monitoring of production facilities, ensuring that those plant certified under ISO 9001, the International Organization for Standardization's benchmark for quality management systems, maintain a consistent level of quality management by conducting regular audits of the status of the product divisions' QMS. In addition to facilitating prompt and appropriate quality management, this division of Groupwide and product-specific quality management encourages close communication among departments.

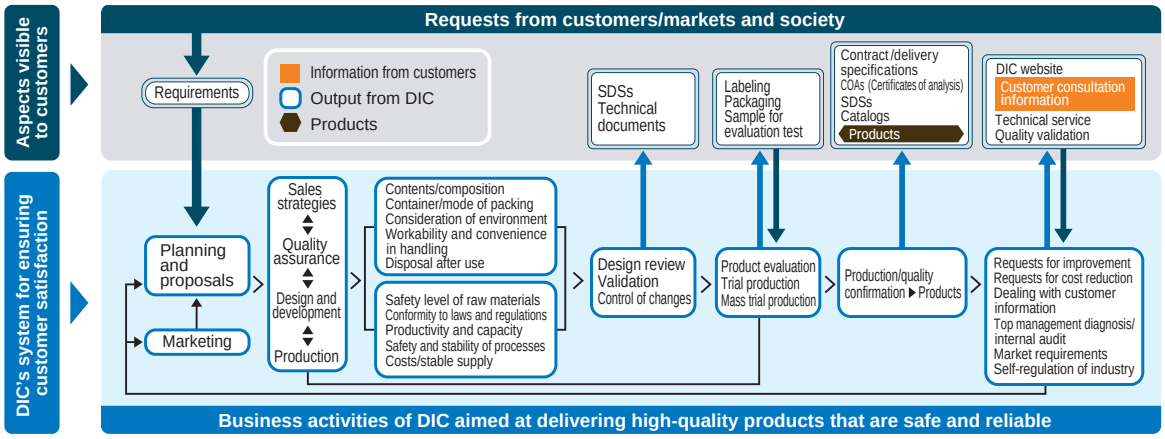
Quality Assurance and Quality Improvement Initiatives

The Quality Assurance Department conducts regular product quality audits of production facilities and Group companies in Japan and extends advice regarding corrective measures. Monitoring helps to ensure that plant QMS are functioning effectively, while support is extended to lift product quality levels, thereby further improving customer satisfaction. Overseas, DIC Group companies work with the Quality Assurance Department and the product division quality assurance groups to promote a variety of efforts aimed at achieving further improvements. In fiscal year 2019, a product quality audit was conducted at one overseas Group company, in the eastern part of PRC. The implementation of corporate product quality audits as well as internal plant and Group company audits prevents issues from being overlooked.

The Quality Assurance Department is currently working to create a common QMS for Groupwide use. In fiscal year 2019, the department, together with the quality assurance groups and the Information Systems Department, began taking steps to develop a system for verifying standards whereby, based on delivery specifications set forth in contracts with customers, quality assurance personnel will verify testing method and test report specifications and values, as well as test products and report results as contractually required. The Group began using the new system in March 2020.

1 Initiatives Aimed at Increasing Customer Satisfaction

To provide high-quality products that customers feel secure using, DIC promotes a variety of quality improvement initiatives during product planning, design and development, the procurement of raw materials, production and sales, giving consideration to the need for effective product stewardship. Relevant product division quality assurance groups participate in design reviews from the initial stages of development, conducting rigorous evaluations at each stage, with the goal of delivering the quality that customers seek and making necessary modifications. After products are sold, customer and market assessments are gathered and fed back to development departments to facilitate further quality improvements. In fiscal year 2019, DIC conducted quality audits of seven raw materials suppliers.



2 Ensuring a Level of Quality that Fulfills the DIC Group's Corporate Social Responsibility

To provide SDSs based on appropriate, up-to-date product information, the Quality Assurance Department collaborates with technical and purchasing departments to collect and organize information on raw materials pertinent to safety, compliance with laws and regulations, and environmental protection. DIC has established CIRIUS to maintain such information, which it reflects in its SDSs.

3 Efforts to Enhance Product Quality–Related Educational Initiatives

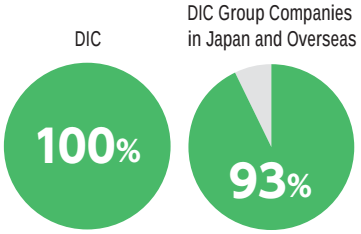
Committed to providing safe, secure products that satisfy its customers, DIC recognizes the importance of ensuring that employees maintain a high awareness of quality, as well as a constant commitment to achieving further quality improvements and upholding high quality standards. To this end, the Company provides education regarding product quality as part of training for newly hired and newly promoted employees and at production facilities as part of annual training plans.

Since fiscal year 2016, DIC has offered training led by external experts in the field for employees involved in quality management. Approximately 40 individuals participate in such training annually, with a cumulative total of 160 taking part to date. Since fiscal year 2017, the Company has also held meetings for individuals responsible for quality assurance on the front lines to facilitate communication, thereby helping resolve issues encountered in everyday work and improving motivation. Going forward, DIC will continue to implement initiatives to strengthen the ability not only of quality assurance officers but also of all plant employees to see things from the customer's perspective. The Company will also work to foster a mindset that quality is the foundation of effective management by, among others, encouraging the reading of DIC's Quality Policy during plant morning assemblies and meetings.

4 Global Quality Initiatives (Certification Under ISO 9001)

DIC Group companies in Japan, Greater China and the Asia–Pacific region are working to earn certification under ISO 9001 and establish a global product quality assurance framework, thereby ensuring a level of quality that meets customers' demands. Group companies are also taking active steps to comply with ISO 9001 industry- and product-specific sector standards. Looking ahead, Group companies will continue to collect information on market quality requirements, while DIC will provide support for efforts reinforcing the quality assurance framework.

Percentage of DIC Group Companies with **Production Capabilities Certified Under ISO 9001**



5 Preventing the Recurrence of Quality Problems

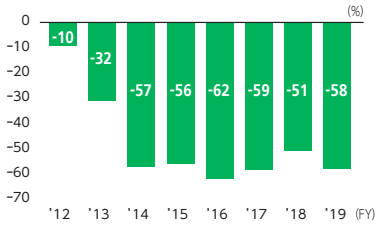
In line with its risk management policy, the DIC Group has established procedures for responding to serious quality-related issues, enabling it to respond effectively in emergency situations. To uncover the causes of everyday quality problems when complaints and criticisms are received, the Group employs "why-why analysis" (*"naze-naze bunseki"*) to examine problems logically and from multiple perspectives, which not only uncovers direct causes but also illuminates underlying issues, making it possible to take corrective actions to prevent recurrence. The Group has also adopted statistical process control (SPC), a quality monitoring and control methodology based on the analysis of data, to improve the stability of product quality and avert related issues. From design and development through to sales, thanks to the cooperation of customers when processes are revised, the Group places a high priority on monitoring quality changes.

Why-why analysis (*"naze-naze bunseki"*)

Change in the Number of Quality Problems

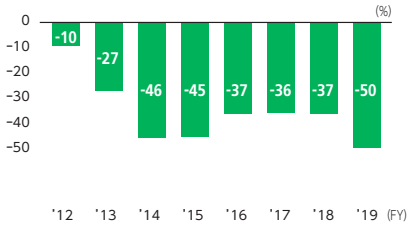
Change in the Number of Product Returns

(Base year: Fiscal year 2011)



Change in the Number of Complaints Received

(Base year: Fiscal year 2011)



VOICE Our focus is on monitoring quality changes.

The Composite Material Products Division provides a broad range of highly functional processed products that integrate core DIC Group technologies, which it supplies customers in niche markets in such diverse sectors as electronics, home appliances, automobiles, construction and housing. These include industrial adhesive tapes, hollow-fiber membrane modules, decorative boards and interior housing products, decorative sheets and decorative films, SMCs and molded plastic products. For all of these products, we must be able to deliver a level of quality that meets the specific and exacting needs of customers, as well as to ensure stable quality. Accordingly, it is critical that every individual involved in production approaches their work from their own unique perspective with a sophisticated understanding of the importance of quality and a sense of responsibility, to ensure robust quality management across the entire supply chain, from planning and development through to procurement, production, sale, use and disposal or recycling.

The Composite Material Products Division's quality assurance group will continue working to ensure compliance with rules and procedures and to keep the promises we have made to customers, which are reflected in product delivery specifications, as well as to promote quality assurance initiatives. Through such efforts, we will strive to ensure that customers can use our products with peace of mind and confidence in their reliability.

Group Manager, Composite Material Quality Assurance Group 1, Composite Material Products Division, DIC Corporation **Shinichi Ichihara**

Human Resources Management

Working to Enhance Job Satisfaction

SDGs Goals 3, 4, 5, 8 and 10

Goals and Achievements of Major Initiatives

Evaluations are based on self-evaluations of current progress. Key: ★★★ = Excellent; ★★ = Satisfactory; ★ = Still needs work

Objectives of initiatives	Goals for fiscal year 2019	Achievements in fiscal year 2019	Evaluation	Goals for fiscal year 2020
Foster and endorse the advancement of local staff overseas with the aim of advancing global management.	• Reinforce awareness of the human rights policy. • Use ESG human rights training to encourage awareness of the policy among executives and other pertinent individuals. • Provide tailored guidance based on the results of voluntary human rights inspections.	Steps were taken to disseminate the DIC Group's human rights policy and self-checks using a human rights checklist were conducted at 57 Group companies around the world.	★★	• Promote awareness of global trends in human rights. • Conduct human rights due diligence and take steps to reduce the risks that human rights–related issues pose. • Ensure a grasp of differences in the status of efforts to protect human rights at Group companies.
	Announce and begin implementing WING, a new strategy designed to rally diverse human resources as the source of DIC's competitiveness as a global organization.	• A human resources database for management-level (i.e., manager or higher) employees was created for Japan, the Asia–Pacific region and Greater China. • The Group continued to offer global human resources development programs.	★★★	• Continue promoting talent management with the aim of discovering future management candidates. • Consider the creation of a global human resources database for the entire DIC Group, including Sun Chemical.
	• Continue offering the GCD Program. • Continue providing global human resources training aimed at fostering employees at multiple levels.	• The Group continued to offer the GCD Program. • The Group continued to provide training aimed at fostering global human resources at multiple levels.	★★	• Continue offering the GCD Program. • Continue providing practical training aimed at fostering global human resources at multiple levels.
Encourage women in the workplace with the aim of securing a diverse labor force and supporting diverse work styles.	• Continue to implement the program to foster female leaders. • Use roundtable discussions for directors to manage the progress of efforts to promote career opportunities for female employees. • Introduce leave for employees to accompany spouses overseas.	• The Group continued to offer a program to foster female leaders. • The Group continued to conduct roundtable discussions for directors. • Leave for employees to accompany spouses overseas and a system that allows employees to take paid leave in hourly increments were introduced.	★★★	• Use roundtable discussions for directors to ensure a grasp of the status of efforts to promote diversity in each department and consider measures. • Promote work style reforms.
Promote the hiring of individuals with disabilities with the aim of securing a diverse labor force and supporting diverse work styles.	Work with the Japanese government's Hello Work public employment security offices, as well as special needs schools and other organizations, to promote the hiring of individuals with disabilities, to maintain the employment rate for individuals with disabilities at 2.4% of DIC's total labor force.	• Steps were taken to strengthen cooperation with special needs schools, including introducing an internship program. • DIC promoted the exchange of information with other companies hiring individuals with disabilities. • As of December 31, 2019, individuals with disabilities accounted for 2.6% of DIC's total labor force.	★★★	• Further strengthen cooperation with special needs schools to expand internships. • Promote the exchange of information with other companies hiring individuals with disabilities. • Maintain the percentage of DIC's total labor force accounted for by individuals with disabilities at 2.6%.

Basic Approach to Human Resources Management

With the aim of being an organization that empowers all employees to reach their full potential, the DIC Group is committed to respecting human rights and eliminating all forms of discrimination and to creating a work environment that embraces diversity. The Group also strives to support a healthy work–life balance for each employee and create a work environment conducive to job satisfaction, as well as to foster human resources in markets around the world, which it recognizes as essential to ensuring sustainable corporate growth under its current medium-term management plan.

Strategies for a Stronger Management Infrastructure

In line with The DIC WAY, which represents its fundamental management policy, the DIC Group has established a global human resources management framework under which Group companies in Japan, the PRC and the Asia–Pacific region are overseen by DIC, while those in North America, Europe, Central and South America, and Africa are overseen by Sun Chemical of the United States. The DIC111 medium-term management plan, which was introduced in February 2019, sets forth a strategy dubbed WING that is designed to rally the Group's diverse human resources as a source of its competitiveness as a global organization. WING centers on four core themes, summarized as "work style reform," "HR infrastructure reform," "next management selection" and "global talent development."

WING: DIC111 Strategies for Human Resources Management

Work Style Reform

Reform work styles to capitalize on diversified individuality

- Reform jobs with digital tools.
- Reform working conditions by introducing a telework and flexible working hours.
- Shift focus of evaluation from quantity to quality.
- Support employees who have childcare or nursing care responsibilities or suffer illness, etc.

HR Infrastructure Reform

Adopt a global human resources system and unify Group system

- Consolidate employee qualification systems globally.
- Unify qualification standards and assessment formats for management-level employees.
- Develop IT system for global human resources platform.

Next Management Selection

Establish system to appoint the next management team

- Clarify requirements for employees in key positions.
- Establish selection and monitoring processes for high-potential employees.
- Use talent review to optimize combination of positions and employees.

Global Talent Development

Develop global human resources

- Define level of and set requirements for global human resources.
- Systematize global human resources development programs
  (English-language ability, competency, work experience, etc.)

Progress in Fiscal Year 2019

① Work style reform

Introduced leave for employees to accompany spouses overseas and short-term paid leave programs and implemented initiatives to promote telework system and awareness of flexible working options

② HR infrastructure reform

- Built human resources database for management-level and higher employees in Japan, the PRC and the Asia–Pacific region
- Created global unified assessment system for employees in key positions

③ Next management selection

Reinforced approach to selecting new management candidates by enhancing training for such candidates and expanded scope of human resources assessments

④ Global talent development

Augmented existing development programs for global human resources by considering a method of assessing language ability, including conversational prowess

Basic Personnel Statistics (DIC)

		Fiscal year 2017	Fiscal year 2018	Fiscal year 2019
Number of employees	Male	2,618	2,628	2,640
	Female	655	662	681
	Total	3,273	3,290	3,321
Average age	Male	42.2	42.5	42.6
	Female	41.3	41.9	42.1
	Total	42.0	42.4	42.5
Average years of employment	Male	18.2	18.4	18.3
	Female	19.2	19.7	19.8
	Total	18.4	18.6	18.6
New graduates hired	Male	39	43	44
	Female	11	19	22
	Total	50	62	66

		Fiscal year 2017	Fiscal year 2018	Fiscal year 2019
		(Fiscal year 2014 hires)	(Fiscal year 2015 hires)	(Fiscal year 2016 hires)
Retention rate (after three years)	Male	79.2%	87.8%	97.2%
	Female	100%	81.0%	76.9%
	Total	83.5%	86.3%	91.8%
Separations (voluntary) (number of individuals)	Male	35	55	45
	Female	11	15	16
	Total	46	70	61
Separation rate (voluntary)	Male	1.3%	2.1%	1.7%
	Female	1.7%	2.3%	2.3%
	Total	1.4%	2.1%	1.8%

Respect for Human Rights

The DIC Group actively supports global codes governing human rights*1, in line with which in fiscal year 2018 it formulated the DIC Group Human Rights Policy and began promoting related initiatives. The DIC Group Code of Business Conduct, which outlines standards that DIC Group employees are expected to observe, lays down provisions prohibiting human rights violations and requiring respect for diversity, two philosophies that are the foundation of the Group's corporate activities. DIC Group employees are obliged to understand and provide written pledges to abide by the code.

In fiscal year 2010, DIC became a signatory to the UNGC, pledging its support for the Ten Principles of the UNGC, which includes tenets regarding human rights and labor. The Company continues to implement related initiatives in all areas of its corporate activities to reinforce respect for human rights in the human resources management practices of all Group companies and prevent the occurrence of violations.

In response to the Modern Slavery Act 2015*2, DIC is reinforcing training regarding human rights due diligence*3, cognizant of the issue of human trafficking and the risks it poses to companies with operations in the United Kingdom. The Company also promotes awareness among DIC Group company executives and enhances corporate headquarters' inspection and monitoring structure as part of an ongoing effort to bolster Group management capabilities.

*1 The International Bill of Human Rights, comprising the Universal Declaration of Human Rights and the International Covenants on Human Rights (the International Covenant on Economic, Social and Cultural Rights and the International Covenant on Civil and Political Rights); the International Labour Organization (ILO)'s Declaration on Fundamental Principles of Rights at Work; the United Nations' Guiding Principles on Business and Human Rights; and the Ten Principles of the UNGC.
*2 Under the Modern Slavery Act 2015, an Act of the Parliament of the United Kingdom, companies with operations in the United Kingdom must report on the existence/nonexistence of slavery, human trafficking or other critical violations of human rights in their supply chains, related risks and steps they are taking to address such practices. "Modern slavery" encompasses debt bondage, forced labor and servitude; human trafficking; and exploitation (including sexual exploitation and forced organ donation).
*3 Human rights due diligence is an ongoing risk management process that a company needs to follow in order to identify, prevent, mitigate and account for how it addresses its adverse human rights impacts.

Initiatives in Fiscal Year 2019

A total of 58 DIC Group companies in Japan and overseas implement voluntary human rights and labor practices inspections. For the second consecutive year, in fiscal year 2019 the Group conducted inspections based on a revised questionnaire distributed to companies for this purpose. Having analyzed and verified the results of inspections, the Group implements follow-up inquiries in key areas and uses its findings to promote initiatives aimed at enhancing awareness.

The DIC Group Human Rights Policy

As a member of society that recognizes the importance of respect for human rights and respects the basic human rights of all stakeholders, including its customers, suppliers and employees, the DIC Group is currently formulating a human rights policy, a draft of which is provided below. Based on this policy, DIC will work to increase the human rights awareness of its executives and employees and to conduct its business activities in a manner that shows respect for human rights.

1. Positioning

This policy, which is in accordance with global human rights codes, articulates DIC's fundamental stance on respect for human rights.

2. Scope of application

This policy applies to all executives and employees of the DIC Group. The Company shall also encourage its business partners and suppliers to adhere to this policy and cooperate with them to advance respect for human rights.

3. Responsibility to respect human rights

The Company shall strive to fulfill its responsibility to respect human rights by ensuring that its business activities do not result in violations of the human rights of stakeholders, as well as by preventing human rights abuses in the course of its business. In the event that its business partners or suppliers cause adverse human rights impacts through their businesses, products and services, the Company—while not directly complicit—shall use its influence to encourage the responsible parties to cease the practices responsible for such impacts.

4. Human rights due diligence

To fulfill its responsibility in regard to respect for human rights, the Company has created a human rights due diligence system, which it shall employ on an ongoing basis to identify and address human rights risks.

5. Corrective/remedial actions

Should the Company cause adverse human rights impacts or should it become evident that it has been complicit in causing such impacts, the Company shall take appropriate corrective/remedial actions in response.

6. Compliance with applicable laws

The Company shall comply with applicable laws in the countries and territories in which it operates. The Company shall also respect international human rights principles and work actively to promote these principles.

7. Disclosure and education/training

The Company shall periodically report publicly on the progress of initiatives implemented in line with this policy. To ensure the effectiveness of this policy, the Company shall also provide appropriate training to its executives and employees.

8. Dialogue and discussion

The Company shall engage with stakeholders regarding initiatives implemented in line with this policy by creating opportunities for dialogue and promoting discussion in good faith.

9. Identifying principal human rights challenges

The Company has separately identified principal human rights challenges. In line with this policy, the Company shall use due diligence as appropriate. Recognizing this as an ongoing process, the Company shall also continue to revise and amend these challenges to reflect social change, business trends and other factors.

DIC Corporation

Principal Human Rights Challenges Facing the DIC Group

Based on key global standards regarding human rights, the DIC Group has identified the following as the principal human rights challenges it faces and promotes appropriate due diligence in accordance with its human rights policy. The Group will review these challenges on a regular basis, taking into consideration factors such as social change and business trends.

(1) Eliminate discrimination

The DIC Group prohibits all types of discrimination, harassment and other practices that undermine the dignity of any individual.

(2) Prevent child labor and forced labor

The DIC Group prohibits the use of child labor, forced labor, slave labor and labor resulting from any form of human trafficking.

(3) Respect basic labor rights

The DIC Group respects basic labor rights, including freedom of association and employees' rights to organize and to engage in collective bargaining.

(4) Address the issue of conflict minerals

The DIC Group prohibits the use of conflict minerals. Should any raw materials purchased from third-party suppliers be found to contain conflict minerals, the Group will respond by, among others, immediately terminating the procurement thereof.

The DIC Group's Human Rights Due Diligence System

The DIC Group has created a human rights due diligence system, which it employs on an ongoing basis.

1) Commit	2) Identify and evaluate impacts	3) Implement corrective/remedial measures, provide training and gauge effectiveness	4) Disclose information
Demonstrate the Group's human rights policy and views	Identify and evaluate human rights risks in the Group's business and across its supply chain	Implement measures and gauge effectiveness	Report periodically on human rights initiatives
• Formulate a human rights policy. • Introduce section on human rights into the DIC Group Sustainable Procurement Guidelines. • Reinforce awareness of the policy.	• Encourage voluntary human rights inspections at Group companies. • Identify and evaluate the impact of human rights risks.	• Implement corrective/remedial measures. • Plan and provide human rights training. • Gauge the effectiveness of measures.	• Provide information via the DIC global website. • Include information in the DIC Report. • Publicize using conventional mass media.

Due Diligence Initiatives to Address Principal Human Rights Challenges

1. Promotion of supply chain due diligence by the Purchasing Department

To ensure that its extended supply chain functions in a socially responsible manner, the Company established the DIC Group Universal Purchasing Policy in 2008, based on which it also formulated purchasing management regulations, and the DIC Group CSR Procurement Guidelines—later renamed the DIC Group Sustainable Procurement Guidelines—which clarify issues it expects suppliers to address, in 2009. Using the policy and guidelines, the Company promotes sustainable procurement by ensuring that all suppliers implement improvements and initiatives necessary to ensure sustainable procurement, as well as advances respect for human rights and takes comprehensive steps to address human rights risks such as conflict minerals, across its supply chain.

2. Initiatives to help realize a sound, viable mica mining industry in India

Mica has a broad range of industrial applications, including coatings, cosmetics, electronics materials and cutting fluids and is mined around the world. The use of child labor in the mining of mica in India, a leading producer, has been identified as a critical issue for users.

DIC Group company Sun Chemical, which oversees the Group's printing inks, resins and pigments for cosmetics operations in the Americas and Europe, is a founding member of the Responsible Mica Initiative, a unique global collaboration established in February 2017 to eradicate child labor in the mica mines of India. Through participation in this initiative, materials producers and cosmetics companies around the world are working to contribute to the realization of a sound, viable mica mining industry.

3. Establishment of whistle-blowing hotlines and corrective measures by the compliance team

The Company's compliance team has created a channel for Group employees to report to whistle-blowing hotlines. In fiscal year 2019, the Company received 17 human rights–related reports through this system. However, internal investigations revealed no serious violations. Appropriate corrective measures were implemented in the receipt of reports.

4. Contact procedures and responses to comments and complaints

The Company has established procedures for suppliers, customers, local communities and other stakeholders to report issues by telephone or through its corporate website and strives to respond swiftly when comments or complaints are received. No complaints pertaining to human rights issues were received in fiscal year 2019.

Building Trust with the DIC Employees' Union

DIC's management and representatives of its employees' union meet regularly with the goal of ensuring healthy industrial relations based on mutual trust. In addition, through labor–management councils and casual management conferences, DIC shares management information and its vision for the future with union representatives and encourages the frank exchange of opinions. A total of 67.2% of parent company employees belong to the DIC Employees' Union (100% of eligible employees).

Diversity Promotion and Work Style Reform

The DIC Group actively pursues diversity by employing a broad spectrum of individuals without regard to such considerations as gender, nationality, physical limitation or age. The Group works to foster a corporate culture that draws on its understanding and respect for diversity to produce creative ideas and to incorporate the concept of diversity into management, thereby creating workplaces that enhance job satisfaction for employees. The Group's president and CEO has said, "It is important to recognize that marshaling the diversity of the individuals that make up our labor force will enable us to respond to social imperatives or even to change DIC itself." To this end, DIC has identified introducing alternative working arrangements that leverage digital tools, including telework and flextime; shifting the focus of evaluations from quantity to quality; and providing support for employees who have childcare or nursing care responsibilities or suffer illness as the key themes of the human rights strategy set forth in its DIC111 medium-term management plan. DIC is also promoting ESG management to strengthen its management infrastructure, with initiatives in Japan emphasizing increasing the percentage of the Company's management positions occupied by female employees, the percentage of its overall labor force accounted for by foreign nationals, and the number of female employees and foreign nationals on its management team.

Strength through Diversity

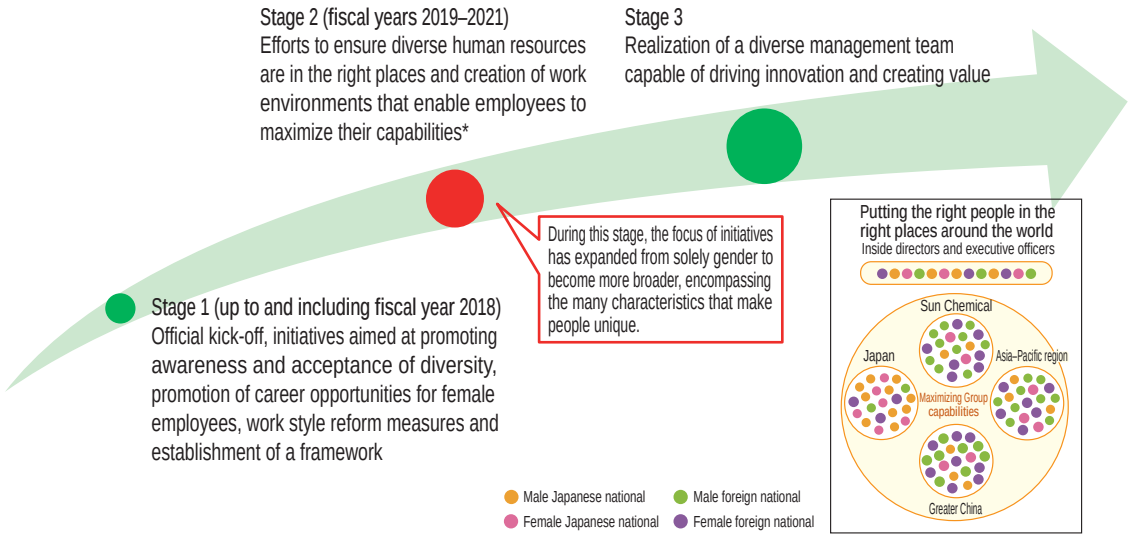
Targets: Percentage of female employees in management positions in Japan: **5.1**% (FY2019) ⇒ **8.0**% (FY2021) ⇒ **20.0**% (FY2025)
Percentage of labor force in Japan accounted for by foreign nationals: **1.0**% (FY2019) ⇒ **5.0**% (FY2021) ⇒ **10.0**% (FY2025)

Percentage of executives who are female and/or foreign nationals: **15.0**% (FY2018) ⇒ **20.0**% (FY2021) ⇒ **30.0**% (FY2025)

Diversity Road Map

DIC's future vision, set forth in DIC111: Become a unique global company that is trusted by society

- DIC seeks to be a company that realizes corporate value through the promotion of diversity, thereby earning respect and admiration from the global community. By advancing diversity, DIC is thus advancing value creation and increasing corporate value, bringing it closer toward achieving the future vision it is working toward under DIC111.



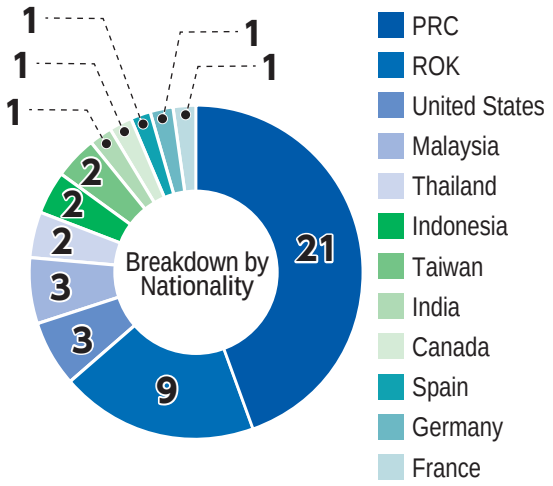
1 Hiring Diverse Human Resources

With the objective of securing talented individuals with advanced specialized capabilities, global perspectives and language capabilities, DIC actively promotes the hiring of international students completing undergraduate or graduate studies at Japanese universities; Japanese and foreign nationals completing undergraduate or graduate studies at overseas universities; and experienced mid-career candidates with extensive experience and expertise. At present, approximately 50 foreign nationals are employed in various capacities at DIC.

Number of Foreign Nationals Currently Employed by DIC

Sales positions	Technical positions	Department/ division administration	Posted overseas	Production	Total
3	30	1	7	6	47

Nationalities of Foreign Employees



VOICE DIC is a company that evolves constantly to respond to the needs of the times.

DIC is a company that is bold in its pursuit of dreams and innovations and evolves constantly to ensure its ability to respond to the needs of the times. In recent years, we have seen a substantial increase in the number of female managers and employees who are foreign nationals, both of which are the result of practical efforts to promote diversity. Employees with diverse backgrounds, strengths and weaknesses work together to create comprehensive teams that can adapt to whatever challenging business scenarios may arise in the future. I am impressed with DIC's commitment to diversity in all its forms, which is one factor that makes it stand out among companies that have been in business for more than a century. I am proud to be a member of the DIC family.

SC Project, Kashima Plant, DIC Corporation **Siong Wan Foo**

TOPIC

DIC Executives Participate in Diversity Roundtable Discussion

President and CEO Kaoru Ino and other DIC executive officers based in Japan took part in a roundtable discussion on the theme of diversity at corporate headquarters in Japan. Designed to enable participants to share information on initiatives in various departments with the aim of improving the effectiveness of initiatives going forward, the discussion was moderated by managing executive officer Masaya Nakafuji and focused on efforts to promote career opportunities for female employees and activities conducted in line with the Company's diversity road map. During the discussion, interview seminars for female employees held by production departments and other specific initiatives were presented as case studies to illustrate the importance of creating work environments that are conducive to diverse human resources, as well as to encourage collaboration and foster a sense of solidarity among diverse employees.

Roundtable discussion

2 Expanding Career Opportunities for Women

In line with its commitment to promoting diversity, DIC implements a variety of initiatives to expand career opportunities for female employees. Having established a full-scale program to support employees in balancing the demands of a career and childcare in 2007, since fiscal year 2016 the Company has pushed ahead with measures to transform employee mindsets and its corporate culture, as well as to provide training designed to encourage the drive and determination of female employees and broaden the range of jobs open to women.

Creating a Framework for Initiatives

In fiscal year 2017, DIC established the position of diversity officer in each of its business units to create a framework for initiatives in each business unit that reflects the actual situation on the ground. The individual in charge of diversity for the Group and the business unit diversity officers meet periodically to exchange information, among others, with the aim of raising the standard of initiatives implemented Companywide.

Transforming Employee Mindsets and the DIC Corporate Culture

In October 2016, DIC held the Women in DIC Forum, which addressed the issue of career opportunities for female employees and welcomed female executives from multiple DIC Group companies, at its corporate headquarters in Tokyo. Approximately 800 employees—split evenly between female employees and male management-level employees—participated in the forum. In the first session, four female executives from overseas Group companies gave presentations, while in the second session three female employees in senior positions in Japan joined the four speakers in a panel discussion on pursing a rewarding career as a way to enrich one's life. The discussion was broadcast to 14 Group sites across Japan.

As part of its efforts to change the mindsets of management-level employees, in May 2017 DIC held a conference for approximately 300 line supervisors on the meaning of diversity. The following month, the Company held a roundtable discussion that included an outside director who is board chair of an NPO and as such is well versed in diversity management.

In May 2018, DIC staged a diversity-related event for executives and managers overseeing female employees at its corporate headquarters in Tokyo. The event, which was attended by approximately 300 individuals from 16 sites across Japan, was divided into two parts. The first was a lecture titled "Diversity Is a Strategy," which was given by Yosuke Yagi, CEO of People First, Ltd., whose career includes stints as a human resources manager for General Electric Japan Ltd. and executive officer and executive vice president of LIXIL Group Corporation. Mr. Yagi's lecture touched on a variety of points, including tips for bringing out the best from people and organizations that he actually put into practice at LIXIL and about unconscious biases that impede the careers of female employees. The second part of the event was a discussion between Mr. Yagi and DIC president and CEO Kaoru Ino titled "Diversity at DIC: The Next Challenge," which was moderated by Yukio Ishizuka of Nikkei Inc. In addition to an exchange of views on the results of DIC's diversity awareness survey, the participants looked at the direction of efforts to promote diversity at DIC by examining employees' understanding and gaps in awareness between female and male employees, and introducing case studies from other companies.

Women in DIC Forum

Diversity lecture (2018)

People First CEO Yosuke Yagi

TOPIC

President and CEO Kaoru Ino and W-LDP Participants Hold Lunchtime Roundtable Discussion

In May 2019, DIC president and CEO Kaoru Ino participated in DIC's Woman Leader Development Program (W-LDP) lunchtime roundtable discussion. In addition to a presentation by Mr. Ino on DIC's efforts to promote diversity, the event featured a discussion that covered a variety of matters, including modifying work environments to accommodate aging societies with declining birthrates and an increasing number of two-income households, approaches to helping the next generation of employees balance childcare and their career, and what is lacking in DIC's current efforts to promote diversity. Participants reacted positively, commenting that the event had been a valuable opportunity to learn what senior management is thinking and to gain a proper understanding of the Company's diversity promotion program.

Lunchtime roundtable discussion

Initiatives Aimed at Expanding Career Opportunities for Women

2007 – 2017	Transform corporate culture and the mindset of management-level employees	●Message from the president ●Seminars to promote awareness ●Identical uniforms for male and female employees ●Training for employees in administrative positions
	Encourage the drive and determination of female employees	●Seminars to promote awareness among female employees ●Introduction of role models
	Expand opportunities for female employees	●Assignment of female employees to production and sales positions ●Inclusion of female employees in regular system of transfers, reassignments and job rotations ●Increase in number of women hired
	Establish systems to support a healthy work–life balance for female employees and encourage the use thereof	●Establishment of systems to support a healthy work–life balance ●Publication of the Libra work–life balance support guide and introduction of e-learning program for employees taking leave ●Introduction of system allowing management-level employees to limit the locations to which they will accept transfers
2018 and beyond	Further expand support to measures and promote awareness	●Woman in DIC Forum ●Diversity seminar for directors and line supervisors ●Executive-led lunch seminars for female employees ●Roundtable discussion for directors ●Awareness seminars for female employees ●Career support seminars for female employees ●Woman Leader Development Program (W-LDP) ●Launch of telework system ●Joint leadership development program with companies in other sectors ●Expansion of eligibility for flextime system

DIC Recognized as Nadeshiko Brand for Fiscal Year 2019, Earning Selection for the Second Consecutive Year

In recognition of its superb achievements in expanding career opportunities for women, DIC was selected as a Nadeshiko Brand for fiscal year 2019, the second time it was honored under this program, which is sponsored by Japan's Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange (TSE). The Nadeshiko Brand initiative aims to introduce TSE-listed companies judged to be outstanding in terms of efforts to empower women in the workplace as attractive stocks for investors who emphasize medium- to long-term improvements in corporate value with the objective of accelerating such efforts. The initiative assesses approximately 3,600 companies across all TSE sections based on what they do to promote diversity-conscious management and their disclosure of related information and select Nadeshiko brands in each industry category.

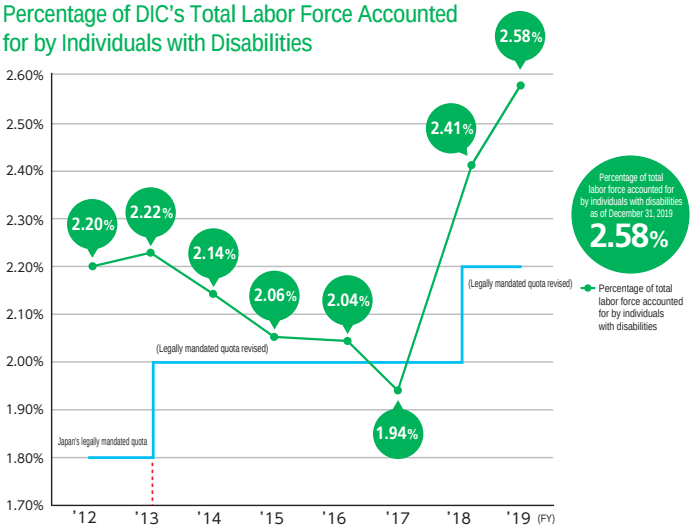
With the goal of being an organization that enables a broad range of individuals to reach their full potential, DIC has positioned expanding opportunities for its female employees as the first step in its drive to promote diversity. Since fiscal year 2015, the Company has actively promoted a variety of initiatives in line with four key themes: Stimulate an appropriate employee mindset and corporate culture, support career-building, promote work style reforms and communicate publicly. Initiatives in fiscal year 2019 fell into three categories: Measures to enhance management's commitment to career advancement for female employees, notably holding diversity roundtable discussions for executives for the third consecutive year; front-line efforts, namely, appointing department-specific diversity officers, promoting networking efforts for female employees at sites across Japan and conducting web seminars; and the creation of work environments conducive to flexible work styles and continuous service for female employees, including making it possible to take paid vacation time in hourly increments and introducing leave for employees to accompany spouses overseas. These initiatives were cited as reasons for DIC's selection as a Nadeshiko Brand for fiscal year 2019, as were its adoption of flextime and telework systems and mandatory "no overtime days."

3 Advancing the Employment of Individuals with Disabilities

DIC is committed to creating inclusive work environments that help individuals with disabilities enjoy active and fulfilling careers. One initiative, which began in fiscal year 2015, is an internship program, organized in collaboration with a special needs school, that is designed to transition into full-time employment. In fiscal year 2019, one program participant was offered a full-time clerical position, with three expected to be offered positions at corporate headquarters in fiscal year 2020.

As of December 31, 2019, individuals with disabilities accounted for 2.58% of DIC's total labor force, exceeding Japan's legally mandated quota of 2.2%. Going forward, DIC will continue working with the Japanese government's Hello Work public employment security offices, as well as special needs schools and other organizations, to promote the hiring of individuals with disabilities, and will take further steps to enhance work environments and increase workplace accessibility.

Percentage of DIC's Total Labor Force Accounted for by Individuals with Disabilities



VOICE Words of gratitude from colleagues are a great encouragement and give me a sense of satisfaction.

I joined DIC Estate on April 3, 2017, and was assigned to the mail room, which is part of the Business Support Department. My responsibilities include collecting and delivering mail, coordinating courier services and maintaining employee-use tea dispensers. Each requires paying close attention to key priorities. When collecting and delivering interoffice and regular mail, we need to ensure that each item is delivered to the appropriate department not only correctly but also safely. In coordinating courier services, we must ensure packages can be carried safely by keeping a close eye on weight and number. When maintaining tea dispensers, it is important not to miss water droplets and dirt so that the machines are always pristine.

Words of gratitude from colleagues when I am at work are a great encouragement and give me a sense of satisfaction in doing a good job. My goal is to be like the mail room team leaders, that is, someone who can discern what needs to be done and act swiftly and who is thoughtful and considerate of everyone around them.

Business Support Department, DIC Estate Co., Ltd. **Ryo Nakagawa**

4 Reemployment after Retirement and Support for Retirement Planning

DIC has deployed a system that facilitates the reemployment until age 65 of individuals reaching retirement age (60) and wishing to remain with the organization. With available options including full-time work, short-time work and work sharing, this system enables reemployed individuals to maximize their experience and make full use of their accumulated technological capabilities and specialized expertise, thereby contributing to sustainable growth for the DIC Group and the training of subsequent generations.

DIC also offers classes for employees within a year of retirement that helps them prepare for life after their careers. These classes provide assistance with retirement planning and education regarding the national pension system, as well as offer retirement lifestyle simulations.

Number of Reemployed Individuals

	Fiscal year 2016	Fiscal year 2017	Fiscal year 2018	Fiscal year 2018	Fiscal year 2019
Number of retirees (A)	126	108	69	89	96
Individuals seeking reemployment	104	92	55	74	81
Number of individuals reemployed (B)	97	91	55	70	77
Reemployment rate (B) / (A)	77.0%	84.3%	79.7%	78.7%	80.2%

Work Style Reform Initiatives that Support a Healthy Work–Life Balance

DIC views a healthy work–life balance as essential to both self-realization and sustainable corporate growth. Accordingly, from the standpoint of corporate health management*, the Company continues to expand systems intended to facilitate such a balance.

In response to falling birthrates and lengthening life spans, the Japanese government has launched a drive to promote work style reforms, in line with its belief that positive workplaces lead to higher productivity, with the aim of helping individuals balance the demands of a career and childcare or nursing care and improving productivity. Since well before this, DIC has promoted initiatives aimed at enabling all employees to realize both a satisfying work life and a fulfilling life outside work.

* An approach to employee health management that emphasizes a corporate management perspective and the implementation of strategic measures.

1 Enhancing Programs that Help Employees Balance the Demands of Work and Home

In 1986, DIC blazed a trail for chemicals manufacturers in Japan by implementing a childcare leave program. Since establishing a program to support employees in balancing the demands of a career and childcare in 2007, the Company has continued promoting measures that make it easier for employees to make use thereof. In fiscal year 2008, DIC acquired the Kurumin Mark, which recognizes companies that promote initiatives designed to assist employees in raising children. The Company has also deployed a system that gives regular employees the option to accept or refuse transfers requiring relocation and, since 2012, a system that allows management-level employees to limit the locations to which they will accept transfers, making it easier for individuals who are unable to accept transfers that involve relocation because of childbirth, childcare, nursing care or other responsibilities.

Kurumin Mark Certification

In 2008, DIC was accorded the Kurumin Mark, which recognizes companies that actively promote initiatives designed to assist with child rearing, by Japan's Ministry of Health, Labour and Welfare.

Promoting Measures to Retain Employees with Nursing Care Responsibilities

In Japan, one of the social ramifications of falling birthrates and lengthening life spans is an increase in the number of people requiring nursing care, as a result of which more people find themselves having to leave their jobs to take care of family members.

Steps taken by the government to help address these issues include revising the Child Care and Family Care Law in 2016 to make it easier for individuals to take leave or time off and increasing benefits for temporary absences from work. To encourage use and promote knowledge of its related leave programs, in June 2017 DIC began distributing the *Childcare and Nursing Care Handbook*. DIC has also revised the rules of these programs, including making it possible to break up nursing care leave, as well as to extend the period over which they may shorten their workday from one year to three years, thereby making them easier for employees to use.

Major Expansion of the Flextime System

To facilitate flexible work styles, in fiscal year 2017 DIC resolved to significantly expand its flextime system and in April 2018 made the system applicable to all areas of operations other than production floors. The system makes it possible for employees to determine the time at which they end their working day to the extent that it does not hinder business efficiency, as well as to simultaneously make use of telework, with the goal of promoting the independent execution of duties and enhancing self-management capabilities.

Promoting Telework

In fiscal year 2016, DIC began exploring the potential of telework, a flexible work arrangement that enables employees to work at home or another remote location using information and communications technologies (ICT), thus eliminating the time and location constraints of traditional work arrangements. The following year, employees and management conducted extensive talks to iron out details. After analyzing and evaluating the results of a trial involving 57 employees, in January 2018 the Company launched the DIC Telework System, which is available to all employees regardless of position of workplace. As of December 2019, approximately 1,000 employees had registered to use the system.

In response to the emergence of COVID-19 in January 2020, DIC implemented telework in principal for the entire DIC Group to help prevent the further spread of the virus. When a state of emergency was declared in Japan in April, more than 90% of office workers, centering on those in sales and management-related departments, were able to continue performing their jobs without commuting to their normal place of work.

Looking ahead, DIC will continue to create systems that make it possible for employees to choose a work style that suits the type of work they do, as well as their own personal needs, with the aim of helping encourage a healthy work–life balance. The Company will also further promote the independent execution of duties to reinforce self-management capabilities, thereby accelerating efforts to galvanize employees and encouraging them to give full play to their creativity.

Establishment of a System to Help Employees Balance Medical Treatment and Work

In January 2020, DIC introduced a system to support employees undergoing medical treatment who wish to continue working. To guarantee this system functions effectively, the Company formulated guidelines to ensure employees making use of this system receive the ongoing support necessary to balance medical treatment and work through job-related accommodations and considerations.

Programs that Help Employees Balance the Demands of Work and Home

Childcare Leave Program	The maximum length of leave is until the child reaches the age of 2 years and 6 months, which is one year longer than the legally mandated leave period.
Leave to Assist with Parenting Program	Male employees can take five days' paid leave during the eight weeks following their child's birth to assist with parenting.
Childcare While Working Program	Employees can shorten their workday by up to three hours until the end of a child's third year of elementary school. Employees can also stagger their working hours to accommodate childcare schedules.
Economic support system	This system enables employees on unpaid childcare leave to borrow a portion of their bonuses in advance to pay for, among others, fertility treatment or infant care facility fees.
Return to previous (or equivalent) position	Employees returning from childcare leave must be allowed to return to their previous position or to a position equivalent thereto.
Information sharing to promote program participation	DIC's views on support for work and childcare balance, as well as a guide to its various available systems and how to make use of them, are posted on the Company's website and intranet.
Nursing care leave system	Employees can take such leave for up to one year, exceeding the statutory maximum of 93 days. As of January 2018, employees may also break up leave without restriction.
Nursing Care While Working Program	Employees not wishing to take leave while providing nursing care can shorten their workday by up to two hours for a maximum period of three years. As of January 2018, employees may also request to be excused from doing overtime without restriction.
Leave to accompany spouse overseas	Employees can take leave in the form of a temporary overseas assignment to accompany a spouse who is scheduled to be abroad for more than one year. The period of the leave must be more than one year, with a maximum length of three years. Employees may make use of this system once during their careers.
Relocation limitation system	Management-level employees may limit the locations to which they will accept transfers that involve relocating because of childbirth, childcare, nursing care or other responsibilities.
System to help employees balance medical treatment and work	Employees undergoing medical treatment who wish to keep working can access necessary support in the form of job-related accommodations and considerations.

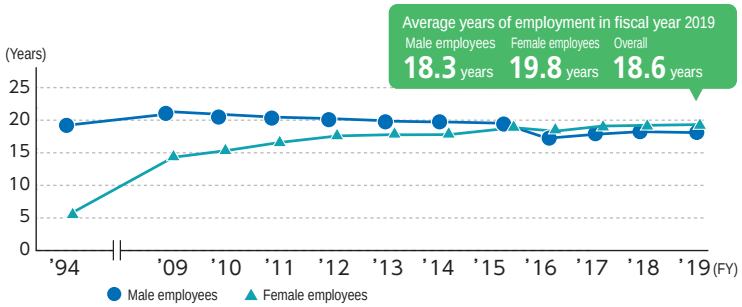
Use of the Childcare Leave and Leave to Assist with Parenting Programs

Owing to the introduction of various programs to help employees in balancing the demands of work and home and the creation of an environment that encourages employees to take advantage of such thereof, the percentage of DIC employees who return to work after making use of the Childcare Leave Program is currently 100%. In addition, the number of individuals using the Leave to Assist with Parenting Program, which enables male employees to take time off in the weeks after the birth of a child to assist their partner, has risen.

Thanks to efforts to enhance these systems, the average years of employment for female employees has increased and continues to exceed the average for male employees.

	Fiscal year 2014	Fiscal year 2015	Fiscal year 2016	Fiscal year 2017	Fiscal year 2018	Fiscal year 2019
Number of employees using the Childcare Leave Program	28	29	35	35	21	28
Number of employees using the Leave to Assist with Parenting Program	63	64	62	77	81	86

Average Years of Employment (Including Individuals Seconded to Group Companies)



2 Reducing Extreme Overwork and Encouraging Employees to Take Annual Paid Leave

DIC has deployed an electronic system to manage on-site hours, working hours and approved overtime hours. As a measure to prevent extreme overwork, if an employee appears likely to exceed the agreed-upon overtime limit (70 hours/month), his or her supervisor and the senior executive in charge are automatically notified. The supervisor is required to submit a report outlining the employee's work responsibilities and factors behind the excessive hours and presenting specific measures to ameliorate the situation, which is also shared with the DIC Employees' Union, a process designed to curb and reduce excessively long working hours.

In addition, the Company has instituted a mandatory Groupwide "no overtime day" every Wednesday and on payday, which in Japan is once a month at month-end, in a bid to encourage efficient work practices and further bolster productivity. (Sites can change these days as appropriate.) Employees are also encouraged to take annual paid leave, with sites recommending appropriate timing for leave and having employees plan dates for such leave.

Average Monthly Overtime Hours Worked and Annual Paid Leave Taken

	Fiscal year 2014	Fiscal year 2015	Fiscal year 2016	Fiscal year 2017	Fiscal year 2018	Fiscal year 2019
Average monthly overtime hours worked per employee	12.2 hours	12.1 hours	12.3 hours	12.2 hours	12.0 hours	10.8 hours
Average annual paid leave granted	19.1 days	18.8 days	19.1 days	18.8 days	18.6 days	18.7 days
Average annual paid leave used	11.0 days	11.2 days	12.0 days	12.0 days	12.5 days	13.3 days
Usage rate for annual paid leave	57.6%	59.6%	62.8%	63.8%	67.2%	70.9%

Human Resources Infrastructure Reform

With the rapid expansion of its global operations, DIC recognizes that securing and fostering human resources around the world and creating an environment that encourages cross-border career advancement and mobility is essential to increasing corporate value. To these ends, since fiscal year 2015 the Company has sought to develop harmonized promotion, personnel evaluation and remuneration systems, the cornerstone of the global human resources management framework for overseas DIC Group companies under its jurisdiction. In January 2018, DIC and DIC Graphics unified qualification standards for its approximately 1,300 management-level (i.e., manager and above) employees, replacing traditional ability-based standards with role-based standards. As a consequence, consistent duty- and role-based standards are now used for the majority of such employees in the Americas, Europe, the Asia–Pacific region, the PRC and Japan.

The Group has also integrated its evaluation systems for Group company presidents and other executives in Japan and overseas with the goal of encouraging management approaches that are optimal for the Group as a whole from both a medium- and a long-term perspective. In addition, the Group has integrated its global personnel policies to ensure that remuneration is in keeping with local market levels and individual job responsibilities.

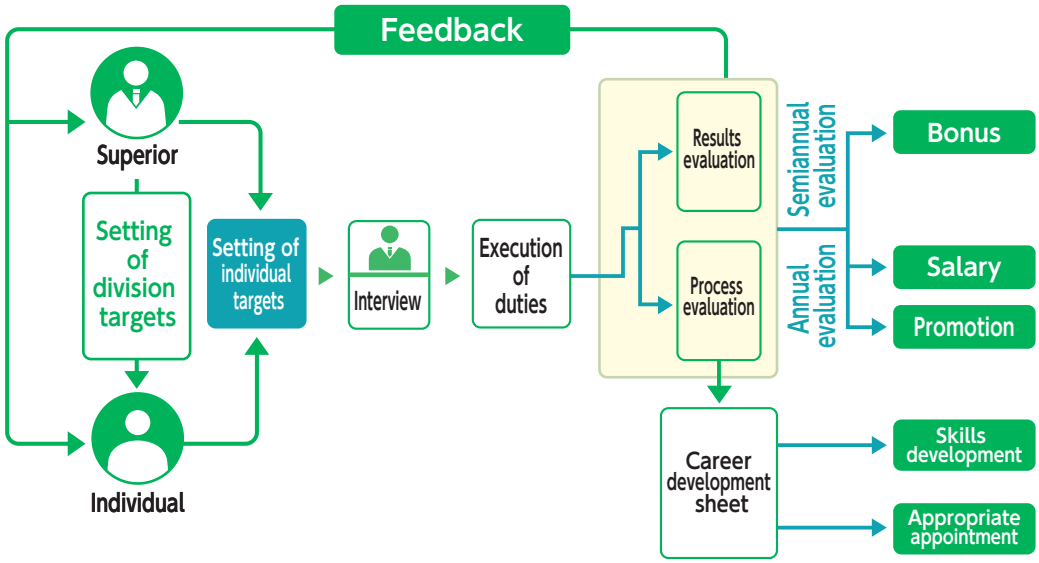
Under DIC111, in fiscal year 2019 the Group began advancing efforts to consolidate employee qualification systems worldwide, unify assessment standards and formats for management-level employees, and develop an IT system to facilitate the construction of a global human resources platform. Through such efforts, the Company will strive to realize consistent Groupwide global human resources and personnel management systems.

Securing and Fostering Human Resources

1 Ensuring Fair and Consistent Treatment

To ensure that the efforts and achievements of all employees are reflected appropriately in their treatment, DIC has consolidated its numerous employee qualification systems irrespective of job classification and educational credentials. The selection of employees to recommend for qualification is done through screening based on objective standards, thereby guaranteeing equal opportunities for promotion to all motivated, capable employees.

Remuneration and personnel evaluation systems designed to enhance job satisfaction and ensure that individual employees' abilities and achievements are assessed appropriately and reflected in a timely manner. Of note, the Company has introduced MBO—a goal-setting management tool that promotes both corporate growth and employee development—into its personnel evaluation system. Results of individual evaluations are fed back in full to employees, including reasoning behind determination, in a transparent process that ensures employees are largely satisfied with evaluation results.



2 Establishment of the Next Management Selection Process

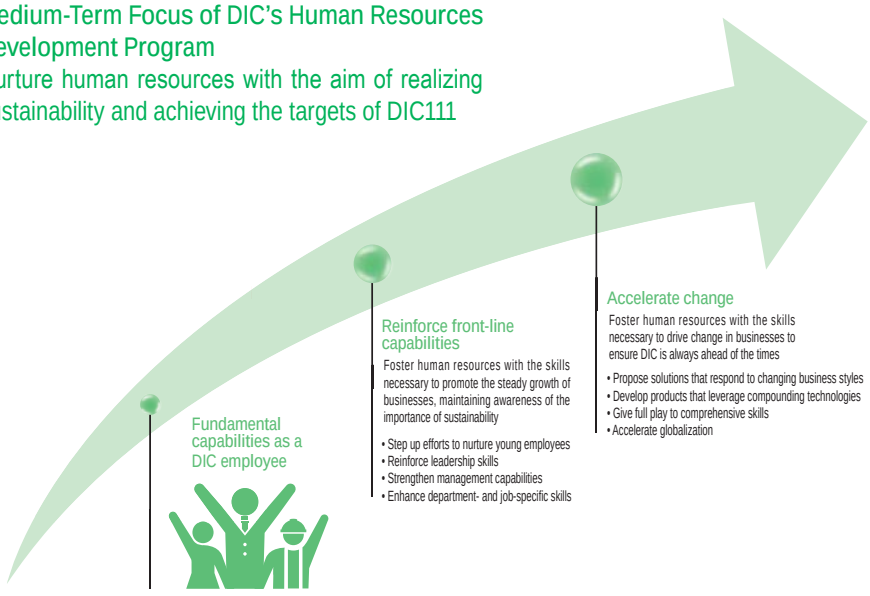
In line with a strategy outlined in DIC111 to establish a process for selecting the next management team, in fiscal year 2018 the Company embarked on a trial aimed at realizing the mechanism for such a system. The Human Resources Strategy Department, created in January 2019, works to clarify qualifications for key positions, as well as to explore processes for selecting and monitoring promising human resources and for the Talent Management Committee to match candidates to positions.

3 Fostering Human Resources to Reinforce Front-Line Capabilities and Accelerate Change

Having recognized fortifying Group organizational capabilities and enhancing the skills of its people as important challenges, DIC has declared the medium-term focus of its human resources development program as being to nurture human resources capable of reinforcing front-line capabilities and accelerating change.

This program, which is divided into six categories, is based on curricula that emphasize a systematic approach to helping each employee acquire critical skills. Since fiscal year 2016, training has emphasized the concepts of “global” and “diversity,” with areas emphasized including training to improve English-language skills and Japanese-language training for non-native speakers.

Medium-Term Focus of DIC’s Human Resources Development Program
Nurture human resources with the aim of realizing sustainability and achieving the targets of DIC111



DIC Training Programs

Management-level training	Promote globalization, strengthen/foster the ability of management-level employees to deal with risks	DIC Management School, media training
Global human resources development	Systematic efforts to foster managers and employees of overseas Group companies, enhance the skills of Japanese employees assigned to overseas posts, improve the Japanese-language abilities of employees who are non–native speakers	Preparatory training for employees assigned to overseas posts, Next Global Human Resources Development Program, Target Global Program (training to enhance English-language communication skills), Effective E-Mailing (training in how to compose e-mails in English), Japanese-language training for employees who are non–native speakers, Area studies
Level-specific training	Education and training to equip employees with the skills to fulfill responsibilities at each level	Qualification-specific training (J, M, S, senior); training tailored to different management ranks
Department- and **job-specific training**	Education and training to enhance capabilities required by different departments and jobs	Human resources development programs tailored to production departments (Kaizen Skill Improvement Training Program, others), technical departments (training to support the ability to propose R&D themes, others), sales departments (training to cultivate proposal development capabilities, others) and support departments ("why-why analysis" training, others)
On-the-job training	Hands-on training in the workplace to foster employees and cultivate skills	Workplace-specific on-the-job training, domestic technical department trainee program, Overseas Trainee Program, Global Capability Development (GCD) Program
Self-development	Support for employees seeking to enhance their skills	Correspondence courses, e-learning courses, in-house seminar courses, Skype-based English conversation courses, preparatory courses for the TOEIC Institutional Program (IP) Test

Training to Enhance Proposal Development Capabilities

Since fiscal year 2013, DIC has offered a series of courses that focus on cultivating prowess in the area of proposal development, in line with its goal of reinforcing front-line capabilities. In the advanced course, which primarily targets senior manager–level employees, groups of five or six individuals from sales and technical departments form cross-department project teams, which select practical customer-centered themes, and work to formulate solutions to pertinent hypothetical issues and further hone their ability to prepare and present proposals. The course, which lasts nine months, encompasses approaches to development of innovative proposal themes and angles, problem solving and persuasive presentations, among others, with professional business consultants offering advice and guidance at each stage.

Course work is in addition to regular responsibilities, so participants have a lot on their plates, but they find that they are able to apply newly acquired skills almost immediately, greatly improving front-line capabilities. Participants have also used their selected themes to make proposals to actual customers, many of which have reached the verification stage.

Global Talent Development

DIC has positioned the fostering of global human resources as a key theme of DIC111. Accordingly, the Company is taking steps to, among others, define the level of and set requirements for global human resources, as well as to systematize training (English-language ability, competency and work experience) programs.

Offering the Overseas Trainee and GCD Programs

The goal of DIC's Overseas Trainee Program is to foster global human resources by dispatching selected employees from Japan to work at a DIC Group company in another country for a specified period, thereby helping them develop a more international mindset, improve their skills and build networks with their colleagues overseas. As of the end of fiscal year 2019, nine individuals were participating in this program.

Under the GCD Program, employees from overseas Group companies are sent to work at DIC Group companies in Japan. Positioned as part of the Group's effort to foster global human resources and promote diversity, this program gives future business leaders a chance to learn new skills and Japanese business techniques and to network with Group colleagues, as well as to deepen their understanding of Japan's culture and commercial practices. This program also brings domestic employees in contact with other cultures and provides an opportunity for them to polish their English-language skills and acquire a global perspective. In fiscal year 2019, Group companies in three countries sent nine GCD Program participants to spend between three months and one year at sites in Japan. Through the Overseas Trainee and GCD programs, DIC seeks to advance the globalization of the overall DIC Group, as well as to encourage smooth cooperation between Group companies in Japan and their counterparts overseas.

Overseas Trainee Program Destination and Number of Employees Dispatched in Fiscal Year 2019

United States	2
Malaysia	1
Indonesia	2
Austria	1
PRC	2
Vietnam	1

Country of Origin and Number of Participants in the GCD Program in Fiscal Year 2019

Indonesia	1
PRC	6
Singapore	2

Encouraging Understanding of Islamic Culture

Fostering an understanding of religion-based differences in everyday lifestyles is an important aspect of DIC's efforts to promote diversity. In February 2017, prior to the arrival of GCD Program participants from Indonesia, managers and assistant managers at the Kashima Plant, in Ibaraki Prefecture, attended a lecture designed to give them a basic knowledge of Islamic culture, during which they learned about practices that have developed around the religion of Islam, which is the religion of 80% of Indonesians, including praying five times a day, eating *halal* food (food that conforms with Islamic dietary laws) and fasting during the month of Ramadan. The lecture helped the plant make necessary preparations for its visitors, including setting aside a space for prayer during the day and giving consideration to working hours, food choices and other factors after they arrived. Despite a certain amount of initial bewilderment on the part of both plant employees and program participants, earnest efforts to communicate helped enhance understanding of each other's cultures and customs. In March 2018, the two Indonesian employees completed their assignment and returned home. Information on the Indonesian employees' experiences at the Kashima Plant were shared with other Group production facilities in Japan, helping ensure a welcoming environment for new recruits from Malaysia who joined DIC in fiscal year 2018.

Next Global Human Resources Development Program

Since fiscal year 2017, DIC has offered the Next Global Human Resources Development Program for mid-tier employees designed to enhance global business skills. Each year, 20 individuals in their 30s and 40s are selected to take part in the program, which includes language classes taught by native English speakers that focus on improving presentation, negotiation, debate and other skills. The Company also provides individual training designed to improve English-language capabilities, including one-on-one Skype-based training focused on improving conversational skills and TED talk* listening and dictation classes. At the conclusion of the 11-month program, in April, participants divide into six teams, each of which is tasked with discussing their vision for DIC 10 years in the future and giving a presentation on the topic in English to the president and executive officers, as well as to their own boss and colleagues. All individuals who complete the program receive a certificate. DIC looks forward to continuing to offer this program, which it views as crucial to fostering the Company's next generation of executives.

* TED (Technology, Entertainment, Design) talks are conferences conducted by U.S. media NPO TED, LLC, that are posted online for free distribution. The talks address a wide range of topics and are given by front-line leaders in various fields invited to serve as speakers.

Next Global Human Resources Development Program

Caring for Mental and Physical Health

The DIC Group handles a broad range of chemicals, including specified chemical substances and organic solvents. To safeguard the health of employees handling these chemicals, the Group regularly conducts health checkups and environmental measurements, and modifies and improves working conditions as needed. Industrial physicians, health supervisors and other experts inspect workplaces to manage employee health.

Promoting Mental Health Care

DIC takes steps to create environments in which employees feel physically and mentally supported and works to ensure that its labor management practices comply with relevant laws. The Company places a high priority on caring for psychological and emotional well-being and has established a comprehensive mental health program, highlights of which include engaging an in-house occupational psychologist, promoting initiatives aimed at warding off mental health problems and extending support to ensure a smooth return to work for employees taking leave. In particular, access to counseling provided by an occupational psychologist has had a considerably positive impact in terms of ensuring employees get treatment and are able to return to work as quickly as possible.

DIC has also offered voluntary stress checks since fiscal year 2013 and promotes active, systematic efforts with the aim of preventing mental health disorders in accordance with related legislation passed in Japan in fiscal year 2016. In fiscal year 2017, DIC began conducting seminars led by an in-house physician at sites that have scored above a certain level in voluntary stress checks and provided counseling aimed at helping employees improve communications with supervisors, colleagues and family members. The Company will promote the ongoing, systematic implementation of these initiatives.

Mental Health Initiatives

- Guidance from an in-house occupational psychologist (engaged as an occupational physician since fiscal year 2012)
- Internal and external help desks
- Line-care training* for supervisors
- Mental health self-checks as a part of training for new employees
- Distribution of *Kokoro no Kenko* (“Psychological Health”) self-check handbook to all employees
- Flexible process to support employees returning to work after taking leave

* Line-care training: Training for supervisors to help them recognize promptly when an employee is unwell and respond appropriately by, for example, recommending guidance or counseling or making workplace improvements.

Kokoro no Kenko
self-check handbook

TOPIC

DIC Earns White 500 Certification

DIC earned certification in the large enterprise category of the 2020 Health & Productivity Outstanding Entities Recognition Program (dubbed the “White 500”), which is organized by METI and Nippon Kenko Kaigi*1. This is the third consecutive year the Company has been certified under this program, which seeks to shine a spotlight on outstanding enterprises working to advance health and productivity management, creating an environment that ensures such enterprises gain enhanced public recognition—i.e., from employees, jobseekers, related companies and financial institutions—as organizations that approach employee health and productivity from a management perspective and promote strategic initiatives.

2019 健康経営優良法人 Health and productivity ホワイト500

In addition to looking at whether enterprises stipulate health management in their corporate mission and disclose pertinent information, the White 500 program assesses performance based on three criteria, namely, grasp of employee health-related issues and consideration of actions, establishment of a foundation for the practical implementation of health and productivity management measures and work engagement*2, and promotion of efforts to help ensure the physical and mental health of employees. In each of the three years it has been certified, DIC received scores significantly above the industry average for each of these criteria, finishing in the top 20% with a five-star rating.

DIC will continue to implement measures designed to promote physical and mental health as a part of its commitment to creating work environments that empower employees to reach their full potential.

*1 Nippon Kenko Kaigi (“Japan Health Council”) is an organization that liaises with private companies, with the full backing of the government, to put effective measures in place to prolong the healthy life expectancy of citizens and to ensure sound medical services in Japan.
*2 A concept used to measure employees’ mental health, work engagement is described as a positive, fulfilling work-related state of mind that is characterized by vigor, dedication and absorption. “Vigor” is taking pride and experiencing a sense of satisfaction in one’s work, “dedication” is feeling strongly involved in and focused on one’s work and “absorption” is being actively engrossed in one’s work.

Initiatives to Support Employee Health

DIC has always analyzed the results of employees’ annual physicals and provided assistance to employees for whom lifestyle improvements have been recommended by providing introductions to hospitals and clinics. The Company has also sought to contribute to good health for employees by encouraging the use Spirulina—a noted superfood* that is manufactured by a DIC Group company—as an ingredient in cooking.

In fiscal year 2016, DIC’s Healthcare Office and the company responsible for the operation of the corporate headquarters’ employee cafeteria collaborated to develop a new healthy cafeteria menu. The new menu, dubbed “DIC Irodori Care+” (“DIC Colorful Care+”) was launched in February 2017, beginning with the cafeteria at the Company’s corporate headquarters in Tokyo, with distinctive signage used to promote recognition and a clear explanation provided of the benefits of menu selections, including reduced calories and low sodium content, to encourage use.

DIC will continue implementing measures designed to help ensure the physical and mental health of its employees as part of its commitment to creating a work environment in which all employees can fully exercise their abilities.

* The term “superfood” is used to describe standard foods with an excellent balance of nutrients that provide health benefits and foods containing specific nutrients and/or ingredients good for human health.

DIC Irodori Care+

A new healthy cafeteria menu selection

DIC Group Site Employee Cafeterias Earn Smart Meal Certification

The employee cafeterias at DIC's corporate headquarters, Osaka Branch Office and Sakai Plant earned certification in the "Meal Program" category of the fiscal year 2018 Smart Meal Program, earning the highest possible rating of three stars. The Smart Meal Program, which is administered by a consortium of 13 academic associations, including the Japanese Society of Nutrition and Dietetics and the Japanese Society of Nutrition and Food Service Management, was established to recognize restaurants, corporate facilities and other establishments that promote the continuous provision of nutritionally balanced menu options—i.e., "smart meals"—in healthy eating environments.

Under the Smart Meal Program, restaurants, corporate sites and other establishments that satisfy essential requirements, which include a menu that meets Smart Meal standards and the creation of an appropriate management system and easy-to-understand efforts to communicate benefits, and 10 or more optional conditions related to the promotion of healthy diets and eating environments, earn certification with a three-star rating.

Smart Meal Program certification is divided into two classes: "Wholesome" (450–650 kcal) and "Hearty" (650–850 kcal). DIC's corporate headquarters was certified in both classifications, while the Osaka Branch Office and the Sakai Plant were certified in the "Wholesome" class. At corporate headquarters, these efforts focus on developing menus that take into account the results of annual employee health checkups. At the Osaka Branch Office, the focus is on promoting health consciousness by providing clear, age-specific information on energy consumption, while at the Sakai Plant the emphasis is on creating menus that reflect the results of employee polls and make use of regional ingredients.

Smart Meal
スマートミール

TOPIC

DIC Earns Tokyo Metropolitan Governor's Award for Nutritional Improvement and Specific Meal Service Facilities

In fiscal year 2019, DIC was pleased to accept a 2019 Tokyo Metropolitan Governor's Award for Nutritional Improvement and Specific Meal Service Facilities from governor Yuriko Koike. Each year, this program evaluates the implementation of dietary guidelines and application thereof to menu items, as well as the status of efforts to enhance nutritional management, at specified meal service facilities across Tokyo and presents governor's awards (certificates of appreciation) to those that have contributed to improved nutrition. In most years, approximately 10 such facilities are so recognized, with hospitals and care homes dominating. Business establishments received none of the 11 awards conferred in fiscal year 2018, but accounted for three of the 10 given in fiscal year 2019. DIC's award reflected high marks given the DIC Irodori Care+ ("DIC Colorful Care+") menu offered at the Irodori Café on the 12th floor of the Company's corporate headquarters, and the contribution of healthy menu items such as the nutrient-rich "Supplement Bowl" and "Colorful Deli®," developed with attention to the color of ingredients, which prompted the Chuo-ku public health department to recommend the café for an award.

Comment I look forward to continuing to devise distinctively DIC menu options and provide meals that support employee health.

The employee cafeteria at DIC's corporate headquarters offers Smart Meal–standard, DIC Irodori Care+, Supplement Bowl and other healthy, nutrient-rich menu options. Our efforts to contribute to employee health also include making cafeteria meals more enjoyable by introducing new choices and organizing a variety of events. In October 2019, for example, we held a blood vessel age calculation clinic, which attracted quite a few participants. This provided an opportunity for employees to think about the importance of not only diet but also awareness of one's own body.

I look forward to continuing to support employee health by devising attractive menu options and organizing events, as well as by promoting new initiatives.

Registered dietitian, Aim Services Co., Ltd. **Makoto Sanpei**

Sustainable Procurement

Promoting Socially Responsible Procurement Across the Supply Chain

SDGs Goal 12

Goals and Achievements of Major Initiatives

Evaluations are based on self-evaluations of current progress. Key: ★★★ = Excellent; ★★ = Satisfactory; ★ = Still needs work

Objective of initiatives	Goals for fiscal year 2019	Achievements in fiscal year 2019	Evaluation	Goals for fiscal year 2020
Promote sustainable procurement.	For Greater China–based suppliers of materials (including primary raw materials) for which the DIC Group depends heavily on suppliers in the PRC, reduce procurement-related risks by closely inspecting sustainability efforts, including responses to environmental regulations, and implementing countermeasures to address issues.	The sustainability efforts—including responses to environmental regulations—of 21 suppliers of key materials based in the PRC were inspected and measures to reduce risks were formulated that included expanding procurement from suppliers in other countries and increasing inventories.	★★	Reduce procurement-related risks by closely inspecting the sustainability efforts—including responses to environmental regulations—of suppliers of key materials for which the DIC Group is heavily dependent on the PRC and India.
	Reduce procurement-related risks by seeking out supply sources other than Greater China from the perspective of ESG, among others, to diversify supply sources.	Various options were explored with the aim of ensuring stable supplies. These included procuring from Japanese suppliers and cultivating new suppliers in India.	★★	Continue to seek out new suppliers and conduct on-site inquiries using the newly revised *DIC Sustainability Procurement Guidebook.*

Basic Approach to Sustainable Procurement

Having recognized the increasing importance of addressing global issues related to human rights, climate change and water risk, among others, as social imperatives, the DIC Group promotes socially responsible procurement practices. To ensure its extended supply chain functions in a socially responsible manner, in 2008 the DIC Group established the DIC Group Universal Purchasing Policy, based on which it later formulated purchasing management regulations, while in 2010 it developed the DIC Group CSR Procurement Guidelines, which clarify issues it expects suppliers to address (modified and renamed the DIC Group Sustainable Procurement Guidelines in February 2020). Using the policy and guidelines, the Group promotes sustainable procurement across its supply chain by ensuring that all suppliers implement improvements and initiatives necessary to ensure the sustainability of Group procurement. Group companies in Japan, the Americas and Europe, Greater China and the Asia–Pacific region collaborate to ensure sustainable procurement on a global basis.

For more information, please visit WEB **https://www.dic-global.com/en/csr/stakeholder/partner.html**

The DIC Group Universal Purchasing Policy

Guided by an action policy established to realize the DIC Group's basic sustainable procurement principles, the Purchasing Department adheres to the following guidelines in dealing with suppliers:

❶ Fair and transparent business practices

The DIC Group will implement fair and open purchasing activities with suppliers based on global perspectives, without the constraints of conventional commercial customs.

❷ An appropriate purchasing process and the building of relationships of mutual trust

The DIC Group, as a good partner for suppliers, will build long-lasting, mutually trusted relationships with suppliers and work together with them for mutual harmony and benefit, while complying with relevant regulations/social norms, domestic and overseas, and pursuing adequate quality and prices.

❸ Satisfying environmental/safety needs

The DIC Group will take responsibility as an exemplary corporate citizen for environmental affairs, occupational safety, human health and product quality, always take into account changes in society and implement environment-friendly purchasing activities.

❹ Challenge the creation of new value

In order to respond at a high level to a new value sought by society, the DIC Group will proactively challenge the creation of such value together with suppliers, with whom the same goal can be shared, and strive to grow together with them in a sustainable manner.

The DIC Group Sustainable Procurement Guidelines

1. Compliance with laws/social norms
2. Human rights and work environments
3. Safety and health
4. Consideration for the environment
5. Information security
6. Appropriate quality and safety and technological improvements
7. Stable supplies and flexible responses to change
8. Promotion of sustainability and sustainable procurement initiatives

Encouraging Sustainable Procurement

Based on the DIC Group Universal Purchasing Policy and incorporating requirements contained in guidebooks put out by external organizations, including the Japan Electronics and Information Technology Association (JEITA), in 2010 DIC formulated the DIC Group CSR Procurement Guidelines. To address increasingly urgent and evolving expectations regarding the sustainability of companies' procurement practices, these guidelines were recently modified and renamed the DIC Group Sustainable Procurement Guidelines. Notable revisions were made to sections on the formulation of a human rights policy, the management of chemical substances, minimization of impact on the environment, the efficient use of water resources and energy, the establishment of medium-term targets for reducing greenhouse gas emissions, and the formulation of BCPs to guarantee stable supplies. With the aim of compelling suppliers to observe these guidelines, the Group has prepared the *DIC Group Sustainable Procurement Guidebook* (previously titled the *DIC Group Supply-chain CSR Deployment Guidebook*), version 3 of which was published in February 2020.

The Group uses the guidebook to conduct assessments and on-site inquiries and promote awareness among suppliers worldwide. A separate mechanism exists for taking the results of sustainability assessments into account when selecting new suppliers. The Group has also formulated the DIC Group Green Procurement Guidelines, in line with which it obliges suppliers to ensure the stringent management of chemical substances. In addition, the Group entreats suppliers to develop and release products that have less of an impact on the environment, promote green procurement and lower the environmental impact of the materials they procure—and the packaging and transport, production and engineering thereof—by reducing resources and energy used, decreasing the weight and expanding the useful lifespan of, and reducing CO_2 emissions from such materials.

The DIC Group Green Procurement Guidelines

In line with the DIC Group Universal Purchasing Policy, DIC formulated the DIC Group Green Procurement Guidelines, which prohibit the procurement of materials containing hazardous substances in seven categories*1. The guidelines mandate the submission of a DIC Raw Materials Survey, an SDS and a chemSHERPA*2, as well as a DIC Group Green Procurement Guidelines Survey, when purchasing raw materials, thereby creating a system for eliminating substances of concern. Submission of a Conflict Minerals Survey is also required.

*1 (1) Substances the production of which is prohibited, as outlined in Article 55 of Japan's Industrial Health and Safety Act; (2) Substances designated as class 1 specified chemical substances in Japan's Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.; (3) Substances designated for monitoring under Japan's Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.; (4) Chemical substances the production of which is already prohibited, as detailed in Japan's Act on the Protection of the Ozone Layer Through the Control of Specified Substances and Other Measures (ozone-depleting substances listed in the Montreal Protocol); (5) Specified particulates denoted in Japan's Air Pollution Control Act; (6) Specified poisonous substances indicated in Japan's Poisonous and Deleterious Substances Control Act; and (7) Specified substances detailed in the Stockholm Convention on Persistent Organic Pollutants.

*2 chemSHERPA is a scheme designed to facilitate the accurate and efficient sharing of information on chemical substances in products across the entire supply chain. DIC began using chemSHERPA in late fiscal year 2017.

Advance Assessment of New Suppliers

In addition to requiring submission of the four mandatory documents listed above, as well as a Conflict Minerals Survey, DIC conducts comprehensive advance assessments of major new suppliers, including from a CSR perspective.

Supplier Self-Evaluations

In accordance with the *DIC Group Sustainable Procurement Guidebook*, the DIC Group asks suppliers to evaluate themselves by completing a questionnaire, which it uses to ascertain the status of suppliers' sustainable procurement practices. The questionnaire further segments the Group's eight procurement guidelines into 45 issues.

DIC Group Sustainable Procurement Guidebook (Version 3, published in February 2020) (English):

WEB https://www.dic-global.com/pdf/about/purchase/dic_sc_csr_en.pdf

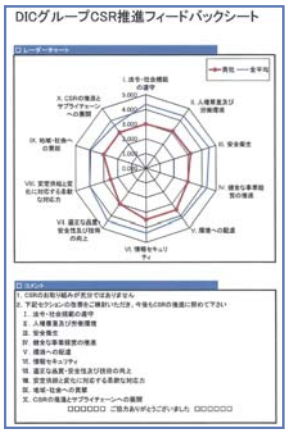
Analyzing the Results of Questionnaires

In fiscal year 2019, the DIC Group conducted assessments for 11 new and continuing suppliers using version 2 of the *DIC Group Supply-chain CSR Deployment Guidebook* (as it was then called), which was published in July 2013. This brought the total number of suppliers assessed between November 2013 and December 2019 to 764, accounting for 90%-plus of its procurement spending. In addition to analyzing and assessing questionnaire responses, the Group provided feedback and where necessary requested corrective measures for significant issues through on-site inquiries or written comments. In fiscal year 2020, the Group will begin conducting assessments using version 3 of the guidebook.

Cumulative Number of Suppliers Assessed
(November 2013–December 2019)

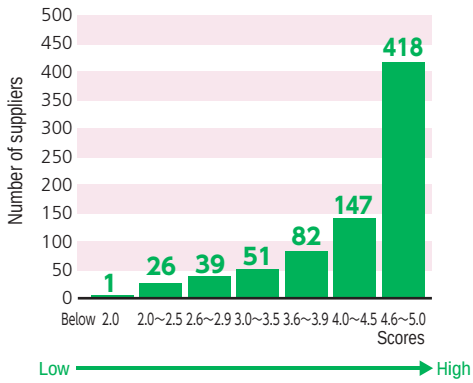
764

Equivalent to 90%-plus of procurement spending



Feedback sheet

Assessment Distribution Chart (764 Suppliers)



Note: Based on DIC's analysis of questionnaire responses, 91% of suppliers assessed to date scored 3.0 or higher on the Group's 5.0-point scale.

Conducting On-Site Inquiries

From fiscal year 2011 through fiscal year 2019, the DIC Group provided feedback through on-site inquiries or written comments to 102 suppliers. In an on-site inquiry, the Group and the supplier confirm the self-evaluation provided via the questionnaire and discuss corrective measures. Other efforts include introducing examples of Group ESG initiatives to assist the efforts of suppliers to realize sustainability.

Global Procurement Initiatives

In fiscal year 2019, procurement officers in Japan and Greater China cooperated to conduct on-site inquiries for suppliers in key businesses in the PRC based on suppliers' questionnaire responses. DIC also worked with these suppliers to fortify understanding of environmental issues in the supply chain related to local legal and regulatory compliance, as well as to formulate corrective measures. In addition, DIC and Sun Chemical exchanged views on future sustainable procurement initiatives at a meeting of the Sustainability Committee. In fiscal year 2020, DIC Group companies in Greater China and the Asia–Pacific region plans to conduct on–site inquiries for suppliers using other newly revised *Group Sustainable Procurement Guidebook*.

Ensuring the Sustainable Procurement and Use of Raw Materials

The DIC Group promotes the sustainable use of raw materials from a medium- to long-term perspective. This includes giving consideration to a wide range of factors, including climate change and resource conservation, when using recyclable materials. Looking ahead, the Group will expand the global application of its sustainable raw materials initiatives.

Conflict Minerals

In compliance with the U.S. Securities and Exchange Commission (SEC)'s requirement for listed companies to report on their use of conflict minerals, the DIC Group has prepared its Basic Policy Concerning Conflict Minerals. This policy outlines the Group's pledge to refrain from using gold, tantalum, tungsten and tin, which are classified as conflict minerals—that is, minerals mined in conditions of armed conflict and abuse in the Democratic Republic of Congo and its neighboring countries—and states that should any raw materials purchased from third-party suppliers be found to contain conflict minerals the DIC Group will immediately terminate the procurement thereof. This policy is published on the DIC global website. The DIC Group uses the Conflict Minerals Reporting Template prepared by the Responsible Business Alliance (RBA) and the Responsible Minerals Initiative (RMI) to conduct conflict minerals audits across its entire supply chain. As of December 31, 2019, responses had been received for more than 90% of the items currently procured by Group purchasing departments. In fiscal year 2019, the Group began conducting audits using the Cobalt Reporting Template (CRT), which addresses cobalt in the supply chain.

Promoting Awareness In-House

The DIC Group regularly provides regular training for in-house purchasing personnel, including at point of hire, when transferred and prior to meetings with suppliers.

VOICE We promote sustainable procurement by implementing continuous improvement.

I work for at DIC Synthetic Resins (Zhongshan), where I am in charge of procuring raw materials for metal carboxylates used in tires. The supply chain for these metal carboxylates depends on leading global brand owners and supplies of raw materials from a limited number of suppliers. Accordingly, we view each supplier as an indispensable business partner and work to build relationships based on mutual trust while striving to ensure sustainable procurement.

To improve quality and promote sustainability across the supply chain, we regularly survey suppliers using questionnaires, while purchasing, quality assurance and production staff conduct audits to deepen mutual understanding of the status of efforts to comply with laws and regulations, ensure occupational safety and health, and protect the environment. We provide feedback to suppliers on audit results and request corrective actions when standards are not met while at the same time providing related information to support improvements. As part of our efforts to ensure responsible procurement of minerals, we collaborate with corporate headquarters to conduct surveys of companies supplying processed cobalt products jointly and share information.

In August 2019, DIC Synthetic Resins (Zhongshan) was awarded a silver medal by EcoVadis for its ESG initiatives. Rather than being satisfied with where we are now, however, I look forward to working actively with suppliers to further advance the sustainability of our procurement practices.

Officer, Procurement Department, DIC Synthetic Resins (Zhongshan) Co., Ltd. **Yu Fang Zhou**

Business Models that Respond to Social Imperatives

Cultivating Next-Generation Businesses

SDGs Goals 8, 9 and 11

Goals and Achievements of Major Initiatives

Evaluations are based on self-evaluations of current progress. Key: ★★★ = Excellent; ★★ = Satisfactory; ★ = Still needs work

Objective of initiatives	Goals for fiscal year 2019	Achievements in fiscal year 2019	Evaluation	Goals for fiscal year 2020
Propose solutions-oriented businesses that respond to social imperatives.	Bolster collaboration with external organizations and promote prompt commercialization with the aim of advancing the creation of next-generation businesses that enhance sustainability and reinforce the Group's ability to propose supply chain–oriented solutions.	The DIC Group established a new business that will help enhance the sustainability of customers by developing a new solvent-free adhesive, which is expected to reduce CO_2 emissions attributable to the production of packaging films, and is sold together with an adhesive supply unit that facilitates efficient coating.	★★★	Contribute to the realization of a sustainable society by fostering next-generation businesses that anticipate technological changes.
	Participate in trade shows for key customer industries in Japan and overseas to strengthen the DIC brand and promote digitization to improve efficiency.	The DIC Group participated in major trade shows such as the 2019 Smart Building Expo in Tokyo.	★★★	Participate in trade shows for key customer industries in Japan and overseas to strengthen the DIC brand and promote digitization to improve efficiency.

New Pillar Creation: Promoting New Businesses that Respond Accurately to the Changing Needs of Society

The DIC Group sees one of its key missions as being to achieve sustainable growth both for itself and society by helping to address social imperatives related to climate change, the digitization of society, urbanization and longevity by identifying key business domains and providing products that respond to such imperatives.

With the goal of swiftly realizing this mission, DIC has outlined two basic business development strategies in its new medium-term management plan, DIC111: "Value Transformation" and "New Pillar Creation." In line with the strategy of Value Transformation, the Group will advance qualitative reforms in existing core businesses by shifting to businesses with differentiated high-value-added products and with more of a focus on social value. New Pillar Creation emphasizes creating new businesses by identifying areas where ESH-related issues and social changes intersect with the DIC Group's competencies. This strategy continues to guide a number of key initiatives, several of which are described on page 135.

Designing a Framework for New Pillar Creation

The DIC Group's success in providing new products and services that benefit society and creating new businesses will depend on how well it understands the sources of its competitiveness and whether it can swiftly and accurately identify social imperatives and needs. The ability to take responsibility for seeing the development process through to commercialization is particularly crucial. Accordingly, rather than depending on a conventional marketing-led approach to development, the Group has designed a framework centered on a deployment team that is charged with facilitating the design of new businesses by overseeing everything from planning and development through to production and sales, thereby ensuring that efforts to create new businesses optimize overall capabilities and are strategically effective.

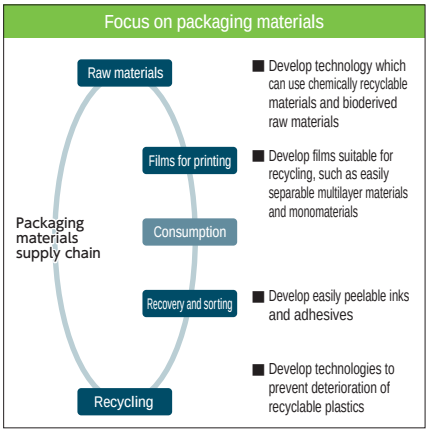
Priority Areas of the New Business Development Headquarters

① Electronics
② Automotive
③ Next-generation packaging
④ Healthcare

Having established the New Business Development Headquarters to serve as the deployment team and identified four priority business areas, the DIC Group will leverage its ingenuity to advance the creation of new products that are useful to society and next-generation businesses with the potential to become mainstays.

The DIC Group will also bring together people from technical and sales backgrounds with detailed understanding of these business areas and people with experience in related industries with the aim of enhancing expertise and communications capabilities, as well as make active use of open innovation—including through participation in initiatives involving collaboration between industrial concerns and academia and by capitalizing on external resources—to promote the timely development and commercialization of products that benefit society.

Examples of New Pillar Creation



1 Developing and Providing Sustainable Products and Solutions in the Packaging Field

In addition to reducing emissions of CO_2, a key cause of global warming, the DIC Group has positioned the issue of marine plastics, which impacts the environment and ecosystems, as a pressing issue and has established a project aimed at reinforcing its efforts to address this challenge that involves multiple departments dealing with packaging materials. The project is promoting the development of materials and technologies in line with the "4Rs" ("Recycle, Reduce, Reuse and Redesign") of packaging with the goal of deploying new bio-derived raw materials and circular packaging. Looking ahead, the Group will also seek to address this challenge by broadening its approach to include the entire packaging materials supply chain, advancing the development of products suitable for monomaterials, easily peelable ink solutions and technologies to prevent the deterioration of recyclable plastics, among others, thereby contributing to the realization of more sophisticated recycling.

2 Leveraging Biorefinery Technologies to Help Realize Decarbonization through the Development of a Biodegradable SAP

Biorefinery technologies, which make it possible to use biomass, a renewable resource, rather than petroleum-derived raw materials in the production of chemicals, are attracting increasing attention around the world. Since summer 2019, the DIC Group and Tokyo-based biotech startup Green Earth Institute Co., Ltd. (GEI) have promoted joint research aimed at developing a naturally derived aspartic acid–based biodegradable waterborne superabsorbent polymer (SAP). In this initiative, GEI—which boasts outstanding expertise in the development of green chemicals—is charged with developing naturally derived aspartic acid using an innovative fermentation technology that absorbs CO_2. DIC's role is to create a process for polymerizing the new aspartic acid and to explore ways to scale up the production system.

Principal applications for conventional SAPs include paper diapers, soil modifiers and cosmetics. However, because such SAPs are petroleum-derived, they are a major cause of marine plastics and waste plastic. The SAP under development by the DIC Group and GEI is made with a recyclable material, making it biodegradable, and is thus expected to contribute to both the realization of environment-friendly products that help resolve these issues as well as to decarbonization and the reduction of waste plastic.


Aspartic acid–based biodegradable waterborne SAP

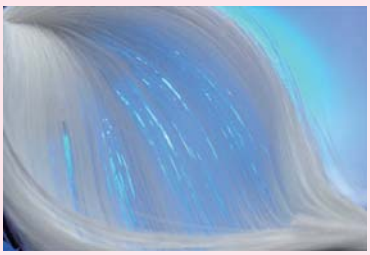
TOPIC

DIC Provides Hollow-Fiber Membranes for Use in ECMO

DIC provides hollow-fiber membranes to add oxygen to the blood in extracorporeal membrane oxygenation (ECMO)*, which is currently being used worldwide to treat critically ill COVID-19 patients. Oxygenators replace the function of the patient's own lungs, temporarily drawing low-oxygen venous blood from the patient's body to allow artificial oxygenation and then returning it to the body.

A hollow-fiber membrane is a bundle of hollow fibers that oxygenates blood by flowing it across the outer surface of the gas permeable bundle while passing oxygen through the inside. DIC's hollow-fiber membranes for this application are made with a special polyolefin resin that effectively minimizes the risk of thromboembolic complications and have earned a solid reputation for reliability over the three decades since first being adopted for use as oxygenator gas separation membranes in 1990. Given the increasing number of patients worldwide with acute respiratory distress syndrome (ARDS) as a result of the COVID-19 pandemic, DIC will continue working to help ensure a steady supply of indispensable medical equipment.

* ECMO is an extracorporeal technique for providing respiratory and circulatory support to patients with ARDS using a pump and an oxygenator.


DIC's Hollow fiber membrane used in Oxygenator of ECMO

New Technology Development and Value Creation

Proposing Solutions that Leverage Core Technologies

SDGs Goals 9 and 12

Goals and Achievements of Major Initiatives

Evaluations are based on self-evaluations of current progress. Key: ★★★ = Excellent; ★★ = Satisfactory; ★ = Still needs work

Objectives of initiatives	Goals for fiscal year 2019	Achievements in fiscal year 2019	Evaluation	Goals for fiscal year 2020
Enhance ability to develop products and technologies that facilitate contribution to a sustainable society.	• Accelerate collaboration among global technology bases in the development of strategic products and new technologies. • Make use of compounding technologies, open innovation and AI to hasten the development of technologies that create added value.	• Various facilities collaborated to promote R&D. • The use of AI helped accelerate the development of resists for packaging applications and other new products.	★★	• Accelerate collaboration among global technology bases in the development of strategic products and new technologies. • Make use of compounding technologies, open innovation and AI to hasten the development of technologies that create added value.
Promote the development of environment-friendly products and services.	Accelerate efforts to develop products that contribute to sustainability.	• Efforts led to the development of a new 100% biomass-derived plasticizer and the expansion of DIC's lineup of biomass-derived gravure inks, offset inks and other products. • Environment-friendly products accounted for 58% of overall product sales.	★★	Accelerate efforts to develop products that contribute to sustainability.

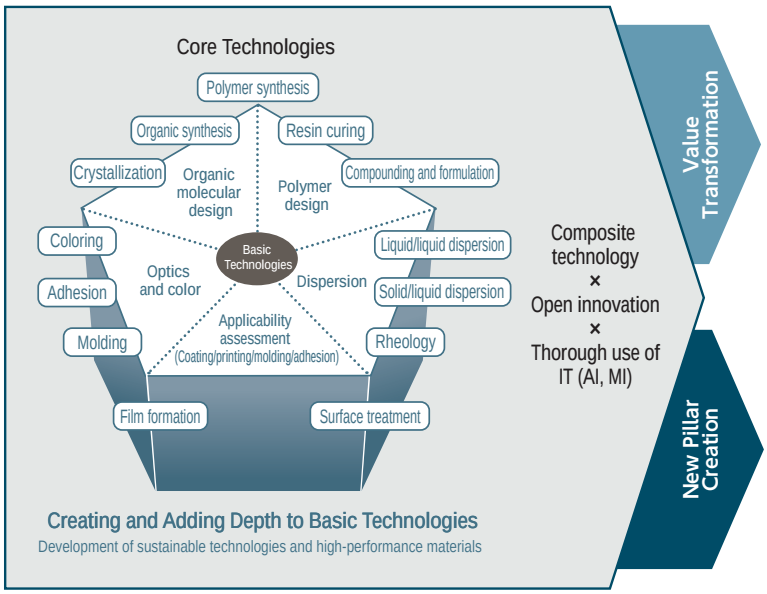
Achieving Sustainable Growth

With the aim of achieving its Color & Comfort by Chemistry management vision, the DIC Group is leveraging its basic technologies, including those in the areas of optics and color, organic molecular design, polymer design and dispersion, as well as its core technologies in such areas as polymer synthesis, compounding and formulation, and surface treatment, to develop high-value-added products that contribute to a sustainable society. The Group is also building a portfolio of next-generation products and new technologies by integrating technological resources originating across the Group, as well as actively promoting open innovation, to drive sustainable growth.

Specific Initiatives and Achievements

The DIC Group is promoting the development and use of clean technologies. The Group is shifting toward materials—with reduced environmental impact, notably energy–saving, water-based and solvent-free materials, as well as materials for the electronics, automotive, packaging and graphics, and other customer industries—that improve the environmental performance of the products in which they are used, which it has positioned as environment-friendly products. In Japan, the Group devotes approximately 50% of its technological resources to the development of such products.

Development of New Technologies, Products and Solutions to Support Business Portfolio Transformation



Segment	Target
Packaging & Graphic	Next-generation packaging inks and coatings, functional packaging adhesives, industrial-use jet inks, others
Color & Display	Pigments for color filters, pigments for cosmetics, effect pigments, natural colorants, LC materials, next-generation display materials, others
Functional Products	Sustainable polymers, environment-friendly PPS compounds for automotive components, high-performance industrial adhesive tapes, others

Business Area	Target
Electronics	Technologies and functional materials that support the spread of digitization
Automotive	Technologies and functional materials that underpin efforts to transform the automotive industry
Next-Generation Packaging	Packaging materials that help reduce food loss and support sustainability
Healthcare	Microorganism and cell culture technologies with applications extending from food safety to advanced medical care

Products for Use in Electronics Equipment

The DIC Group continued to see expanded sales of epoxy resin–curing agents with superior dielectric properties for use as smartphone base stations, thin adhesive tapes with outstanding adhesiveness and bondability for smartphones and thick adhesive tapes that can be stretched and removed for televisions. The Group also leveraged AI to dramatically shorten the time needed to develop a highly heat-resistant, fast-developing novolac resin for use in the production of resists for packaging applications. In products for LCDs, the Group is working to develop new pigments for color filters and is shipping samples of polymer sustained alignment (PSA) LCs that boast outstanding transparency, response time and sensitivity, for 8K televisions. In next-generation display materials, the Group continued to promote development of inks use in the production of inkjet-printed quantum dot color filters (QDCFs).

Products for Packaging and Graphics Applications

In the area of gravure inks, the DIC Group earned certification under Japan's Biomass Mark program for products for reverse printing, surface printing and printing on shrink film, among others, further expanding its lineup of biomass-based products. In offset inks, the Group also obtained Biomass Mark certification for UV-curable inks for use in printing on packaging that employs conventional LED-UV lamp curing. In adhesives, the Group developed a new fast-curing solvent-free packaging adhesive that reduces emissions of VOCs and CO_2 together with a solvent-free film lamination system. In packaging materials, the Group continued to see expanded sales of easy-peel sealant film lid materials for containers used for salads sold at convenience stores that extend products' shelf life, thereby reducing food loss.

A Global R&D Configuration that Underpins Product Development

DIC's R&D organization in Japan comprises the Technical Management Unit, which is responsible for R&D connected directly to businesses; the R&D Management Unit, which is responsible for adding depth to existing and fostering new basic technologies; and the New Business Development Headquarters, which is charged with creating strategic new businesses and commercializing business units' next-generation product groups. These entities promote the global development of products and technologies in collaboration with the R&D components of DIC Group companies around the world. These include DIC Graphics; the Sun Chemical Group's research centers in the United States, the United Kingdom and Germany; Qingdao DIC Finechemicals, which conducts comprehensive R&D tailored to market needs in the PRC; printing inks technical centers, polymer technical centers, solid compound technical centers and pigment technical centers in the PRC and the Asia–Pacific region; the Fine Chemical Technical Center–Korea; and an algae research center in the United States.

Promoting Environment-Friendly Products

The DIC Group is committed to effective stewardship of the products it provides. (For more information, please see page 51.) Conscious always of the importance of ensuring its products are environment-friendly, DIC promotes the development of products and new technologies that are useful to society and works to increase the weighting of environment-friendly products in its portfolio, by reducing the volume of hazardous substances it uses, focusing on products that are less hazardous and products that facilitate recycling, and realizing safer production processes that generate less waste and use less energy. The Group has established internal rules for designating products "environment-friendly" and works to increase the weighting of products that have earned this designation in their portfolio. In fiscal year 2019, environment-friendly products accounted for 58% of all products put out by DIC and subsidiary DIC Graphics. The Group also strives to maintain a solid grasp of laws and regulations in different countries and territories, and of trends in environmental measures—thereby ensuring its ability to design products that comply with diverse regulations governing the use of chemical substances in different markets—and conducts environmental assessments on a continuous basis.

For printing inks, adhesives and other products used in food packaging, which the Group supplies to customers around the world, the DIC Group has established a global product stewardship team. The team shares information on regulations and relevant topics from different markets, as well as promotes awareness thereof and provides education. Knowledge thus gained is incorporated into product design and used to produce compliance certificates across the supply chain, which are essential for customers worldwide.

Evaluation Sheet for Environment-Friendly Products

Department:		Prepared by:			Prepared on:
Product to be Evaluated:					
Evaluation Item	Certifying Standards	Description	Average of f	Coefficient α	Subtotal α·f
Energy Consumption	Reduction of energy in production, transportation, etc.				
Materials to be Used	Reduction of use of non-renewable materials, non-recyclable materials, etc.				
Hazards	Product with lower toxicity, etc.				
Amount of Waste Generated	Reduction of environmentally concerned substances, etc.				
Remarks:					
		Evaluator			

Since 2003, DIC has used a proprietary a system for designating environment-friendly products and uses a proprietary sheet to evaluate products based on energy consumption, materials to be used, hazards and waste generated, as well as to conduct life cycle assessments.

Introducing the DIC Sustainability Index

To ensure that stakeholders understand the true worth of DIC Group products and solutions that address social imperatives, in addition to being environment-friendly, the Group introduced a proprietary sustainability index. The Group began using the DIC Sustainability Index in fiscal year 2020.

Products that Contribute to the Realization of Clean Technologies

The DIC Group develops materials that contribute to the realization of clean technologies designed to help resolve critical global environmental issues. Product divisions promote the development of clean technology–related products for individual target markets that leverage distinctive DIC capabilities. Overall annual sales of such products currently amount to approximately ¥159.2 billion.

The DIC Group is conscious of the need to promote the "3Rs" ("Reduce, Reuse, Recycle") for resources. The Group is working to help reduce materials used by its customers in such areas as film for bread packaging by making products thinner while maintaining strength. To enhance the recyclability of plastic packaging, the Group is developing and launching deinking agents and other innovative products. The Group is also taking active steps to help reduce waste plastic and marine plastics, recognizing these as challenges that, as a manufacturer of fine chemicals, it has a responsibility to address.

Innovation through Compounding

Building on its fundamental pigment and resin dispersion and formulating technologies, realized through the production of printing inks, DIC has succeeded in combining materials with different properties and performance characteristics to develop groundbreaking products and create new value. Recent achievements in the area of materials for automotive applications include the launch of a new super-tough PPS compound and various types of colorants for engineering plastics that leverage carbon black ultrahigh dispersion technologies to deliver outstanding surface smoothness and a high level of jetness for molded parts. The Group will continue to harness its distinctive compounding capabilities to transform its diverse technologies into competitive advantages into competitive advantages with the aim of driving innovation.

Protecting Intellectual Property

Recognizing the effective use of intellectual property as indispensable to new technology development and value creation, a key management challenge, business groups and technical and intellectual property teams are working as one to advance intellectual property strategies. Capitalizing on this approach, the DIC Group is actively employing an open and closed strategy to build a robust patent portfolio. The Group is also focusing efforts on the use of patent search and analysis and the gathering of highly precise information with the aim of capitalizing on patent landscapes and other intellectual property information as key management assets.

DIC's efforts to reinforce protection of its intellectual property are also attracting notice outside of the Company. For example, in fiscal year 2019, DIC was 4th in a ranking of companies in the chemicals industry in Japan in terms of patent assets owned conducted by an independent firm*. DIC registers an average of 400 new patents annually. While this is small compared to leading chemicals firms, the Company received a high score for the overall scale of its patent assets, reflecting the quality and high profile of the patents it holds. DIC will continue to actively protect its intellectual property portfolio with the aim of ensuring sustainable growth in the years ahead.

* Patent Result Co., Ltd.

VOICE We developed a 100% biomass-derived polyester plasticizer.

Our group has developed an extensive range of polymer modifiers that includes plasticizers, stabilizers and highly functional modifiers. In recent years, we have worked to add value to the DIC Group's modifiers with the aim of contributing to the realization of the SDGs and to sustainability. In fiscal year 2019, we succeeded in developing *Polycizer W-1810-BIO*, a polyester plasticizer that satisfies all the basic performance requirements of polyester plasticizers yet is derived entirely from biomass resources. This product earned Biomass 100% Biomass Mark certification from the Japan Organics Recycling Association (JORA). The reaction to this new product has been extremely positive and it has earned solid marks in a variety of applications.

Assistant Manager, Polymer Technical Group 10, Polymer Technical Division 2, DIC Corporation **Takafumi Noguchi**

Harmony with the Community and Social Contributions

Adding Color & Comfort to Lifestyle

SDGs Goals 3 and 4

Basic Approach to Social Contribution

Based on its Guidelines for Social Contribution Activities, established in fiscal year 2009, the DIC Group works to ensure harmony with local communities and individuals through activities aimed at building a strong relationship with society.

The DIC Group's Guidelines for Social Contribution Activities

In line with its Color & Comfort by Chemistry management vision, the DIC Group will promote social contribution initiatives in three areas: Business activities, culture and education, and communities and society.

Business activities

The DIC Group will offer products and services that contribute to the development of a sustainable society and protection of the global environment from the viewpoint of "CSR through business activities."

Culture and education

The DIC Group will engage in activities that will contribute to the development and promotion of culture, the arts, science and education, including fostering next-generation human resources in areas such as the culture of color and chemistry.

Communities and society

The DIC Group will strive to coexist harmoniously with local communities to develop a relationship of mutual trust. Moreover, the Group will provide an environment that enables employees to engage in voluntary contribution activities in their respective local communities.

Principal Initiatives

Publication of the Guidebook for the Color Universal Design–Recommended Color Set

The DIC Group is actively involved in R&D in the area of color universal design (CUD), as well as in expanding public awareness and understanding of CUD's importance. In 2007, the Group, in cooperation with the Japan Paint Manufacturers Association, the Industrial Research Institute of Ishikawa and the Color Universal Design Organization, embarked on a project to create the *Color Universal Design–Recommended Color Set* under the supervision of the University of Tokyo. In developing the color set, the organizations conducted repeated verification tests using study participants with various types of color vision to adjust proposed colors, a process that facilitated the creation of a set of colors that are relatively easy to distinguish regardless of ability to see colors and can be reproduced using printing inks, coatings and digital imaging. Taking into account nearly a decade of use, in fiscal year 2018 the project members revised the set's color values to further enhance usability. The organizations also published a guidebook on effective use of the set and has worked to promote understanding and awareness.

From fiscal year 2015 through fiscal year 2017, the DIC Group participated in a joint industry–academic research project. During this period, Chiba University, the Central Research Laboratories and DIC Color Design, Inc., gave presentations on issues to consider in printing warnings and other important information on packaging and the results of joint research on the color appearance of red spot colors and on the use of color in an aging society at academic conferences in Japan and overseas.

In 2011, DIC began collaborating with the University of Tokyo and architect Kengo Kuma to develop new tactile paving that ensures high visibility for visually impaired individuals and is in harmony with the landscape. In fiscal year 2018, two new color options (a warm orangey yellow and a cool yellowish green) were introduced for the new paving. The cool yellowish green was adopted for use in the first-floor atrium of JR Yokohama Tower, which opened in 2019, a functionally beautiful choice that harmonizes well with the atrium's modern design. Dark lines have been placed on both sides of the space's tactile paving to realize a high luminance contrast to adjoining surfaces, ensuring they can be easily detected and effectively used.

In another key initiative in fiscal year 2018, DIC took part in project to revise the Japan Industrial Standards (JIS) standard for safety colors (JIS Z 9103) with the goal of choosing colors that can be distinguished by people with diverse color vision. As a member of the original drafting committee, DIC was involved in setting recommended CMYK values for process printing, which had not previously been provided. The Company continues to cooperate in initiatives aimed at promoting awareness. Beginning in 2019, DIC is participating as an expert in the field of color in the verification of safety-related color schemes for applications such as disaster prevention information.

Used extensively in signage and infrastructure, CUD is playing an increasingly important role in everyday life. The broader application of CUD is also expected to enhance safety and convenience.

JR Yokohama Tower first-floor atrium
Owner: JR East Railway Company
Architects/supervision: JR East Design Corporation

Photograph: JR East

Visiting Science Lab Program

In line with the Japanese government's efforts to promote career education initiatives, as well as to help curb a decline in the popularity of science among children, DIC and DIC Graphics conduct visiting science labs at public elementary schools. Through this program, the Group seeks to spark children's interest in science and encourage them to realize the close relationship between science and their everyday lives. Designed with the aim of making science fun for children and helping them understand how the study of science benefits society, the lab entails experiments in synthesizing pigments and planographic printing, that is, printing from a flat surface. Since launching this initiative in 2010, the two companies have provided classes at 42 elementary schools for approximately 3,300 sixth graders.

In fiscal year 2019, the DIC Group also conducted a visiting science lab for elementary school students as part of the Tohoku University Graduate School of Engineering's Science Campus project. The lab was well received by both participating children and their parents. The Group pledges to continue offering visiting science labs in the years ahead.

Visiting science lab

Comment This is an initiative that makes one aware of the satisfaction of being a leader in the advancement of society through chemistry.

Engineers and researchers from various companies serve as instructors for hands-on classes conducted as part of the Tohoku University Graduate School of Engineering's Science Campus program, an initiative that seeks to provide children with an opportunity to gain an understanding of craftsmanship, which plays an important role in everyday life, as well as to actually experience manufacturing and conduct experiments closely linked to the latest scientific and technological advances.

In addition to fueling children's interest in manufacturing, and in science and technology, this initiative seeks to cultivate a new generation of engineering talent by enabling them to interact directly with individuals in related fields, giving them an idea of the career paths available to them in the future. We believe it is important to provide children with stimulation in various forms, and the DIC visiting science lab was particularly valuable in that regard. We also received positive comments from parents. One expressed that the lab had given children a renewed appreciation of the role of chemistry in their everyday lives, while another felt that encouraging children to see chemistry as something familiar would make them like science better. Yet another commented that experiencing the power of chemistry to add color and enrich life would encourage children to see it as something they would like to do professionally in the future.

Associate Professor, Graduate School of Engineering and Vice-Director, Innovation Plaza, School of Engineering, Tohoku University **Hajime Nakamura**

Initiatives Led by the Central Research Laboratories

DIC's Central Research Laboratories supports education by offering a variety of programs for local high schools that leverage DIC's unique capabilities. In July 2019, the Central Research Laboratories participated in the Chiba Science High School Festival, organized by high schools in Chiba Prefecture that have earned the Super Science High School* designation, with the aim of fostering students' interest in science, and in December 2019 invited students from Seishin Gakuen High School, a Super Science High School in Ibaraki Prefecture, to take part in a lecture on the use of using testing equipment to evaluate and analyze chemical substances. In July 2019, the facility also dispatched young researchers to conduct summer vacation mini lectures at the request of a local elementary school and welcomed students from Makuhari Junior High School to participate in a practical science lab, while the following month it conducted an experiment in pigment extraction using Spirulina as part of a visiting lab lesson for elementary school children offered as a component of the Chiba Prefectural Education Agency's Dream Challenge Hands-On School and invited students from Chiba Prefectural Sakura High School to take part in a fashion design workshop. In addition to experiments, each of these events allocated time for the young employees who served as instructors to talk about how they became interested in science and the challenges and rewards of research, thus enabling them to contribute to career education as well as to help students enjoy science.

* "Super Science High School" is a designation awarded by Japan's Ministry of Education, Culture, Sports, Science and Technology to senior high schools that implement curricula focused on the sciences and mathematics that goes beyond the Ministry's official guidelines with the aim of fostering the next generation of talented engineers and scientists.

Initiatives Led by the Kashima Plant

In December 2019, DIC's Kashima Plant, in Ibaraki Prefecture, conducted a visiting science lab at local Super Science High School* *Seishin Gakuen*'s Super Seminar, a social contribution initiative that also involved three other companies with operations in Kashima as well as Juntendo University. The lab featured a presentation titled "Learning About the Colors Around Us," which covered such topics as the properties of color and light, products that leverage these properties, the names given to colors, primary colors and examples of pigment synthesis. The lab also included an experiment in extracting the natural blue pigment from Spirulina. A total of 74 students participated in the lab. The Kashima Plant will continue to take part in initiatives designed to communicate the joy of chemistry to students at schools in its community.

* "Super Science High School" is a designation awarded by Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) to senior high schools that implement curricula focused on the sciences and mathematics that goes beyond the Ministry's official guidelines with the aim of fostering the next generation of talented engineers and scientists.

Kawamura Memorial DIC Museum of Art

The Kawamura Memorial DIC Museum of Art, located adjacent to the Central Research Laboratories in Sakura, Chiba Prefecture, was established in 1990 to publicly exhibit works of art collected by DIC Corporation and its affiliates. In 2020, the museum is celebrating its 30th anniversary. As of December 2019, cumulative visitors to the museum had surpassed 2.47 million. DIC views operation of the museum, which assumed its current name in 2011, as a social contribution initiative that the DIC Group is uniquely positioned to undertake as an organization intrinsically involved in color. The museum's extensive collection spans numerous genres, encompassing works by Rembrandt; Impressionists such as Monet and Renoir; modern European artists such as Picasso and Chagall; early modern, modern and postwar Japanese artists; and luminaries of late-20th century American art, including Mark Rothko, Cy Twombly and Frank Stella. In addition to a standing exhibit from its permanent collection of more than 1,000 major works, the museum stages special exhibitions several times a year that focus on pertinent literary works and other artifacts that evoke the cultural atmosphere at the time works were created to help visitors better understand the collection. The museum also offers free-of-charge guided tours every afternoon beginning at 2:00 pm.

Another appealing aspect of the museum is its location on a lushly forested 30-hectare site alive with seasonal flowers and foliage that has been open to the public since the museum's establishment. A total of 250 cherry trees—10 varieties in total—blossom every spring while in summer wildflowers of all colors bloom profusely. Other highlights include the lotus pond at the back of the garden, which was expanded in 2016, and the wooded nature trail that traverses the site.

In a move aimed at promoting relations with the local community and fostering local cultural activities, the Kawamura Memorial DIC Museum of Art has established an annex gallery on the museum site that serves as an exhibition space for local amateur artists and is also made available to elementary and junior and senior high schools in the Sakura area for an exhibition of local students' works. The museum was also the first in Japan to introduce interactive methods originated by the Metropolitan Museum of Art in New York for teaching children. To date, a total of 160 schools and more than 10,000 children have taken part in the museum's educational programs, which are offered to entire classes led by elementary or junior high school teachers.

In the future, the museum will continue to hold exhibitions associated with the collection and promote social contribution activities with an awareness of communication with the local community.


Kawamura Memorial DIC Museum of Art


Museum entrance hall


Outdoor terrace

Social Contribution Initiatives by Overseas Group Companies

Initiatives at PT. DIC Graphics

Indonesian subsidiary PT. DIC Graphics, which is engaged in the manufacture and sale of printing inks and organic pigments, promotes active social contribution initiatives in its community related to education and health. In line with its policy of providing general support for education, in fiscal year 2018 the company donated 50 desks and 100 chairs to Angat Tiga Elementary School. Concurrently, the company extended financial support to students by introducing scholarships, as well as established internships for students of vocational schools in the vicinity of its production facility. The company also provided milk to neighboring schools to support the health of local residents. In fiscal year 2019, the company sought to contribute to the creation of an infrastructure for the maintenance of community health by building public bathhouses equipped with showers and toilet facilities.

Initiatives at DIC India

In India, education is the focus of social contribution initiatives by DIC India Ltd., which manufactures and sells printing inks. With the aim of helping increase the practical knowledge of young engineers and engineering students seeking to become chemical engineers, in fiscal year 2019 the company held training on themes such as “the impact of various vegetable oils on varnish and inks” and “using rheometers to conduct research into the rheological performance of inks” for students of prominent engineering institutes and universities in Koltaka and Inoda.

DIC India’s headquarters

Matching Gift Program

DIC has a matching gift program whereby it matches the total amount collected through an annual year-end fundraising drive spearheaded by its employees’ union. Funds raised through the 2019 drive and matching gift program were donated to 23 children’s homes and facilities providing support for disabled individuals.

Contributing to Efforts to Address the COVID-19 Pandemic

In light of a critical shortage of masks at healthcare facilities in Japan as a result of the rapid spread of COVID-19 in Japan, DIC contributed 10,000 high-performance masks from its stockpile to such facilities, comprising 5,000 N95 masks, which were donated through the Keidanren (Japan Business Federation) to the Ministry of Health, Labour and Welfare, which distributed the masks to prefectures, and 5,000 ostrich antibody masks*, which were donated to healthcare facilities suffering particularly desperate shortages. DIC also resolved to provide approximately 7,000 bottles of *Linagreen*® 21 Extract K1, a nutritional drink manufactured by a DIC Group company, to support the health of front-line medical professionals working to prevent the spread of COVID-19 and treat patients with the disease. This easy-to-consume drink is made by combining Spirulina extract, which is derived from the edible blue-green algae using proprietary technology, with propolis, ginseng and echinacea extract, and fortifying the mixture with water-soluble vitamins. Going forward, DIC will continue to provide support for efforts to contain COVID-19 as well as its regular social contribution initiatives with the goal of ensuring that DIC remains a company that is loved and respected worldwide.

Linagreen® 21 Extract K1

* Ostrich antibody masks are nonwoven masks that use filters that have been impregnated with antibodies from ostriches, which are highly resistant to viral infections. The ostrich antibodies bind to and neutralize viruses that come into contact with the masks, as a result of which they are significantly more effective than ordinary masks in protecting wearers against viruses.

Communication with Stakeholders

Promoting Disclosure and Communication

SDGs Goal 17

Basic Approach to Disclosure and Communication

The DIC Group places a priority on communication with its stakeholders worldwide, as outlined in Article 7 of its Policy on Corporate Governance.

Article 7 (Ensuring Appropriate Information Disclosure and Transparency)

The Company shall ensure transparency and fairness; and in order to gain the correct understanding and trust from stakeholders, shall timely and appropriately disclose information relating to matters such as the DIC Group's management philosophy, management policies, business plans, financial condition and sustainability activities.

Guided by this policy, the DIC Group promotes communication with stakeholders through television advertisements, participation in exhibitions, websites and events. By communicating effectively with stakeholders, the Group strives to ensure an adequate understanding of stakeholder expectations and to reflect such expectations in its business activities. The Group is also expanding its awareness of the concept of stakeholder engagement, a key requirement under ISO 26000.

	Ties with customers	Ties with shareholders and investors	Ties with business partners	Ties with society	Ties with employees	Ties with the media
Basic approach	Build trusting relationships. By incorporating the demands of customers, seek to develop products that enhance customer satisfaction.	Ensure appropriate disclosure and build trusting relationships with shareholders and investors, encouraging both to evaluate DIC as an attractive investment.	Promote socially responsible procurement across the supply chain and build solid relationships that will facilitate sustainable procurement.	Operate in harmony with the community and build positive relationships with local residents that will underpin the long-term sustainability of operations.	Provide workplaces that are conducive to job satisfaction and enable all employees to fulfill their potential. Over the long term, achieve true diversity.	Deepen understanding through effective publicity, advertising and other communications efforts.
Communications tools	● Websites ● Product pamphlets ● Digital marketing ● Corporate profile DVDs ● DIC Report ● Corporate PR film ● News releases ● Television advertisements	● Websites ● Press conferences ● Quarterly results announcements ● *Yuka Shoken Hokokusho* (financial disclosure document required of listed companies in Japan) ● Timely disclosure ● Notice of Convocation of the Annual General Meeting of Shareholders ● Shareholder newsletters ● Corporate profile DVDs ● DIC Report ● News releases ● Television advertisements	● DIC Group Sustainable Procurement Guidelines ● DIC Group Green Procurement Guidelines ● Supplier sustainable procurement questionnaires ● Feedback sheets ● Conflict Minerals Reporting Template ● DIC Report	● Websites ● Site reports ● Corporate profile DVDs ● DIC Report ● News releases ● Television advertisements	● *DIC Plaza* (in-house newsletter) ● Intranet ● *DIC Pocket Book* (in-house Group data file) ● DIC Report ● Corporate PR film ● News releases ● Television advertisements ● Global linkage ● Branding questionnaire	● Press conferences ● Interviews with journalists ● DIC Report ● News releases ● Television advertisements
Opportunities for communication	● Sales activities ● Participation in exhibitions ● Lectures on the SDGs for customers	● General shareholders' meetings ● Results presentations ● IR conferences ● IR meetings ● DIC IR Day ● Individual investor briefings	● On-site inquiries	● Production facility tours ● Participation in projects involving collaboration among industrial concerns, government bodies and academic institutions ● Participation in community events ● Environmental monitoring ● Plant *Bon Odori*	● Labor–management councils ● Results presentations for employees ● Presentations on the DIC Group Code of Business Conduct ● Sustainability presentations ● DIC Family Day ● Plant tours for employee families ● Caravan workshops	● Newspapers ● Economic publications ● Industry publications

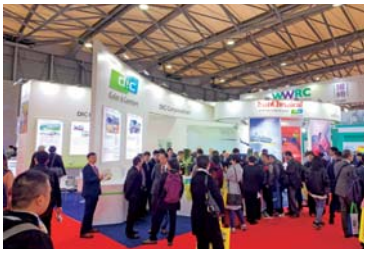
Ties with Customers

With the aim of becoming a unique global company that is trusted by society, the DIC Group prioritizes and works to strengthen communications with its customers. Principal avenues of communication include participating in exhibitions, events and lectures and holding workshops for business partners. In fiscal year 2019, the Group participated in numerous trade shows in Japan and overseas. In Japan, the Group took part in exhibitions that demonstrated the new value it provides to customers, including CITE (Cosmetic Ingredients & Technology Exhibition) Japan 2019 (May), where it showcased natural plant-derived colorants developed for use in cosmetics, and SAMPE (Society for the Advancement of Material and Process Engineering) Japan 2019 (September), where it introduced state-of-the-art resins that help reduce the weight of vehicles. Overseas, the Group took part in Chinaplas 2019, Asia's leading exhibition for the plastics and rubber industries (May), and in leading global coatings industry trade show CHINACOAT 2019 (November), both in the PRC. Sun Chemical, which oversees DIC Group operations in Europe and the Americas, also participated in exhibitions in key markets in Europe, the Middle East and South America.

In November 2019, DIC held a value-creation seminar comprising lectures and a workshop for individuals involved in product planning and product design on the theme of *Kansei* materials—materials designed to evoke a psychological or emotional reaction—as part of the DIC Colorial Project, an initiative developed to give form to the DIC Group's "Color & Comfort" brand slogan. In addition to introducing unique initiatives embodying "Color & Comfort," the event provided an opportunity for participants to create new value by finding common ground with people in other industries. DIC also began offering a new lecture and workshop event focusing on the Group's sustainability initiatives and the SDGs for business partners. This new event was in response to a request for such a seminar from a company that had attended a presentation on the SDGs.

On another front, DIC continued employing a dedicated system in operation since 2013 to measure the portion of sales accounted for by repeat customers, using this as a measure of customer satisfaction based on sales data for the last three years. The Company thus works unceasingly to bolster its grasp of and improve customer satisfaction.

CITE Japan 2019



CHINACOAT 2019

Digital Marketing

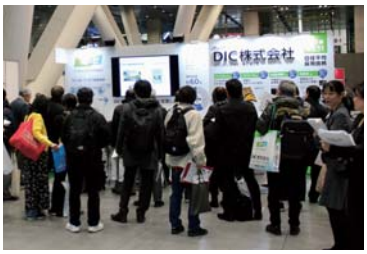
The DIC Group actively promotes digital marketing activities. With the increasing dominance of electronic communications, including email, social media and websites, the focus for communication with customers has rapidly shifted to these media. Accordingly, the DIC Group has introduced marketing automation designed to more effectively utilize electronic communications channels with the aim of responding swiftly to customer requests. To ensure its ability to address inquiries in a timely manner, in fiscal year 2019 the Group will began introducing sales force automation (SFA). In the current fiscal year, the Group will significantly expand the scope of adoption in Japan and overseas, positioning it to adapt to the advance of the digital age.

Ties with Shareholders and Investors

The DIC Group has established a policy for promoting constructive dialogue with shareholders and strives to ensure fair, appropriate and timely disclosure and to communicate closely with shareholders and investors, as well as to raise awareness of its ESG initiatives. Views and concerns expressed are shared with management and incorporated into operations as appropriate.

In fiscal year 2019, the Group sought to enhance communication with the investment community in Japan by holding two results presentations for institutional investors and securities analysts, as well as by participating in investor relations (IR) conferences and small meetings organized by securities companies. After the announcement of its acquisition of BASF's Colors & Effects business, DIC held a briefing to explain this move in the context of the basic strategies of its DIC111 medium-term management plan. Overseas, the Group held IR meetings and took part in IR conferences organized by securities companies in North America, Europe and Asia to encourage familiarity with its business strategies. Active efforts to advance communication with overseas investors also included 120 one-on-one meetings conducted in person or by telephone.

To provide information to individual investors, DIC participated in five company presentations in Japan, which were attended by approximately 400 individuals, to further understanding of the DIC Group's businesses and ESG initiatives. DIC also participated in a securities company–sponsored investment fair for individual investors that welcomed a total of 12,000 visitors over two days, giving it the opportunity to deepen understanding of the Group's businesses for investors of diverse ages and earning an award for best presentation, which was voted on by visitors. The Group also continued to actively provide information for individual investors via the DIC global website and mass media, as well as through social media. In addition, since fiscal year 2018 the Group has published transcripts of its financial results presentations twice annually.



Investment fair for individual investors

Presentation following the announcement of DIC's acquisition of BASF's Colors & Effects business

Ties with Society

In addition to the business community, the DIC Group strives to communicate effectively with ordinary consumers, including students.

Communication in the Field of Education

In July 2019, the Central Research Laboratories sponsored a booth at the 9th Chiba Science School Festival, held at the Tsudanuma campus of the Chiba Institute of Technology. This is the second consecutive year that the Central Research Laboratories has taken part in this event, which is sponsored by Chiba Science School Net, and it has done so with the goal of supporting the scientific research efforts of senior high school students and encouraging elementary and junior high school students to take a greater interest in science. Organized under the theme of "Isolating Natural Colorants," the DIC booth at the 2019 festival offered students the chance to conduct experiments in the extraction of Spirulina's natural blue colorant. The response from the 30 participating students and parents was enthusiastic, with many expressing surprise at the beautiful blue colorant that resulted from the filtration of a dark green liquid.

The following month, the DIC Group once again hosted the Chiba Prefectural Dream Challenge Hands-On School, a popular program for elementary school–age children organized by the prefecture's Board of Education, at the Central Research Laboratories' convention hall and the Kawamura Memorial DIC Museum of Art. This program invites children and their parents to company and university research labs in Chiba Prefecture to conduct experiments and tour facilities. Students and family members participating in the 2019 program conducted experiments in the extraction of colorants from Spirulina and paper chromatography using aqueous felt-tipped pens.

In October 2019, for the second consecutive year the Central Research Laboratories and the Kawamura Memorial DIC Museum of Art invited first-year students in Chiba Prefectural Sakura East High School's fashion design program for a program titled "Colors and Chemicals," which included lectures and practical training, as well as a museum tour. The Central Research Laboratories' convention hall hosted the lectures, which focused on the basics of colors and were led by DIC employees, as well as the practical training, during which participants were asked to collaborate in creating a color scheme on the theme of "Tokyo" using the *DIC Color Guide*®, an exercise that all seemed to enjoy. The students were then taken on a tour of the Kawamura Memorial DIC Museum of Art, during which they listened intently to the explanations given by museum staff that appeared to capture their interest.

Chiba Science School Festival

Kawamura Memorial DIC Museum of Art

From late March through mid-June, the Kawamura Memorial DIC Museum of Art held an exhibition titled "Joseph Cornell: Collage & Montage," which brought together works from the museum's collection with approximately 50 other assemblage boxes and collages from other museums and private collectors in Japan. Other 2019 highlights included the Collection Display, which began in late June and featured works by media artist Katsuhiro Yamaguchi, and "Painting into Sculpture—Embodiment in Form," an exhibition of sculptures by painters and the paintings that inspired them. Beginning in June, the museum also exhibited newly acquired works, including *Black Curve* (1994) by American artist Ellsworth Kelly (1923–2015) and numerous prints. The museum, which in 2020 is celebrating the 30th anniversary of its opening, will continue to welcome guests to enjoy its extensive collection of art, beautiful natural setting and outstanding architecture.

Calendar

DIC's original calendar for 2020, titled simply "Calendar 2020 Frank Stella," was honored with a silver award (category 1) in the 71st All Japan Calendar Competition, sponsored by the Japan Federation of Printing Industries and *Fuji Sankei Business-i*, a well-known Japanese business and finance publication. An annual event, the All Japan Calendar Competition recognizes the best calendars produced by general for-profit organizations, as well as publishers and printing companies, among others, in terms of printing technology, planning, design, functionality and creativity. The Company will continue to plan, design and produce attractive, useful original calendars that appeal to stakeholders.

Corporate Advertising

In fiscal year 2016, DIC declared a new brand slogan, "Color & Comfort," and launched an ambitious branding program. In fiscal year 2019, the Company produced the fourth installment of its brand advertisement for television, *Sekai wo Iro de Kaeteiku* ("Changing the world through color"), as well as a series of print and transport advertisements.

Website and Social Media

DIC continues to make use of social media to bolster name recognition in the PRC. The Company also revamped the Chinese-language version of its corporate website, an undertaking that included introducing a new section titled "Vivid China." This led to an increase in website access within the PRC, contributing to record-high use in terms of both sessions and visitors.

Communication with Local Communities

The DIC Group promotes a variety of community-focused initiatives, including deploying the *DIC Color Guide*® Event Pack, which originated with an employee proposal, to conduct workshops that provide an opportunity for interacting with local children and their families. In fiscal year 2019, such an event was held at a commercial facility in Nagoya. DIC also held an evening *bon odori* (Bon Festival dance) on the site of its Tokyo Plant, creating an opportunity to interact with nearby residents. The Group will continue to promote events on its sites, as well as in communities and at schools, to advance communication with local communities.

Monetary Contributions and Other Expenditures

The DIC Group conducts its operations while maintaining relationships with a broad range of external industry and other organizations.

Monetary Contributions

The DIC Group's monetary contributions in fiscal year 2019 amounted to approximately ¥32 million. In Japan, monetary contributions included designated donations of roughly ¥9 million to support education and research and ¥8 million to specified public service promotion corporations. The Group made no monetary contributions to political organizations during this period.

Participation in Industry Organizations

In its capacity as a manufacturer of fine chemicals, the DIC Group participates in a variety of activities as a member of key industry organizations, including providing specialized information, conducting investigations and collecting materials. In Japan, the Group is a member of organizations ranging from the JCIA, the Keidanren, the Japan Dyestuff and Industrial Chemicals Association (JDICA), the Japan Thermosetting Plastics Industry Association (JTPIA) and the Japan Printing Ink Makers Association (JPIMA) to the Global Compact Network Japan (GCNJ). In fiscal year 2019, expenditures for participation in various such external activities (membership dues) across the entire global DIC Group amounted to approximately ¥167 million.

Ties with Employees

The DIC Group promotes a variety of initiatives to facilitate active communication with its employees around the world.

Global Communication

DIC and wholly owned subsidiary Sun Chemical, based in the United States, have established a global communications committee with the goal of configuring a framework for communication with stakeholders worldwide. In fiscal year 2019, the DIC Group implemented a variety of initiatives to expand global communication. Of note, the Group promoted further awareness of The DIC WAY, which underpins the branding initiatives of DIC Group employees worldwide, and introduced a method for evaluating brand value designed to accelerate efforts to promote brand recognition. In addition, DIC revamped the DIC Group corporate website, which can be viewed in Japanese, English and Chinese.

Caravan Sustainability and Branding Workshop

In fiscal year 2019, the Sustainability Department and Corporate Communications Department collaborated to stage a workshop, designed to encourage awareness of the DIC Group's sustainability and branding initiatives, at the Central Research Laboratories; the Saitama, Kashima, Chiba, Sakai, Komaki and Yokkaichi plants; and the Osaka and Nagoya branch offices. The workshop, which included a variety of meaningful educational activities, facilitated an active exchange of views, with participants expressing an understanding of the importance of sustainability initiatives and a desire for an increased focus on communications within the DIC Group. Overseas, the departments explained procedures for implementing this initiative to Group companies with a view to expanding implementation to include overseas sites in the future.

Caravan workshop

In-House Newsletter

The DIC Group publishes a quarterly internal newsletter, *DIC Plaza*, with the aim of enhancing communication with DIC Group employees around the world and fostering solidarity. *DIC Plaza* has earned high marks for its content, which seeks to advance awareness of management policies and showcase DIC Group technologies, products, businesses, people and corporate culture, as well as for its vibrant design and use of color. The Group's intranet is another way for DIC to share information on the activities of employees worldwide, with more than 100 such items posted annually.

DIC Plaza

Ties with the Media

DIC is reinforcing its publicity activities as a means of communicating with its many stakeholders, including its customers, shareholders, investors and local communities. This reflects its conviction that promoting active disclosure that facilitates objective media coverage is vital to securing stakeholders' understanding of the Group and its operations and promoting a sense of solidarity among employees. In fiscal year 2019, DIC put out news releases regarding new products, capital investments, operating results and sustainability, among others. By proposing and accepting interviews on key topics such as its efforts to protect its intellectual property rights, DIC has also succeeded in bringing forward issues of concern not only to the Company but also to the chemicals industry as a whole.

Press conferences held **in fiscal year 2019**	Interviews with journalists **in fiscal year 2019**
56	**60**

External Assessments

In fiscal year 2019, DIC was selected for inclusion in the Dow Jones Sustainability Indices Asia Pacific Index, a leading benchmark for sustainability initiatives in the Asia–Pacific region and part of the Dow Jones Sustainability Indices (DJSI), a global family of indices for socially responsible investment (SRI). This was the fifth consecutive year DIC has been selected for inclusion.

DIC was also selected as a constituent of the MSCI Japan ESG Select Leaders Index—an ESG investment index of leading Japanese companies—and of the MSCI Japan Empowering Women Index (WIN), both developed by U.S.-based MSCI Inc., for the third consecutive year, and the FTSE4Good Index and the FTSE Blossom Japan Index for the second consecutive year. In addition, DIC was selected for inclusion in the S&P/JPX Carbon Efficient Index, which weights constituents using disclosure of environmental information and carbon efficiency (carbon emissions per unit of revenue) within an industry group. DIC earned a top-level "1" rating for the latter factor. As a consequence, the Company is now included in all four of the ESG investment indices targeting Japanese equities used by Japan's Government Pension Investment Fund (GPIF), which seeks stock indices comprising companies with outstanding ESG performances (MSCI Japan ESG Select Leaders Index, WIN, FTSE Blossom Japan Index and S&P/JPX Carbon Efficient Index). DIC's ESG performance also resulted in it being selected for inclusion in the SNAM Sustainability Index in fiscal year 2019, a 300-constituent index that is revised annually and utilized by Sompo Japan Nipponkoa Asset Management Co., Ltd. (SNAM)'S Sustainable Investment Fund.

DIC also reports to the CDP, a global nonprofit organization that works on behalf of institutional investors to collect and analyze information on corporate initiatives to address climate change and other environmental issues. In fiscal year 2019, DIC earned a score of B, ranking in the CDP program's Management Level.

In recognition of its superb efforts to expand career opportunities for women, DIC was selected as a Nadeshiko brand for fiscal year 2019, the second straight year it was honored under this program, which is sponsored by METI and the TSE.

With the aim of driving sustainable growth, the DIC Group also participates in a number of UNGC working groups (SRI/ESG, GC Internal Promotion, Supply Chain, Human Rights Due Diligence, Disaster Risk Reduction, SDGs and Creating Shared Value (CSV). In fiscal year 2019, DIC hosted meetings of the SRI/ESG and Supply Chain working groups at corporate headquarters in Tokyo.

MEMBER OF

Dow Jones Sustainability Indices

In Collaboration with RobecoSAM

MSCI Japan ESG Select Leaders Index

MSCI Japan Empowering Women Index (WIN)

FTSE4Good

FTSE Blossom Japan

2020 Sompo Sustainability Index

S&P/JPX Carbon Efficient Index

DIC Report 2020 and the GRI Standards

DIC Report 2020 was prepared in compliance with the GRI Standards' "Core" option.

Standard	Disclosures	Page(s), etc.	Related information/Reasons for omission	ISO 26000
102	**General Disclosures**			
GRI 102:	**General Disclosures 2016**			
1	**Organizational profile**			
102-1	**Name or organization**	3 (The DIC Group: A Global Powerhouse)		—
102-2	**Activities, brands, products, and services**	15–16 (The DIC Group's Approach to Value Creation), 21–22 (Packaging & Graphic), 23–24 (Color & Display), 25–26 (Functional Products), 136–138 (New Technology Development and Value Creation)		—
102-3	**Location of headquarters**	3 (The DIC Group: A Global Powerhouse)		—
102-4	**Location of operations**	3–4 (The DIC Group: A Global Powerhouse)		—
102-5	**Ownership and legal form**	3 (The DIC Group: A Global Powerhouse)		—
102-6	**Location of operations**	15–16 (The DIC Group's Approach to Value Creation), 21–22 (Packaging & Graphic), 23–24 (Color & Display), 25–26 (Functional Products), 136–138 (New Technology Development and Value Creation)		—
102-7	**Scale of the organization**	3–4 (The DIC Group: A Global Powerhouse), 2–3 of the Financial Section (Management's Discussion and Analysis)		—
102-8	**Information on employees and other workers**	115 (Basic Personnel Statistics (DIC))		6.4 6.4.3
102-9	**Supply chain**	131 (Sustainable Procurement)		
102-10	**Significant changes to the organization and its supply chain**	19–20 (Fiscal Year 2019 DIC Group Topics)		—
102-11	**Precautionary principle or approach**	64–69 (ESH (Management System)), 52–55 (Support for the TCFD)		6.2
102-12	**External initiatives**	48 (Ensuring DIC Remains a Globally Trusted Corporate Citizen with a Proud Reputation), 49 (The 2030 Agenda for Sustainable Development), 147 (External Assessments)		6.2
102-13	**Membership of associations**	146 (Participation in Industry Organizations)		6.2
2	**Strategy**			
102-14	**Statement from senior decision-maker**	7–11 (A Message from the President)		6.2
102-15	**Key impacts, risks, and opportunities**	47–48 (Overview of Sustainability), 52–55 (Support for the TCFD)	21–22 (Packaging & Graphic), 23–24 (Color & Display), 25–26 (Functional Products)	6.2
3	**Ethics and integrity**			
102-16	**Values, principles, standards, and norms of behavior**	1 (The DIC WAY), 56 (The DIC Group Code of Business Conduct)		—
102-17	**Mechanisms for advice and concern about ethics**	57 (Establishing and Operating a Whistle-Blowing System)		—
4	**Governance**			
102-18	**Governance structure**	40–44 (Corporate Governance), 45–46 (Directors, Audit & Supervisory Board Members and Executive Officers), 48 (System for Promoting Sustainability Initiatives)		6.2
102-19	**Delegating authority**	48 (System for Promoting Sustainability Initiatives)		—
102-20	**Executive-level responsibility for economic, environmental, and social topics**	48 (System for Promoting Sustainability Initiatives)		—
102-21	**Consulting stakeholders on economic, environmental, and social topics**		144 (Ties with Shareholders and Investors)	6.2
102-22	**Composition of the governance body and its committees**	40–44 (Corporate Governance), official corporate governance report		6.2
102-23	**Chair of the highest governance body**	*Yuka Shoken Hokokusho*	40–44 (Corporate Governance), official corporate governance report	6.2
102-24	**Nominating and selecting the highest governance body**	40–44 (Corporate Governance), official corporate governance report		6.2
102-25	**Conflicts of interest**	*Yuka Shoken Hokokusho*		6.2
102-26	**Role of the highest governance body in setting purpose, values, and strategy**	40–44 (Corporate Governance), 48 (System for Promoting Sustainability Initiatives)		—
102-27	**Collective knowledge of the highest governing body**	40–44 (Corporate Governance), 48 (System for Promoting Sustainability Initiatives)		—
102-28	**Evaluating the highest governance body's performance**			6.2
102-29	**Identifying and managing economic, environmental, and social impacts**	47–48 (Overview of Sustainability), 50–51 (Materiality Analysis), 52–55 (Support for the TCFD)		6.2
102-30	**Effectiveness of risk management processes**	47–48 (Overview of Sustainability), 50–51 (Materiality Analysis), 52–55 (Support for the TCFD)		—
102-31	**Review of economic, environmental, and social topics**	40–41 (Corporate Governance)	47–48 (Overview of Sustainability), 50–51 (Materiality Analysis), 52–55 (Support for the TCFD)	6.2
102-32	**Highest governance body's role in sustainability reporting**		47–48 (Overview of Sustainability), 50–51 (Materiality Analysis)	—
102-33	**Communicating critical concerns**	40–44 (Corporate Governance), 48 (System for Promoting Sustainability Initiatives)		6.2
102-34	**Nature and total number of critical concerns**	—		—
102-35	**Remuneration policies**	44 (Remuneration for Executives), 44–47 of the *Yuka Shoken Hokokusho*		6.2
102-36	**Process for determining remuneration**	44 (Remuneration for Executives), 44–47 of the *Yuka Shoken Hokokusho*		—
102-37	**Stakeholders' involvement in remuneration**	—		6.2
102-38	**Annual total compensation ratio**	—	12 of the *Yuka Shoken Hokokusho* ("Employees")	—
102-39	**Percentage increase in annual total compensation ratio**	—		—

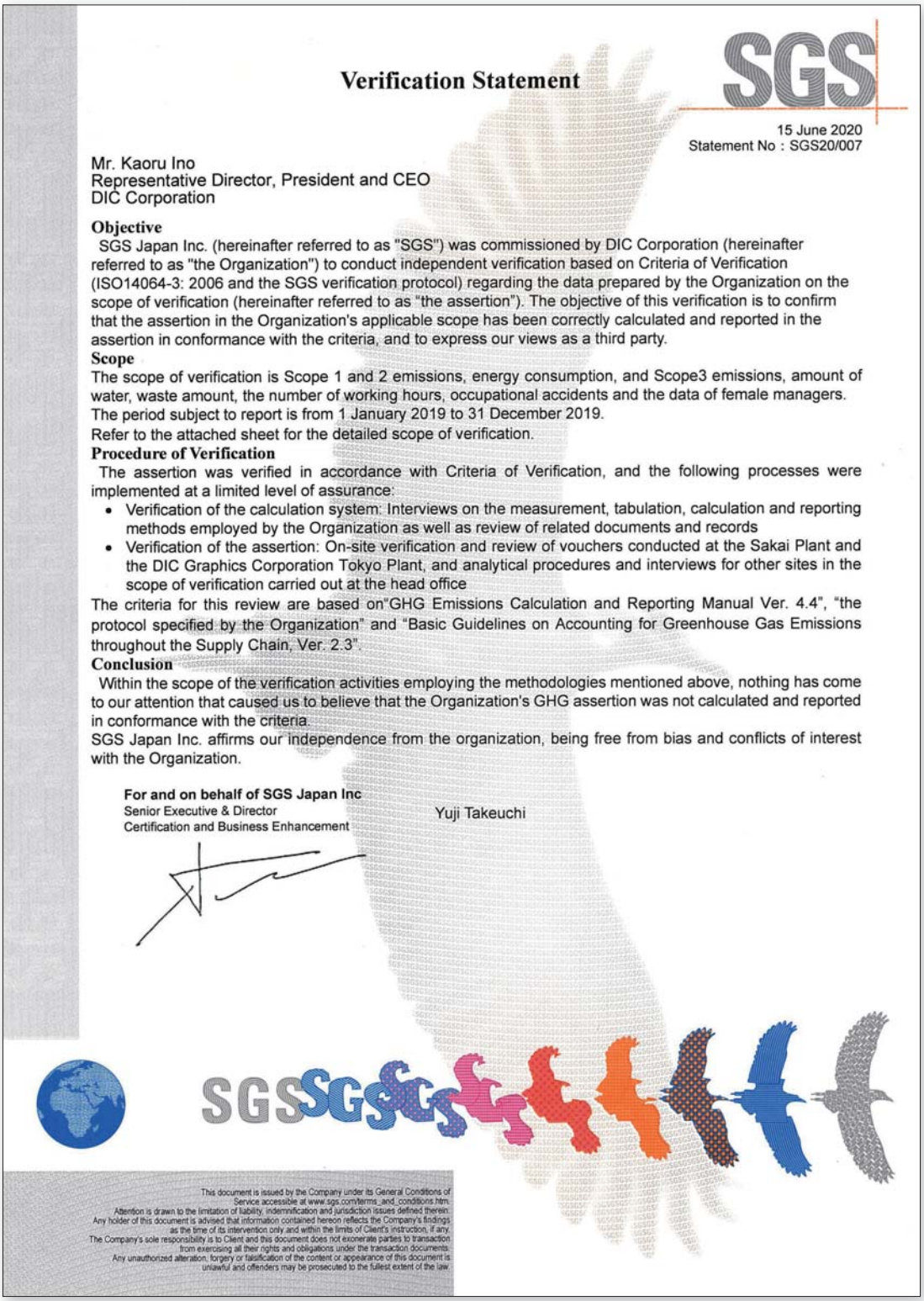
5	**Stakeholder engagement**			
102-40	**List of stakeholder groups**	143 (Communication with Stakeholders)		6.2
102-41	**Collective bargaining agreements**	Japan: 67.72% of employees belong to a labor union (for eligible employees, the rate is close to 100%). Overseas: Employees have collective bargaining rights as allowed for by the laws and regulations of the country/territory in which they are employed (as of the end of fiscal year 2018).		6.3.10 6.4 6.4.3 6.4.4 6.4.5
102-42	**Identifying and selecting stakeholders**	143 (Communication with Stakeholders)		6.2
102-43	**Approach to stakeholder engagement**	143–148 (Communication with Stakeholders)		6.2 6.7 6.7.4 6.7.5 6.7.6 6.7.8 6.7.9
102-44	**Key topics and concerns raised**		143–148 (Communication with Stakeholders)	6.2
6	**Reporting practices**			
102-45	**Entities included in the consolidated financial statements**	3–4 (The DIC Group: A Global Powerhouse)		6.2
102-46	**Defining report content and topic boundaries**	47–48 (Overview of Sustainability), 50–51 (Materiality Analysis)		—
102-47	**List of material topics**	50–51 (Materiality Analysis)		—
102-48	**Restatements of information**	99 (Correction of Water Management Data for Fiscal Year 2018)		—
102-49	**Changes in reporting**	50–51 (Materiality Analysis)		—
102-50	**Reporting period**	2 (About this Report)		—
102-51	**Date of most recent report**	2 (About this Report)		—
102-52	**Reporting cycle**	2 (About this Report)		—
102-53	**Contact point for questions regarding the report**	Back cover (contact information)		—
102-54	**Claims of reporting in accordance with the GRI standards**	2 (About this Report)		—
102-55	**GRI content index**	This table		
102-56	**External assurance**	64 (ESH (Management System)), 161 (Third-Party Verification)		7.5.3
103	**Management Approach**			
GRI 103:	**Management Approach 2016**			
103-1	**Explanation of the material topic and its boundary**	50–51 (Materiality Analysis)		—
103-2	**The management approach and its components**	DIC Group general materiality issues • Transformation to a sustainable business structure • Efforts to strengthen product development capabilities and create new businesses • Response to a circular economy 50–51 (Materiality Analysis), 134 (Business Models that Respond to Social Imperatives) • Product stewardship 51 (Materiality Analysis), 64 (ESH), 111 (Quality), 131 (Sustainable Procurement) • Response to climate change • Reduction of environmental impact (emissions into the air and water) 51 (Materiality Analysis), 52–55 (Support for the TCFD), 64 (ESH) • Response to changes in environmental laws and regulations 58 (BCM and Crisis Management) • Promotion of sustainable procurement • Strengthening of partnerships 131 (Sustainable Procurement) • Governance at subsidiaries 56 (Compliance) • Information security 62 (Information Security) • Ability to maximize capital efficiency • Digital transformation • Food security 7 (A Message from the President) • Communication with customers and markets 143 (Communication with Stakeholders)		—
103-3	**Evaluation of the management approach**	As above, assessment results are indicated on various pages; 48 (System for Promoting Sustainability Initiatives)		—
200	**Economic Topics**			
GRI 201:	**Economic Performance 2016**			
201-1	**Direct economic value generated and distributed**	3–4 (The DIC Group: A Global Powerhouse), 2–3 of the Financial Section (Management's Discussion and Analysis)		6.8 6.8.3 6.8.7 6.8.9
201-2	**Financial implications and other risks and opportunities due to climate change**	52–55 (Support for the TCFD)		6.5.5
201-3	**Defined benefit plan obligations and other retirement plans**	87 of the *Yuka Shoken Hokokusho*		—
201-4	**Financial assistance received from government**	—		—
GRI 202:	**Market Presence 2016**			
202-1	**Ratios of standard entry level wage by gender compared to local minimum wage**		12 of the *Yuka Shoken Hokokusho*	6.4.4 6.8
202-2	**Proportion of senior management hired from the local community**	—		6.8 6.8.5 6.8.7
GRI 203:	**Indirect Economic Impacts 2016**			
203-1	**Infrastructure investments and services supported**	139 (Harmony with the Community and Social Contributions)	Global corporate website (Home page > Sustainability > Harmony with the Community and Social Contributions)	6.3.9 6.8 6.8.3 6.8.4 6.8.5 6.8.6 6.8.7 6.8.9
203-2	**Significant indirect economic impacts**	139 (Harmony with the Community and Social Contributions)	Global corporate website (Home page > Sustainability > Harmony with the Community and Social Contributions)	6.3.9 6.6.6 6.6.7 6.7.8 6.8 6.8.5 6.8.6 6.8.7 6.8.9

GRI 204: Procurement Practices				
204-1	**Proportion of spending on local suppliers**	—		6.6.6 6.8 6.8.5 6.8.7
GRI 205: Anti-Corruption 2016				
205-1	**Operations assessed for risks related to corruption**		56–57 (Compliance)	6.6 6.6.3
205-2	**Communication and training about anti-corruption policies and procedures**	56–57 (Compliance)	131 (Sustainable Procurement)	6.6 6.6.3
205-3	**Confirmed incidents of corruption and actions taken**	56 (Compliance), NA		6.6 6.6.3
GRI 206: Anti-Competitive Behavior 2016				
206-1	**Legal actions for anti-competitive behavior, anti-trust, and monopoly practices**	56 (Compliance), NA		6.6 6.6.5 6.6.7
GRI 207: Taxes				
207-1	Approach to tax	Global corporate website:(Home page > Sustainability > The DIC Group's Sustainability Program > Tax)		
207-2	**Tax governance, control, and risk management**	Global corporate website:(Home page > Sustainability > The DIC Group's Sustainability Program > Tax)		
207-3	**Stakeholder engagement and management of concerns related to tax**	Global corporate website:(Home page > Sustainability > The DIC Group's Sustainability Program > Tax)		
207-4	**Country-by-country reporting**	57 (Taxation compliance)		
300 Environmental Topics				
GRI 301: Materials 2016				
301-1	**Materials used by weight or volume**	—		6.5.4
301-2	**Recycled input materials used**	—		6.5.4
301-3	**Reclaimed products and their packaging materials**	—		6.5.3 6.5.4 6.7.5
GRI 302: Energy 2016				
302-1	**Energy consumption within the organization**	79–82 (Energy Consumption and CO_2 Emissions by the Global DIC Group), 85 (Independent Electric Power Generation in Japan), 97 (Environmental Impact of Groupwide Environmental Initiatives)		6.5.4
302-2	**Energy consumption outside the organization**	—		6.5.4
302-3	**Energy intensity**	6 (Nonfinancial Information)		6.5.4
302-4	**Reduction of energy consumption**	79 (Information on energy-saving initiatives in Japan)		6.5.4 6.5.5
302-5	**Reductions in energy requirements of products and services**	—		6.5.4 6.5.5
GRI 303: Water 2016				
303-1	**Water withdrawal by source**		98–99 (Managing Water Resources)	6.5.4
303-2	**Management of water discharge related impacts**		93 (Reducing SOx, NOx and COD)	6.5.4
303-3	**Water withdrawal**	98–99 (Managing Water Resources)	Regarding water withdrawal in water-stressed areas, initial water risks were assessed at 189 sites using a water risk assessment tool. Data will now be collected.	6.5.4
303-4	**Water discharge**	98–99 (Managing Water Resources)		6.5.4
303-5	**Water consumption**	98–99 (Managing Water Resources)		6.5.4
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**	—		6.5.6
304-2	**Significant impacts of activities, products, and services in biodiversity**		100 (Biodiversity)	6.5.6
304-3	**Habitats protected or restored**	100 (Biodiversity)		6.5.6
304-4	**IUCN Red List species and national conservation list species with habitats in areas affected by operations**		100 (Biodiversity)	6.5.6
GRI 305: Emissions 2016				
305-1	**Direct (Scope 1) GHG emissions**	78–91 (Climate Change)		6.5.5
305-2	**Indirect (Scope 2) GHG emissions**	78–91 (Climate Change)		6.5.5
305-3	**Other indirect (Scope 3) GHG emissions**	91 (CO_2 Emissions (Including Scope 3) in Fiscal Year 2019), 101–102 (Safety in Logistics)		6.5.5
305-4	**GHG emissions intensity**	6 (Nonfinancial information), 78 (Climate Change)		6.5.5
305-5	**Reduction of GHG emissions**	78–91 (Climate Change)		6.5.5
305-6	**Emissions of ozone-depleting substances (ODS)**	86 (Protecting the Ozone Layer)		6.5.3 6.5.5
305-7	**Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions**	92 (Preventing Environmental Pollution), 93 (Reducing SOx, NOx and COD)		6.5.3
GRI 306: Effluents and Waste 2016				
306-1	**Water discharge by quality and destination**	92 (Preventing Environmental Pollution)	98–99 (Managing Water Resources)	6.5.3 6.5.4
306-2	**Waste by type and disposal method**	95–97 (Managing Industrial Waste)		6.5.3
306-3	**Significant spills**	74 (Status of Facility Accidents), 95 (Initiatives by the DIC Group in Japan)		6.5.3
306-4	**Transport of hazardous waste**	NA		6.5.3
306-5	**Water bodies affected by water discharges and/or runoff**		98–99 (Managing Water Resources)	6.5.3 6.5.4 6.5.6

GRI 307:	**Environmental Compliance 2016**			
307-1	**Non-compliance with environmental laws and regulations**	68–69 (ESH Auditing)		4.6
GRI 308:	**Supplier Environmental Assessment 2016**			
308-1	**New suppliers that were screened using environmental criteria**		131–133 (Sustainable Procurement)	6.3.5 6.6.6 7.3.1
308-2	**Negative environmental impacts in the supply chain and actions taken**	131–133 (Sustainable Procurement)	The number of suppliers and negative impacts identified cannot be disclosed because of confidentiality concerns.	6.3.5 6.6.6 7.3.1
400	**Social Topics**			
GRI 401:	**Employment 2016**			
401-1	**New employee hires and employee turnover**	115 (Basic Personnel Statistics (DIC))	119 (Hiring Diverse Human Resources)	6.4 6.4.3
401-2	**Benefits provided to full-time employees that are not provided to temporary or part-time employees**		114–130 (Human Resources Management)	6.4 6.4.3 6.4.4
401-3	**Parental leave**	124 (Use of the Childcare Leave and Leave to Assist with Parenting Programs)		6.4 6.4.3
GRI 402:	**Labor/Management Relations 2016**			
402-1	**Minimum notice periods regarding operational changes**	A minimum notice period is provided as specified in labor agreements.		6.4 6.4.3 6.4.4 6.4.5
GRI 403:	**Occupational Health and Safety 2016**			
403-1	**Occupational health and safety management system**	64–69 (ESH), 70–77 (Occupational Safety and Health/Disaster Prevention)		6.4 6.4.6
403-2	**Hazard identification, risk assessment, and incident investigation**	64–69 (ESH), 70–77 (Occupational Safety and Health/Disaster Prevention)		6.4 6.4.6
403-3	**Occupational health services**	65 (Introduction of the DECS), 72 (Basic Initiatives Aimed at Preventing Occupational Accidents), 73–74 (Education and Training), 74–77 (Disaster Prevention)		6.4 6.4.6 6.8 6.8.3 6.8.4 6.8.8
403-4	**Worker participation, consultation, and communication on occupational health and safety**	64–69 (ESH), 70–77 (Occupational Safety and Health/Disaster Prevention)		6.4 6.4.6
403-5	**Worker training on occupational health and safety**	68 (Our team is responsible for promoting ESH in the PRC.), 73–74 (Education and Training), 76–77 (Emergency Response Drills, Hands-On Safety Training)		6.4 6.4.6
403-6	**Promotion of worker health**	129 (Caring for Mental and Physical Health)	64–65 (ESH), 129–130 (Initiatives to Support Employee Health)	6.4 6.4.6
403-7	**Prevention and mitigation of occupational health and safety impacts directly linked by business relationships**	64–65 (ESH)		6.4 6.4.6
403-8	**Workers covered by an occupational health and safety management system**	64–68 (ESH(Management System)), 69–77 (Occupational Safety and Health) (All employees are covered by occupational health and safety management system.)		6.4 6.4.6
403-9	**Worker-related injuries**	71 (Status of Occupational Accidents), 74 (Disaster Prevention)		6.4 6.4.6
403-10	**Work-related ill health**		129 (Caring for Mental and Physical Health)	6.4 6.4.6
GRI 404:	**Training and Education 2016**			
404-1	**Average hours of training per year per employee**		127 (DIC Training Programs)	6.4 6.4.7
404-2	**Programs for upgrading employee skills and transition assistance programs**	64–77 (ESH), 111–113 (Quality), 114–130 (Human Resources Management)		6.4 6.4.7 6.8.5
404-3	**Percentage of employees receiving regular performance and career development reviews**	125 (Securing and Fostering Human Resources) (All DIC employees, regardless of gender, job or rank, receive performance and career development reviews twice annually.)		6.4 6.4.7
GRI 405:	**Diversity and Equal Opportunity 2016**			
405-1	**Diversity of governance bodies and employees**	118–119 (Diversity Promotion and Work Style Reform)	45–46 (Directors, Audit & Supervisory Board Members and Executive Officers), 122 (Reemployment after Retirement and Support for Retirement Planning), 122 (Advancing the Employment of Individuals with Disabilities), 127–128 (Global Talent Development)	6.3.7 6.3.10 6.4 6.4.3
405-2	**Ratio of basic salary and remuneration of women to men**	—		6.3.7 6.3.10 6.4 6.4.3 6.4.4
GRI 406:	**Non-Discrimination 2016**			
406-1	**Incidents of discrimination and corrective actions taken**	—		6.3 6.3.6 6.3.7 6.3.10 6.4.3
GRI 407:	**Freedom of Association and Collective Bargaining 2016**			
407-1	**Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk**	118 (Building Trust with the DIC Employees' Union)	48 (Ensuring DIC Remains a Globally Trusted Corporate Citizen with a Proud Reputation), 131 (Sustainable Procurement)	6.3 6.3.3 6.3.4 6.3.5 6.3.8 6.3.10 6.4.3 6.4.5

GRI 408:	**Child Labor 2016**			
408-1	**Operations and suppliers at significant risk for incidents of child labor**	117 (Principal Human Rights Challenges Facing the DIC Group)	48 (Ensuring DIC Remains a Globally Trusted Corporate Citizen with a Proud Reputation), 131–133 (Sustainable Procurement)	6.3 6.3.3 6.3.4 6.3.5 6.3.7 6.3.10
GRI 409:	**Forced or Compulsory Labor 2016**			
409-1	**Operations and suppliers at significant risk for incidents of forced or compulsory labor**	117 (Principal Human Rights Challenges Facing the DIC Group)	48 (Ensuring DIC Remains a Globally Trusted Corporate Citizen with a Proud Reputation), 131–133 (Sustainable Procurement)	6.3 6.3.3 6.3.4 6.3.5 6.3.7 6.3.10
GRI 410:	**Security Practices 2016**			
410-1	**Security personnel trained in human rights policies or procedures**	—		6.3 6.3.5 6.4.3 6.6.6
GRI 411:	**Rights of Indigenous Peoples**			
411-1	**Incidents of violations involving rights of indigenous peoples**	NA		6.3 6.3.6 6.3.7 6.3.8 6.6.7
GRI 412:	**Human Rights Assessment 2016**			
412-1	**Operations that have been subject to human rights reviews or impact assessments**	114–117 (Human Resources Management)		6.3 6.3.3 6.3.4 6.3.5
412-2	**Employee training on human rights policies or procedures**		114–117 (Human Resources Management)	6.3 6.3.5
412-3	**Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening**	—		6.3 6.3.3 6.3.5 6.6.6
GRI 413:	**Local Communities 2016**			
413-1	**Operations with local community engagement, impact assessments, and development programs**		143–148 (Communication with Stakeholders)	6.3.9 6.6.7 6.8 6.8.5 6.8.7
413-2	**Operations with significant actual and potential negative impacts on local communities**	—		6.3.9 6.5.3 6.5.6 6.8.9
GRI 414:	**Supplier Social Assessment 2016**			
414-1	**New suppliers that were screened using social criteria**		131–133 (Sustainable Procurement)	—
414-2	**Negative social impacts in the supply chain and actions taken**	131–133 (Sustainable Procurement)	The number of suppliers and negative impacts identified cannot be disclosed because of confidentiality concerns.	—
GRI 415:	**Public Policy 2016**			
415-1	**Political contributions**	NA		
GRI 416:	**Customer Health and Safety**			
416-1	**Assessment of the health and safety impacts of product and service categories**		111–112 (Quality)	6.3.9 6.6.6 6.7 6.7.4 6.7.5
416-2	**Incidents of non-compliance concerning the health and safety impacts of products and services**	NA	113 (Preventing the Recurrence of Quality Problems)	6.3.9 6.6.6 6.7 6.7.4 6.7.5
GRI 417:	**Marketing and Labeling 2016**			
417-1	**Requirements for product and service information and labeling**	104 (Ensuring the Safety of Chemical Substances), 112 (Initiatives Aimed at Increasing Customer Satisfaction)		6.7 6.7.3 6.7.4 6.7.5 6.7.6 6.7.9
417-2	**Incidents of non-compliance concerning product and service information and labeling**	NA		6.7 6.7.3 6.7.4 6.7.5 6.7.6 6.7.9
417-3	**Incidents of non-compliance concerning marketing communications**	NA		6.7 6.7.3 6.7.6 6.7.9
GRI 418:	**Customer Privacy 2016**			
418-1	**Substantial complaints concerning breaches of customer privacy and losses of customer data**	NA		6.7 6.7.7
GRI 419:	**Socioeconomic Compliance 2016**			
419-1	**Non-compliance with laws and regulations in the social and economic area**	NA		6.6 6.6.3 6.6.7 6.8.7

Third-Party Verification



Verification Statement

15 June 2020
Statement No : SGS20/007

Mr. Kaoru Ino
Representative Director, President and CEO
DIC Corporation

Objective

SGS Japan Inc. (hereinafter referred to as "SGS") was commissioned by DIC Corporation (hereinafter referred to as "the Organization") to conduct independent verification based on Criteria of Verification (ISO14064-3: 2006 and the SGS verification protocol) regarding the data prepared by the Organization on the scope of verification (hereinafter referred to as "the assertion"). The objective of this verification is to confirm that the assertion in the Organization's applicable scope has been correctly calculated and reported in the assertion in conformance with the criteria, and to express our views as a third party.

Scope

The scope of verification is Scope 1 and 2 emissions, energy consumption, and Scope3 emissions, amount of water, waste amount, the number of working hours, occupational accidents and the data of female managers.
The period subject to report is from 1 January 2019 to 31 December 2019.
Refer to the attached sheet for the detailed scope of verification.

Procedure of Verification

The assertion was verified in accordance with Criteria of Verification, and the following processes were implemented at a limited level of assurance:

- Verification of the calculation system: Interviews on the measurement, tabulation, calculation and reporting methods employed by the Organization as well as review of related documents and records
- Verification of the assertion: On-site verification and review of vouchers conducted at the Sakai Plant and the DIC Graphics Corporation Tokyo Plant, and analytical procedures and interviews for other sites in the scope of verification carried out at the head office

The criteria for this review are based on"GHG Emissions Calculation and Reporting Manual Ver. 4.4", "the protocol specified by the Organization" and "Basic Guidelines on Accounting for Greenhouse Gas Emissions throughout the Supply Chain, Ver. 2.3".

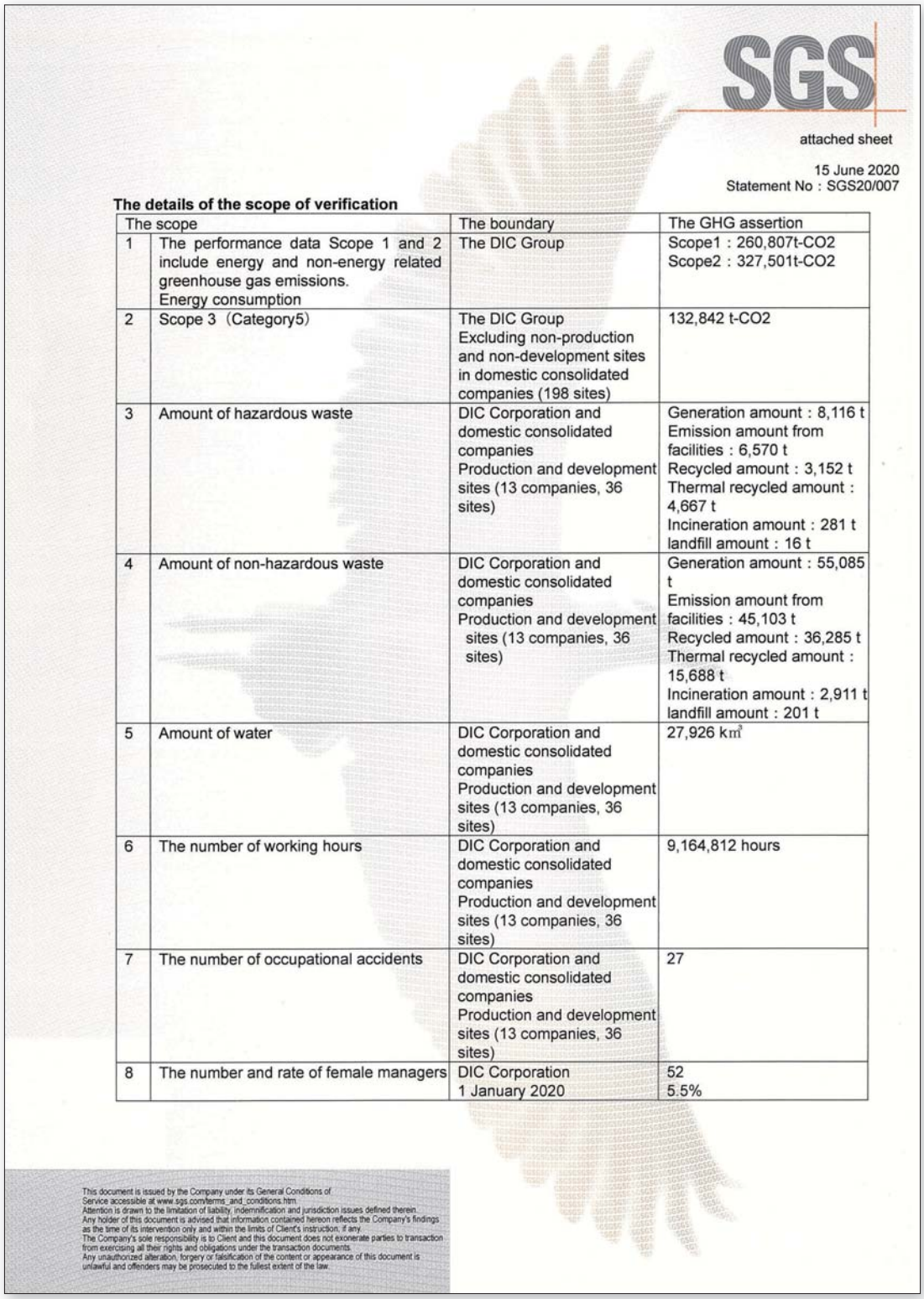
Conclusion

Within the scope of the verification activities employing the methodologies mentioned above, nothing has come to our attention that caused us to believe that the Organization's GHG assertion was not calculated and reported in conformance with the criteria.
SGS Japan Inc. affirms our independence from the organization, being free from bias and conflicts of interest with the Organization.

For and on behalf of SGS Japan Inc
Senior Executive & Director
Certification and Business Enhancement
Yuji Takeuchi

The DIC Group commissioned SGS Japan Inc. to conduct third-party verification of its data for greenhouse gas emissions, discharge of industrial waste and number of occupational accidents (including number of accidents leading to workdays lost).

Third-Party Verification



attached sheet

15 June 2020
Statement No : SGS20/007

The details of the scope of verification

The scope		The boundary	The GHG assertion
1	The performance data Scope 1 and 2 include energy and non-energy related greenhouse gas emissions. Energy consumption	The DIC Group	Scope1 : 260,807t-CO2 Scope2 : 327,501t-CO2
2	Scope 3 (Category5)	The DIC Group Excluding non-production and non-development sites in domestic consolidated companies (198 sites)	132,842 t-CO2
3	Amount of hazardous waste	DIC Corporation and domestic consolidated companies Production and development sites (13 companies, 36 sites)	Generation amount : 8,116 t Emission amount from facilities : 6,570 t Recycled amount : 3,152 t Thermal recycled amount : 4,667 t Incineration amount : 281 t landfill amount : 16 t
4	Amount of non-hazardous waste	DIC Corporation and domestic consolidated companies Production and development sites (13 companies, 36 sites)	Generation amount : 55,085 t Emission amount from facilities : 45,103 t Recycled amount : 36,285 t Thermal recycled amount : 15,688 t Incineration amount : 2,911 t landfill amount : 201 t
5	Amount of water	DIC Corporation and domestic consolidated companies Production and development sites (13 companies, 36 sites)	27,926 km³
6	The number of working hours	DIC Corporation and domestic consolidated companies Production and development sites (13 companies, 36 sites)	9,164,812 hours
7	The number of occupational accidents	DIC Corporation and domestic consolidated companies Production and development sites (13 companies, 36 sites)	27
8	The number and rate of female managers	DIC Corporation 1 January 2020	52 5.5%

The DIC Group commissioned SGS Japan Inc. to conduct third-party verification of its data for greenhouse gas emissions, discharge of industrial waste and number of occupational accidents (including number of accidents leading to workdays lost).

Third-Party Opinion Regarding DIC Report 2020

Counselor,
The Japan Research Institute, Limited
Eiichiro Adachi

In his current capacity, Eiichiro Adachi conducts industry research and assesses corporate performance from the perspective of social responsibility. A member of the Market Evolution and Corporations in the 21st Century working group organized by the Keizai Doyukai (Japan Association of Corporate Executives), Mr. Adachi was involved in the preparation of The 15th Corporate White Paper on "'Market Evolution' and CSR Management: Toward Building Integrity and Creating Shareholder Value." From March 2005 to May 2009, he also served as a national expert within the Japanese delegation to the ISO 26000 working group. In March 2019, he was appointed a national expert within the Japanese delegation to the ISO/TC322, the International Organization for Standardization's technical committee for sustainable finance. Mr. Adachi is also known as the author of several books, including *Environmental Management: A Beginners' Guide, ESG Handbook for Investors and Businesses* and *The Business Person's Guide to the SDGs* (published in Japanese).

This third-party opinion reflects my view of the sustainability initiatives and related disclosure of DIC and its consolidated subsidiaries in Japan and overseas, as understood from reading this report, from my perspective as an individual who provides corporate information to financial institutions necessary for ESG investment. It is not intended as a comment on whether or not the information herein has been measured and calculated accurately to conform with commonly accepted standards for the preparation of environmental or other reports or as a judgment on whether the report covers relevant important matters in full.

Once again this year, I had the honor of reviewing the DIC Report. Reading last year's report, I understood that DIC and its consolidated subsidiaries in Japan and overseas were strongly conscious of the importance of responsiveness to change. The first thing that caught my eye this year was the explanation of DIC's focus under DIC111 to transform its business portfolio by focusing on businesses that deliver both social value and economic value. Accordingly, I think that the Company's use of a new proprietary sustainability index, which commenced in 2020, is particularly worth noting. I was inspired by the president and CEO's message and particularly by the following comment: "Going forward, we will continue to capitalize on this index to ensure we maintain a healthy awareness of the social value created by addressing social imperatives and in so doing reinforce our long-term management direction."

Reading through DIC Report 2020, it is clear that the DIC Group has arrived at a new stage in its evolution in which environmental measures, diversity promotion and work style reform are integrated comprehensively as aspects of management. Overall, I found the content extremely impressive. That said, there were a few parts in there that I think could benefit from a more detailed explanation. I hope my suggestions will be in mind when preparing next year's report. The first is what concrete steps are being taken to incorporate the DIC Sustainability Index into management. The framework of the index is clear: A vertical axis (environmental impact reduction) that clarifies the DIC Group's responsibility in supplying products and a horizontal axis (social contribution) that assesses risks associated with the raw materials procured and products supplied by the Group. Looking ahead, the use of business and/or product mapping to the extent possible would enhance persuasiveness.

The second part that I think could benefit from a bit more detail is the explanation of DIC's acquisition of BASF's Colors & Effects business. Today, consideration for ESG-related issues is required not only of investors and fund managers but also of companies contemplating M&A transactions. It is thus important to communicate how DIC evaluated this acquisition from an ESG perspective. Insofar as DIC has earmarked ¥250 billion for strategic investments, I hope that they will create a benchmark for Japanese companies for the incorporation of ESG considerations into investment decisions.

It is also evident that DIC continues to promote steady efforts to reinforce its corporate governance organization, the practical guidance regarding the role of outside directors published by the Ministry of Economy, Trade and Industry in July 2020 contains the following statement: "For a company to achieve sustainable growth and bolster their corporate value over the medium to long term they must conduct management with an awareness of ESG, the SDGs and other global trends. It is thus hoped that a company's outside directors are able to adopt perspectives that are easily missed by insiders and to offer opinions that help ensure the company's ability to ensure sustainable management." From this standpoint, improving accountability will be another challenge. The use and disclosure of a skills matrix is an idea worth considering.

Third, I am concerned that disclosure in DIC Report 2020 is to a certain degree unduly weighted toward climate change. Product stewardship, especially the management of chemical substances and efforts to address such issues as waste plastic and marine plastics should be given equal attention. For example, the European Union is currently in the process of formulating what it calls a "chemicals strategy for sustainability." I think it is important for DIC to emphasize communication on this topic. As a manufacturer of fine chemicals, I believe that the most critical task facing DIC is to outline how it plans to shift away from fossil-based raw materials and toward biorenewable plant-derived raw materials. In recent years, the concept of a regenerative economy has attracted increasing attention overseas. It is my hope that DIC continues to expand its disclosure in key areas such as these.

DIC Group Milestones

112 Years of Achievement

1908
Established as Kawamura Ink Manufactory

Established by Kijuro Kawamura as Kawamura Ink Manufactory; adopts the dragon as its product trademark and begins manufacturing inks.

Dragon product trademark

DIC's founder, Kijuro Kawamura

1915
Commences production of offset printing inks

Becomes one of the first companies to conduct research in the area of offset printing inks and succeeds in producing a viable product in only one year.

1925
Begins production of organic pigments

Develops production method for organic pigments and begins production for its own use, the first step in its evolution as a fine chemicals manufacturer.

1940
Commences production of water-based gravure inks

Amid wartime restrictions on use of volatile oils, develops water-based gravure inks—one of several achievements that would later facilitate expansion into synthetic resins.

1952
Makes full-scale entry into the synthetic resins business

Establishes Japan Reichhold Chemicals Inc., then the second-largest joint venture with an overseas firm in the history of the Japanese chemicals industry, and makes a full-scale entry into the synthetic resins business.

Reichhold Chemicals' San Francisco plant

1957
Enters the market for helmets and other molded plastic products

Enters the plastic products business with the aim of becoming an integrated manufacturer with operations encompassing production of everything from plastic raw materials to finished products.

1962
Changes Company name to Dainippon Ink and Chemicals

Embarks on a new chapter in its history by absorbing Japan Reichhold Chemicals Inc., and changes Company name to Dainippon Ink and Chemicals Incorporated (DIC).

DIC's previous corporate symbol

1968
Commences sales of the *DIC Color Guide®*

Launches the *DIC Color Guide®*, which becomes the de facto standard for color selection in numerous industries, bolstering recognition of the DIC name.

DIC Color Guide®

Promotes expansion of printing inks business → **Diversifies operations by building on base in printing inks, organic pigments and synthetic resins** → **Actively introduces technologies from overseas and promotes further diversification**

Sustainability Initiatives

1973
Establishes the Environment and Safety Response Department

Creates department under the direct supervision of DIC's president to oversee safety and environmental initiatives (today's Responsible Care Department); creates Environment and Safety Management Regulations and Interim Emergency Countermeasures Department and begins promoting decisive efforts, including the implementation of plant safety inspections.

1990
Opens Kawamura Memorial Museum of Art

Located in Sakura, Chiba Prefecture, adjacent to the Central Research Laboratories; established to exhibit works of art collected by DIC and DIC Group companies and now called the Kawamura Memorial DIC Museum of Art.

1995
Declares intention to uphold the principles of Responsible Care

Takes an active role in the Responsible Care movement since the start as one of 74 founding members of the Japan Responsible Care Council (JRCC); reinforces efforts to, among others, reduce negative environmental impact of operations and lower energy consumption.

Responsible Care®

2006
Becomes signatory to the Responsible Care Global Charter

Signs the CEO's Declaration of Support for the Responsible Care Global Charter, established by the International Council of Chemical Associations (ICCA), as befits its status as a member of the global community of fine chemicals manufacturers.

Certification of DIC as signatory to the Responsible Care Global Charter

1970
Enters the multilayered films business
Establishes Crown Zellerbach Packaging Materials Japan Co., Ltd., in a joint venture with Crown Zellerbach Corporation of the United States and Nippon Kakoh Seishi Co., Ltd., and enters the multilayered films business.

1973
Enters the market for LCs
Develops revolutionary high-performance, long-lasting nematic LCs, commencing its evolution into one of the world's foremost manufacturers of LCs.


Nematic LCs

1986
Acquires the graphic arts materials division of Sun Chemical Corporation of the United States
Becomes world's largest manufacturer of printing inks in terms of market share and a leading name in the graphic arts materials business.

Sun Chemical's headquarters

1999
Succeeds in developing 100% soybean oil–based printing ink
Amid rising awareness of environmental issues, develops Japan's first organic solvent-free sheetfed offset ink.

1999
Acquires Coates, the printing inks division of France's TOTALFINA
Establishes presence in India, Central and South America and elsewhere by acquiring the Coates Group from TOTALFINA S.A., France's largest oil company.

2008
Changes Company name to DIC Corporation
Marks centennial anniversary by changing Company name to DIC Corporation and adopting a new corporate symbol.

DIC's new corporate symbol

2009
Establishes DIC Graphics Corporation
In October 2009, establishes a joint venture with Dai Nippon Printing Co., Ltd., subsidiary The Inctec Inc. and integrates its domestic printing inks business with the printing inks business of The Inctec.

2010
Develops groundbreaking series of green pigments for LCD color filters
Develops the *G58* series of green pigments for use in color filters for liquid crystal displays (LCDs), which deliver marked increases in brightness and contrast compared with previous products and contribute substantially to reduced energy consumption by LCDs.

2015
Completes reconstruction of corporate headquarters in Nihonbashi
In May 2015, completes the reconstruction of its corporate headquarters—the DIC Building—in Nihonbashi, Tokyo, the role of which was expanded to include oversight of the global DIC Group.


DIC Building

2016
Introduces branding program
Introduces new branding program based on the Group's "Color & Comfort" brand slogan, which sets forth three corporate values, and in October airs a new television advertisement.


Brand advertisement for television

2017
Enters capital and business alliance with Taiyo Holdings
Concludes capital and business alliance with Taiyo Holdings Co., Ltd., one of the world's leading manufacturers of solder resist for printed wiring boards.

2019
Launches DIC111 medium-term management plan
Clarifies strategies for transforming the DIC Group's business portfolio, that is, for building a sophisticated portfolio focused on ESH-related issues and social changes by advancing qualitative reforms in existing core businesses and creating new businesses with the potential to become mainstays.

Seeks to advance globalization of core businesses and diversify into new areas | **Takes steps to advance environmental protection and expands global presence** | **Prepares for a new phase of growth**

2007
Launches CSR program
Begins promoting CSR initiatives; identifies fulfilling its responsibilities as a member of society through its business activities and contributing to the evolution of society as the cornerstones of CSR.

2010
Joins United Nations Global Compact
In December 2010, becomes a participant in the United Nations Global Compact (UNGC), with the aim of maintaining its reputation as a socially responsible corporate entity.

WE SUPPORT UN GLOBAL COMPACT

2014
Changes designation to "sustainability"
Clarifies its overall policy of achieving sustainability in a manner that takes into account, among others, the environment, ecosystems and socioeconomic issues, and changes the designation used across its program from "CSR" to "sustainability."

In-house poster promoting sustainability initiatives

2015
Selected for inclusion in the Dow Jones Sustainability Indices Asia Pacific Index
Included for the first time in the DJSI Asia Pacific Index, a global family of indices for socially responsible investing and a benchmark of global sustainability. As of 2019, has been included in the index for five consecutive years.

MEMBER OF
Dow Jones Sustainability Indices
In Collaboration with RobecoSAM

Color & Comfort

DIC Report 2020

Financial Section Year ended December 31, 2019

DIC Corporation

One of the world's leading diversified chemicals companies, DIC Corporation is also the core of the DIC Group, a multinational organization with operations in more than 60 countries and territories worldwide. Established in 1908 as a manufacturer of printing inks, DIC has capitalized on its extensive technologies, know-how and experience in the years since to build a broad business portfolio of materials and finished products, enabling it to provide innovative solutions to customers in diverse industries and transforming it into a global powerhouse in its key fields of endeavor.

Now in its second century in business, DIC is redoubling its efforts to develop and market innovative, high-performance products that respond to the needs of customers in markets around the world, in line with its "Color & Comfort by Chemistry" vision. A responsible corporate citizen, DIC is also committed to helping realize environmental and social sustainability.

The DIC Way

Mission

We create enhanced value and utilize innovation to introduce socially responsible and sustainable products.

Vision

Color & Comfort by Chemistry

We improve the human condition by safely bringing color and comfort into people's lives.

Core Values

Enterprising

Lead with a passion for excellence that is evident in the solution-focused actions taken each day to drive value through innovation.

Integrity

Be honest, forthright and ethical in all dealings with customers, suppliers, and coworkers.

Dedication & Loyalty

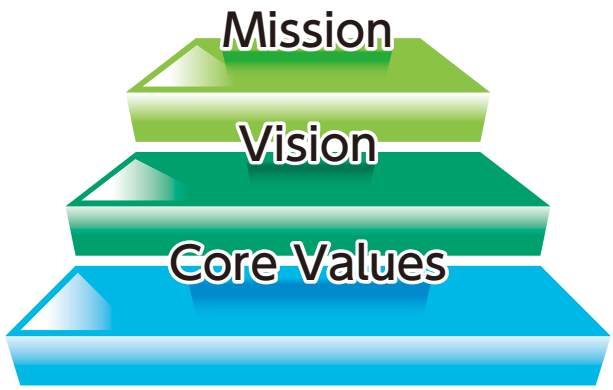
Take responsibility for one's performance in the office, laboratory, and plant, by demonstrating commitment to customers, suppliers, and coworkers.

Diversity

Respect other viewpoints and work collaboratively while valuing collective goals over personal interests to achieve excellence; foster communication and cooperation with people from all backgrounds.

Social Responsibility

Go beyond compliance to promote products and activities that achieve socially responsible and sustainable development that protects the environment.



Contents

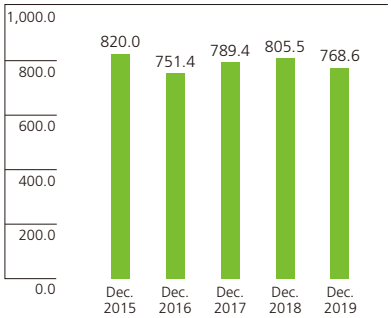
1 Consolidated Five-Year Summary

DIC Corporation and Consolidated Subsidiaries
Years ended December 31, 2019 to 2015

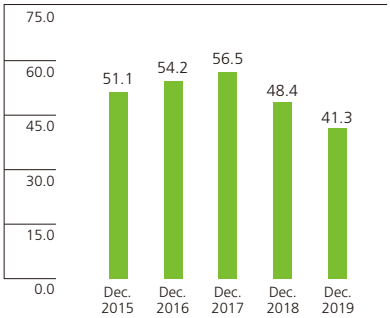
	Millions of yen, except for per share information					Thousands of U.S. dollars, except for per share information (Note 7)
	Dec. 2019	Dec. 2018	Dec. 2017	Dec. 2016	Dec. 2015	Dec. 2019
Net sales	¥768,568	¥805,498	¥789,427	¥751,438	¥819,999	$7,051,083
Percent increase (decrease)	(4.6)%	2.0%	5.1%	(8.4)%	(1.2)%	(4.6)%
Operating income	41,332	48,385	56,483	54,182	51,068	379,193
Net income attributable to owners of the parent	23,500	32,028	38,603	34,767	37,394	215,596
Equity (Note 3)	312,740	298,896	315,129	278,535	262,467	2,869,174
Total assets (Note 8)	803,083	801,296	831,756	764,828	778,857	7,367,734
Equity per share (Notes 1, 4 and 6)	¥3,304.34	¥3,158.05	¥3,329.60	¥2,938.12	¥2,768.41	$30.32
Earnings per share (basic) (Notes 2, 4 and 6)	248.29	338.40	407.56	366.72	389.40	2.28
Cash dividends per share applicable to the period (Note 5)	100.00	125.00	120.00	64.00	8.00	0.92
Equity ratio to total assets (Note 8)	38.9%	37.3%	37.9%	36.4%	33.7%	38.9%
ROE (return on equity)	7.7%	10.4%	13.0%	12.9%	14.6%	7.7%
Number of employees	20,513	20,620	20,628	20,481	20,264	20,513

Notes: 1. The computation of equity per share has been based on the number of shares issued as of the balance sheet date.
2. The computation of earnings per share has been based on the weighted-average number of shares issued during each fiscal year.
3. Equity comprises "Total shareholders' equity" and "Total accumulated other comprehensive income."
4. The Company implemented a consolidation of shares of common stock by a factor of 10 to 1 with July 1, 2016, as the effective date. Earnings per share (basic) and equity per share are calculated respectively based on the assumption that the consolidation had been implemented at the beginning of the fiscal year ended December 31, 2015.
5. The Company implemented a consolidation of shares of common stock by a factor of 10 to 1 with July 1, 2016, as the effective date. Cash dividends per share applicable to the period for the fiscal year ended December 31, 2016, comprises interim dividends of ¥4.00 (before the consolidation) and year-end dividends of ¥60.00 (after the consolidation). If the consolidation had been taken into consideration, cash dividends per share applicable to the period for the fiscal year ended December 31, 2016, would be ¥100.00.
6. From the fiscal year ended December 31, 2017, the Company introduced the Board Benefit Trust (BBT). The shares held by the trust are recorded under net assets as treasury shares. The number of treasury shares excluded from the number of shares issued as of the balance sheet date used for the calculation of equity per share includes the number of shares held by the trust. The number of treasury shares excluded from the weighted-average number of shares issued during the fiscal year used for the calculation of earnings per share includes the number of shares held by the trust.
7. Yen amounts have been translated, for readers' convenience only, at the rate of ¥109 to US$1, the approximate rate of exchange at December 31, 2019.
8. The Company has applied "Partial Amendments to Accounting Standard for Tax Effect Accounting" (Accounting Standards Board of Japan (ASBJ) Statement No. 28, issued on February 16, 2018), etc., since the beginning of the fiscal year ended December 31, 2019. The figures as of December 31, 2018, are based on retrospective application.

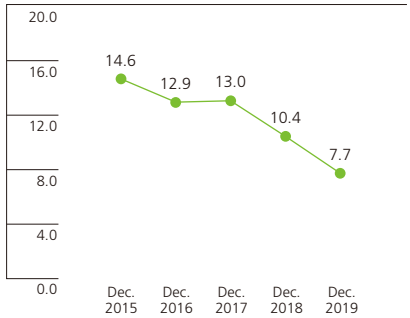
Net Sales
(Billions of yen)



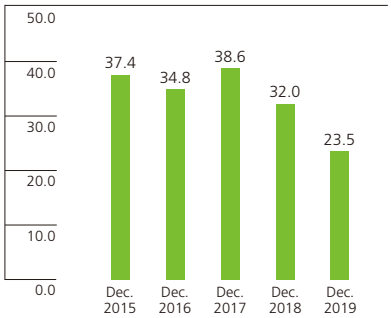
Operating Income
(Billions of yen)



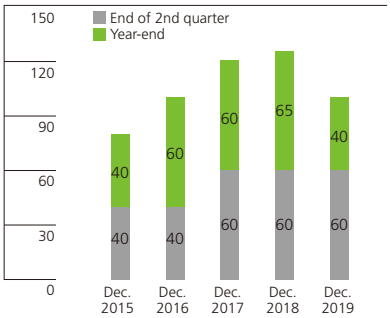
ROE
(%)



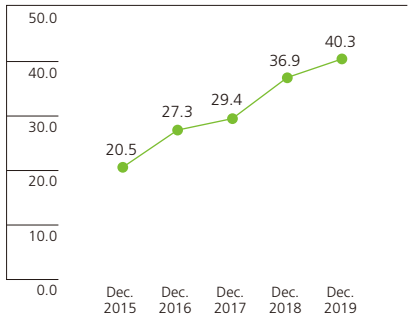
Net Income Attributable to Owners of the Parent
(Billions of yen)



Cash Dividends per Share
(Yen)



Dividend Payout Ratio
(%)



* These figures have been adjusted to account for the impact of a consolidation of shares of common stock by a factor of 10 to 1 with July 1, 2016, as the effective date.

This document presents the consolidated results for fiscal year 2019, comprising the accounts for the year ended December 31, 2019, of DIC and its domestic and overseas subsidiaries.

Overview of Operating Results

In fiscal year 2019, consolidated net sales slipped 4.6%, to ¥768.6 billion. On a local currency basis, however, the decrease was only 1.3%. Owing to the impact of slowing global economic growth, shipments sank in a wide range of businesses, centering on materials used in electrical and electronics equipment and in automobiles.

Operating income was down 14.6%, to ¥41.3 billion, or 8.7% on a local currency basis. In addition to falling shipments, particularly of high-value-added products, these results reflected flagging sales prices for some products. A decline in results overseas after translation, a consequence of yen appreciation, also pushed operating income down. Thanks to the impact of raw materials price decreases and of cost reductions achieved through rationalization, the decline narrowed after bottoming out in the first quarter. Of particular note, operating income in the People's Republic of China (PRC) and Southeast Asia turned positive in the second quarter. Ordinary income was down 15.2%, to ¥41.3 billion. Net income attributable to owners of the parent fell 26.6%, to ¥23.5 billion. This reflected an extraordinary loss arising from efforts to improve business efficiency, as well as one-time disaster- and acquisition-related expenses. Earnings before interest, taxes, depreciation and amortization (EBITDA) declined 17.2%, to ¥67.4 billion. Factors behind this included the drop in net income attributable to owners of the parent.

	Billions of yen			
	FY2019	FY2018	Change (%)	Change calculated in local currency (%)
Net sales	**¥768.6**	¥805.5	(4.6)%	(1.3)%
Operating income	**41.3**	48.4	(14.6)	(8.7)
Ordinary income	**41.3**	48.7	(15.2)	—
Net income attributable to owners of the parent	**23.5**	32.0	(26.6)	—
EBITDA*	**67.4**	81.4	(17.2)	—

** EBITDA = Net income attributable to owners of the parent + Total income taxes + (Interest expenses – Interest income) + Depreciation and amortization*

	Yen	
	FY2019	FY2018
Average exchange rate (¥/US$)	**¥109.11**	¥110.46
Average exchange rate (¥/EUR)	**122.13**	130.46

Segment Results

Packaging & Graphic

Segment sales slipped 4.2%, to ¥416.4 billion. Although sales edged up 0.6% on a local currency basis, the depreciation of the euro and emerging economy currencies led to a decrease after translation into yen. In the area of materials for food packaging, sales of packaging inks rose, particularly in emerging economies in Asia and South America. In contrast, sales of polystyrene languished, despite an increase in shipments, as raw materials price decreases prompted the reduction of sales prices. Sales of publication inks, which center on publishing inks and news inks, were down, owing to an ebb in overall demand. Sales of jet inks for digital printing rose.

Segment operating income slipped 3.6%, to ¥19.2 billion. On a local currency basis, operating income rose 8.0%, benefiting from the positive impact of an improved product mix and rationalization efforts, as well as from a decrease in raw materials prices, particularly in the PRC and Southeast Asia. As with segment sales, however, this translated into a decline on a yen basis.

	Billions of yen		Change calculated in local currency (%)
	FY2019	Change (%)	
Net sales	**¥416.4**	(4.2)%	0.6%
Operating income	**19.2**	(3.6)	8.0

Color & Display

Segment sales, at ¥116.4 billion, were down 6.2%. In the area of color materials, shipments of pigments for cosmetics and general-purpose pigments flagged, hampered by trade friction. In display materials, shipments of pigments for color filters were firm, although sales of thin-film transistor liquid crystals (TFT LCs) sank, hindered by sagging sales prices, a consequence of intensifying competition.

Segment operating income plunged 28.0%, to ¥10.8 billion. Contributing factors included sales price reductions for TFT LCs and waning shipments of general-purpose pigments. Operating income was also constrained by the tightening of environmental regulations in the PRC, as well as by increases in prices for pigments raw materials attributable to trade friction.

	Billions of yen FY2019	Change (%)	Change calculated in local currency (%)
Net sales	**¥116.4**	(6.2)%	(3.8)%
Operating income	**10.8**	(28.0)	(25.4)

Functional Products

Segment sales decreased 4.8%, to ¥268.6 billion. While applications for polyphenylene sulfide (PPS) compounds continue to expand thanks to the trend toward lighter and increasingly electrified vehicles, shipments remained low, reflecting a downtrend in automobile production worldwide. Flagging economic conditions pushed down sales of epoxy resins and industrial tapes, the principal applications for which are smartphones and semiconductors. Sales of synthetic resins remained sluggish overall, despite bottoming out in the first quarter.

Segment operating income was down 7.6%, to ¥19.2 billion. Despite this decrease, which stemmed from dwindling shipments overall, the operating margin improved gradually, as shipments of epoxy resins and other high-value-added products picked up after bottoming out in the first quarter and raw materials prices decreased.

	Billions of yen FY2019	Change (%)	Change calculated in local currency (%)
Net sales	**¥268.6**	(4.8)%	(3.6)%
Operating income	**19.2**	(7.6)	(6.6)

Analysis of Cash Flows

Cash and cash equivalents as of December 31, 2019, totaled ¥16.7 billion, a decrease of ¥1.9 billion from December 31, 2018.

Operating Activities

Net cash provided by operating activities amounted to ¥50.6 billion, compared with ¥51.0 billion provided by such activities in fiscal year 2018. Income before income taxes and non-controlling interests was ¥34.7 billion, while the adjustment for depreciation and amortization was ¥33.1 billion. Income taxes paid totaled ¥7.1 billion, while working capital increased ¥8.2 billion.

Investing Activities

Net cash used in investing activities came to ¥24.9 billion, down from ¥38.4 billion used in such activities in the previous fiscal year. A net total of ¥1.3 billion was applied to the purchase of shares and investments in capital of subsidiaries resulting in change in scope of consolidation, while proceeds from shares and investments in capital of subsidiaries resulting in change in scope of consolidation amounted to ¥900 million.

Financing Activities

Net cash used in financing activities amounted to ¥26.8 billion, up from ¥11.8 billion used in such activities in fiscal year 2018. A net total of ¥12.6 billion was applied to the repayment of interest-bearing debt, while cash dividends paid came to ¥11.8 billion.

4 Consolidated Balance Sheet

DIC Corporation and Consolidated Subsidiaries
December 31, 2019

Assets

	Millions of yen	
	2019	2018
Current assets:		
Cash and deposits (Notes 7, 12 and 20)	**¥ 16,786**	¥ 19,782
Notes and accounts receivable—trade (Notes 12, 20 and 21)	**211,232**	209,763
Merchandise and finished goods (Note 12)	**91,555**	94,611
Work in process (Note 12)	**9,566**	9,403
Raw materials and supplies (Note 12)	**58,610**	61,937
Other (Note 20)	**21,607**	23,878
Allowance for doubtful accounts	**(9,437)**	(9,722)
Total current assets (Note 5)	**399,919**	409,652
Non-current assets:		
Property, plant and equipment (Notes 10, 11 and 12):		
Buildings and structures	**88,540**	88,892
Machinery, equipment and vehicles	**70,867**	70,951
Tools, furniture and fixtures	**11,191**	11,395
Land	**51,961**	48,985
Construction in progress	**9,616**	7,928
Total property, plant and equipment	**232,176**	228,151
Intangible assets:		
Goodwill	**762**	34
Software	**2,585**	2,887
Customer-related assets	**2,674**	3,359
Other	**5,782**	7,502
Total intangible assets	**11,804**	13,782
Investments and other assets:		
Investment securities (Notes 8, 9 and 20)	**59,313**	67,523
Deferred tax assets (Notes 5 and 17)	**33,192**	33,313
Net defined benefit asset (Note 13)	**44,339**	25,089
Other (Notes 8 and 20)	**23,020**	23,947
Allowance for doubtful accounts	**(680)**	(161)
Total investments and other assets (Note 5)	**159,184**	149,711
Total non-current assets (Note 5)	**403,164**	391,644
Total assets (Note 5)	**¥803,083**	¥801,296

See notes to the consolidated financial statements.

Liabilities and Net Assets

	Millions of yen	
	2019	2018
Current liabilities:		
Notes and accounts payable—trade (Notes 20 and 21)	**¥108,562**	¥118,554
Short-term loans payable (Notes 12 and 20)	**20,139**	29,986
Current portion of long-term loans payable (Notes 12, 20 and 21)	**23,456**	49,792
Lease obligations (Notes 12 and 20)	**1,244**	667
Income taxes payable (Notes 17 and 20)	**2,556**	2,843
Provision for bonuses	**5,724**	6,283
Other (Note 20)	**48,445**	47,476
Total current liabilities (Note 5)	**210,126**	255,601
Non-current liabilities:		
Bonds payable (Notes 12 and 20)	**80,000**	60,000
Long-term loans payable (Notes 12, 20 and 21)	**122,602**	119,791
Lease obligations (Notes 12 and 20)	**5,191**	4,229
Deferred tax liabilities (Notes 5 and 17)	**8,768**	2,807
Net defined benefit liability (Note 13)	**21,377**	20,519
Asset retirement obligations	**1,696**	1,482
Other	**9,826**	9,533
Total non-current liabilities (Note 5)	**249,459**	218,361
Total liabilities (Note 5)	**459,585**	473,962
Net assets:		
Shareholders' equity (Notes 14 and 24):		
Capital stock (Note 15)	**96,557**	96,557
Capital surplus	**94,456**	94,445
Retained earnings	**218,209**	207,421
Treasury shares (Note 16)	**(1,823)**	(1,823)
Total shareholders' equity	**407,398**	396,600
Accumulated other comprehensive income:		
Valuation difference on available-for-sale securities	**1,676**	1,407
Deferred gains or losses on hedges	**683**	14
Foreign currency translation adjustment	**(72,671)**	(67,617)
Remeasurements of defined benefit plans (Note 13)	**(24,346)**	(31,508)
Total accumulated other comprehensive income	**(94,658)**	(97,704)
Non-controlling interests	**30,757**	28,438
Total net assets	**343,497**	327,334
Total liabilities and net assets (Note 5)	**¥803,083**	¥801,296

6 Consolidated Statement of Income

DIC Corporation and Consolidated Subsidiaries
Year ended December 31, 2019

	Millions of yen	
	2019	2018
Net sales	**¥768,568**	¥805,498
Cost of sales	**603,199**	629,850
Gross profit	**165,369**	175,648
Selling, general and administrative expenses (Note 18)	**124,037**	127,263
Operating income	**41,332**	48,385
Non-operating income:		
Interest income	**2,420**	3,781
Dividends income	**414**	425
Equity in earnings of affiliates	**2,475**	3,845
Other	**1,692**	1,631
Total non-operating income	**7,001**	9,682
Non-operating expenses:		
Interest expenses	**3,724**	5,114
Foreign exchange losses	**811**	828
Other	**2,496**	3,423
Total non-operating expenses	**7,031**	9,365
Ordinary income	**41,302**	48,702
Extraordinary income:		
Gain on sales of subsidiaries and affiliates securities	**1,624**	679
Insurance income	**1,409**	237
Gain on sales of non-current assets	**1,401**	431
Gain on sales of investment securities	**—**	3,270
Total extraordinary income	**4,435**	4,617
Extraordinary loss:		
Impairment loss (Note 11)	**3,078**	—
Loss on disposal of non-current assets	**2,399**	2,535
Acquisition-related expenses	**1,914**	—
Loss on disaster	**1,520**	409
Severance costs	**840**	1,539
Provision of allowance for doubtful accounts	**551**	—
Amortization of past service costs	**443**	—
Loss on sales of subsidiaries' and affiliates' securities	**316**	—
Total extraordinary loss	**11,061**	4,483
Income before income taxes and non-controlling interests	**34,676**	48,836
Income taxes (Note 17):		
Income taxes—current	**7,869**	11,015
Income taxes—deferred	**1,461**	4,019
Total income taxes	**9,330**	15,034
Net income	**25,346**	33,802
Net income attributable to non-controlling interests	**1,846**	1,774
Net income attributable to owners of the parent	**¥ 23,500**	¥ 32,028
		Yen
Earnings per share (Note 2):		
Basic	**¥ 248.29**	¥ 338.40
Diluted	**—**	—
Weighted-average number of shares issued during the period, excluding treasury shares (in thousands)	**94,646**	94,647
Cash dividends per share applicable to the period (Note 2)	**¥ 100.00**	¥ 125.00

See notes to the consolidated financial statements.

7 Consolidated Statement of Comprehensive Income

DIC Corporation and Consolidated Subsidiaries
Year ended December 31, 2019

	Millions of yen	
	2019	2018
Net income	**¥25,346**	¥ 33,802
Other comprehensive income:		
Valuation difference on available-for-sale securities	**327**	(6,502)
Deferred gains or losses on hedges	**669**	17
Foreign currency translation adjustment	**(4,394)**	(20,203)
Remeasurements of defined benefit plans, net of tax (Note 13)	**7,269**	(9,413)
Share of other comprehensive income of associates accounted for using equity method	**(744)**	(1,545)
Total other comprehensive income (Note 23)	**¥ 3,127**	¥(37,646)
Comprehensive income	**¥28,473**	¥ (3,844)
Comprehensive income attributable to:		
Comprehensive income attributable to owners of the parent	**¥26,546**	¥ (4,863)
Comprehensive income attributable to non-controlling interests	**1,927**	1,019

See notes to the consolidated financial statements.

8 Consolidated Statement of Changes in Net Assets

DIC Corporation and Consolidated Subsidiaries
Year ended December 31, 2019

Millions of yen

	Shareholders' equity					
	Issued number of common stock (thousands)	Capital stock	Capital surplus	Retained earnings	Treasury shares	Total shareholders' equity
Balance at January 1, 2018	95,157	¥96,557	¥94,445	¥186,768	¥(1,828)	¥375,942
Dividends from surplus, ¥120.00 per share (Note 14)				(11,375)		(11,375)
Net income attributable to owners of the parent				32,028		32,028
Purchase of treasury shares—2,642 shares					(10)	(10)
Disposal of treasury shares—3,900 shares					15	15
Net changes of items other than shareholders' equity (Notes 9 and 14)						
Balance at December 31, 2018	95,157	96,557	94,445	207,421	(1,823)	396,600
Cumulative effects of changes in accounting policies (Note 3)		—	—	(774)	—	(774)
Restated balance		96,557	94,445	206,647	(1,823)	395,826
Dividends from surplus, ¥125.00 per share (Note 14)				**(11,849)**		**(11,849)**
Net income attributable to owners of the parent				**23,500**		**23,500**
Purchase of treasury shares—2,187 shares					**(7)**	**(7)**
Disposal of treasury shares—1,600 shares					**6**	**6**
Change in scope of consolidation				**(90)**		**(90)**
Change in ownership interest of the parent due to transactions with non-controlling interests			**11**			**11**
Net changes of items other than shareholders' equity (Notes 9 and 14)						
Balance at December 31, 2019	**95,157**	**¥96,557**	**¥94,456**	**¥218,209**	**¥(1,823)**	**¥407,398**

Millions of yen

	Accumulated other comprehensive income						
	Valuation difference on available-for-sale securities	Deferred gains or losses on hedges	Foreign currency translation adjustment	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Non-controlling interests	Total net assets
Balance at January 1, 2018	¥ 7,874	¥ (3)	¥(46,462)	¥(22,222)	¥(60,813)	¥28,822	¥343,951
Dividends from surplus, ¥120.00 per share (Note 14)							(11,375)
Net income attributable to owners of the parent							32,028
Purchase of treasury shares—2,642 shares							(10)
Disposal of treasury shares—3,900 shares							15
Net changes of items other than shareholders' equity (Notes 9 and 14)	(6,467)	17	(21,155)	(9,286)	(36,891)	(384)	(37,275)
Balance at December 31, 2018	1,407	14	(67,617)	(31,508)	(97,704)	28,438	327,334
Cumulative effects of changes in accounting policies (Note 3)	—	—	—	—	—	—	(774)
Restated balance	1,407	14	(67,617)	(31,508)	(97,704)	28,438	326,560
Dividends from surplus, ¥125.00 per share (Note 14)							**(11,849)**
Net income attributable to owners of the parent							**23,500**
Purchase of treasury shares—2,187 shares							**(7)**
Disposal of treasury shares—1,600 shares							**6**
Change in scope of consolidation							**(90)**
Change in ownership interest of the parent due to transactions with non-controlling interests							**11**
Net changes of items other than shareholders' equity (Notes 9 and 14)	**269**	**670**	**(5,055)**	**7,161**	**3,046**	**2,320**	**5,365**
Balance at December 31, 2019	**¥ 1,676**	**¥683**	**¥(72,671)**	**¥(24,346)**	**¥(94,658)**	**¥30,757**	**¥343,497**

See notes to the consolidated financial statements.

9 Consolidated Statement of Cash Flows

DIC Corporation and Consolidated Subsidiaries
Year ended December 31, 2019

	Millions of yen	
	2019	2018
Net cash provided by (used in) operating activities:		
Income before income taxes and non-controlling interests	**¥ 34,676**	¥ 48,836
Adjustments for:		
Depreciation and amortization	**33,127**	32,825
Amortization of goodwill	**99**	156
Increase (decrease) in allowance for doubtful accounts	**559**	(263)
Increase (decrease) in provision for bonuses	**(561)**	(782)
Interest and dividends income	**(2,834)**	(4,206)
Equity in (earnings) losses of affiliates	**(2,475)**	(3,845)
Interest expenses	**3,724**	5,114
Loss (gain) on sales and retirement of non-current assets	**997**	2,104
Impairment loss	**3,078**	—
Loss (gain) on sales of subsidiaries and affiliates securities	**(1,308)**	(679)
Loss (gain) on sales of investment securities	**—**	(3,270)
Decrease (increase) in notes and accounts receivable—trade	**(3,054)**	6,897
Decrease (increase) in inventories	**4,614**	(14,516)
Increase (decrease) in notes and accounts payable—trade	**(9,802)**	3,966
Other, net	**(3,543)**	(9,524)
Subtotal	**57,298**	62,813
Interest and dividends income received	**4,335**	6,307
Interest expenses paid	**(3,865)**	(5,050)
Income taxes paid	**(7,132)**	(13,080)
Net cash provided by (used in) operating activities	**50,637**	50,990
Net cash provided by (used in) investing activities:		
Payments into time deposits	**(3,685)**	(3,832)
Proceeds from withdrawal of time deposits	**4,740**	2,893
Purchase of property, plant and equipment	**(34,042)**	(31,343)
Proceeds from sales of property, plant and equipment	**1,613**	1,336
Purchase of intangible assets	**(919)**	(741)
Purchase of shares and investments in capital of subsidiaries resulting in change in scope of consolidation	**(1,558)**	(11,524)
Proceeds from purchase of shares and investments in capital of subsidiaries resulting in change in scope of consolidation	**235**	—
Proceeds from sales of shares and investments in capital of subsidiaries resulting in change in scope of consolidation	**900**	679
Purchase of subsidiaries and affiliates securities	**—**	(157)
Proceeds from sales of subsidiaries and affiliates securities	**9,508**	671
Purchase of investment securities	**(350)**	(509)
Proceeds from sales and redemption of investment securities	**134**	4,150
Payments for transfer of business	**(96)**	(690)
Other, net	**(1,363)**	679
Net cash provided by (used in) investing activities	**(24,884)**	(38,388)
Net cash provided by (used in) financing activities:		
Net increase (decrease) in short-term loans payable	**(9,383)**	(29,689)
Proceeds from long-term loans payable	**40,250**	60,627
Repayment of long-term loans payable	**(63,513)**	(39,204)
Proceeds from issuance of bonds	**20,000**	10,000
Cash dividends paid	**(11,849)**	(11,375)
Cash dividends paid to non-controlling interests	**(767)**	(1,348)
Net decrease (increase) in treasury shares	**(1)**	5
Purchase of shares and investments in capital of subsidiaries that does not result in change in scope of consolidation	**(186)**	(62)
Other, net	**(1,351)**	(735)
Net cash provided by (used in) financing activities	**(26,799)**	(11,781)
Effect of exchange rate change on cash and cash equivalents	**(895)**	159
Net increase (decrease) in cash and cash equivalents	**(1,941)**	980
Cash and cash equivalents at beginning of the period (Note 7)	**18,631**	17,651
Cash and cash equivalents at end of the period (Note 7)	**¥ 16,690**	¥ 18,631

See notes to the consolidated financial statements.

Notes to the Consolidated Financial Statements

DIC Corporation and Consolidated Subsidiaries
Year ended December 31, 2019

Note 1:

Basis of Presenting Financial Statements

The accompanying consolidated financial statements have been prepared in accordance with the provisions set forth in the Japanese Financial Instruments and Exchange Act and its related accounting regulations, and in accordance with accounting principles generally accepted in Japan ("Japanese GAAP"), which are different in certain respects as to application and disclosure requirements of the International Financial Reporting Standards ("IFRS").

In preparing these consolidated financial statements, certain reclassifications and rearrangements have been made to the consolidated financial statements issued domestically in order to present them in a form which is more familiar to readers outside Japan. The consolidated financial statements are stated in Japanese yen, the currency of the country in which DIC Corporation (the "Company") is incorporated.

Note 2:

Summary of Significant Accounting Policies

Consolidated financial statements

Under the control or influence concept, those companies in which the Company, directly or indirectly, is able to exercise control over operations are fully consolidated and those companies over which the Company has the ability to exercise significant influence are accounted for by the equity method.

The consolidated financial statements include the accounts of the Company and its significant subsidiaries: Sun Chemical Group Coöperatief U.A., DIC (China) Co., Ltd., DIC Asia Pacific Pte Ltd, SEIKO PMC CORPORATION, DIC INVESTMENTS JAPAN, LLC., DIC Graphics Corporation and 145 other companies in the fiscal year ended December 31, 2019 (141 other companies in the fiscal year ended December 31, 2018). All significant intercompany balances and transactions have been eliminated in consolidation. All material unrealized profit included in assets resulting from transactions within the Company and its consolidated subsidiaries (the "Group") is eliminated.

Investments in 22 affiliates in the fiscal year ended December 31, 2019 (26 in the fiscal year ended December 31, 2018), are accounted for by the equity method.

Accounting period of consolidated subsidiaries

The closing date of the consolidated subsidiaries is the same as the consolidated closing date.

Cash and cash equivalents

Cash and cash equivalents consist primarily of cash on hand, certificates of deposit and short-term investments with original maturities of three months or less that are readily convertible to known amounts of cash and have insignificant risk of changes in value.

Investment securities

Investment securities are classified and accounted for, depending on management's intent, into available-for-sale securities. Available-for-sale securities are carried at fair value as of the balance sheet date, with unrealized gain and loss, net of applicable taxes, reported in a separate component of net assets. Available-for-sale securities whose fair values are not readily available are carried at cost. The cost of securities sold is calculated by the moving-average method.

Allowance for doubtful accounts

Allowance for doubtful accounts of the Company and its domestic consolidated subsidiaries is provided mainly based on historical experience for normal receivables and on an estimate of collectability of receivables from companies in financial difficulty.

Allowance for doubtful accounts of foreign consolidated subsidiaries is provided mainly based on an estimate of collectability of receivables.

Inventories

Inventories are principally stated at cost, cost being determined by the first-in, first-out (FIFO) method, which evaluates the amount of the inventories shown in the balance sheet by writing them down based on their decrease in profitability.

Property, plant and equipment (excluding leased assets)

Property, plant and equipment are carried at cost. Significant renewals and additions are capitalized; maintenance and repairs, and minor renewals and improvements, are charged to income as incurred.

Depreciation of buildings (other than facilities attached to buildings) of the Company and its domestic consolidated subsidiaries is calculated principally by the straight-line method. Besides, depreciation of facilities

attached to buildings and structures acquired on or after April 1, 2016, is also calculated by the straight-line method. Other property, plant and equipment are calculated by the declining-balance method.

Depreciation of property, plant and equipment of foreign consolidated subsidiaries is calculated principally by the straight-line method. The range of useful lives is principally from 8 to 50 years for buildings and structures and from 3 to 11 years for machinery, equipment and vehicles.

Intangible assets (excluding leased assets)

Intangible assets are carried at cost less accumulated amortization, and are amortized by the straight-line method. Goodwill is amortized by the straight-line method over a reasonable period not exceeding 20 years.

Leased assets

For the Company and its domestic consolidated subsidiaries, leased assets related to finance leases that do not transfer ownership of the leased property to the lessee are depreciated on a straight-line basis, with the lease periods used as their useful lives and no residual value.

Foreign consolidated subsidiaries account for lease transactions in accordance with either the accounting principles generally accepted in the United States of America ("U.S. GAAP") or IFRS.

Retirement and pension plans

Net defined benefit assets/liabilities are recognized for employees' and executive officers' retirement benefits. Pension assets are deducted from retirement benefit obligations and the net amount is recognized based on the estimated amount of payment as of the balance sheet date. In calculating retirement benefit obligations, the Company applies a method of attributing expected retirement benefits to each period on a benefit formula basis. The Company and its domestic consolidated subsidiaries amortize actuarial gains and losses in the succeeding years primarily by the straight-line method over stated years that do not exceed the average remaining service period of the eligible employees (14 to 16 years). Past service costs are amortized in the accounting periods when they accrue.

Foreign consolidated subsidiaries amortize actuarial gains and losses in the succeeding years primarily by the straight-line method over stated years that do not exceed the average remaining service period of the eligible employees (8 to 28 years). Past service costs are amortized over 1 to 28 years.

Unrecognized actuarial gains and losses and unrecognized past service costs are recorded in "Remeasurements of defined benefit plans" in net assets after adjusting income tax effect.

Asset retirement obligations

The asset retirement obligation is recognized as the sum of the discounted cash flows required for the future asset retirement and is recorded in the period in which the obligation is incurred if a reasonable estimate can be made. If a reasonable estimate of the asset retirement obligation cannot be made in the period in which the asset retirement obligation is incurred, the liability should be recognized when a reasonable estimate of the asset retirement obligation can be made. Upon initial recognition of a liability for an asset retirement obligation, an asset retirement cost is capitalized by increasing the carrying amount of the related fixed asset by the amount of the liability. The asset retirement cost is subsequently allocated to expense through depreciation over the remaining useful life of the asset. Over time, the liability is accreted to its present value each period. Any subsequent revisions to the timing or the amount of the original estimate of undiscounted cash flows are reflected as an increase or a decrease in the carrying amount of the liability and the capitalized amount of the related asset retirement cost.

Income taxes

The provision for income taxes is computed based on the pretax income (loss) included in the consolidated statement of income.

Deferred income taxes are recorded to reflect the impact of temporary differences between assets and liabilities recognized for financial reporting purposes and such amounts recognized for tax purposes. These deferred taxes are measured by applying currently enacted tax laws to the temporary differences.

Research and development costs

Research and development costs are charged to income as incurred.

Basis of translation of financial statements of foreign consolidated subsidiaries

The financial statements of foreign consolidated subsidiaries included in the consolidated financial statements are translated into Japanese yen based on the following procedures:

(1) Assets and liabilities of foreign consolidated subsidiaries are translated into Japanese yen at the exchange rates as of the balance sheet date.

(2) Income and expenses are translated into Japanese yen at the average rate during the year.

The differences of translation are included in foreign currency translation adjustment and non-controlling interests, which are presented as separate components of net assets.

Translation of foreign currency account

Receivables and payables denominated in foreign currencies are translated into Japanese yen at the exchange rates as of the balance sheet date and any difference arising from the translation is recognized in the consolidated statement of income if hedge accounting is not applied.

Derivatives and hedging activities

To hedge risks associated with the fluctuations of exchange rates, interest rates and commodity prices, the Group uses foreign currency forward contracts, currency swaps, interest rate swaps and commodity swaps. To hedge a part of the risks associated with the fluctuations of exchange rates for investments in foreign entities, the Company uses loans denominated in foreign currencies. The Group does not enter into derivatives for trading or speculative purposes.

Derivative financial instruments and foreign currency transactions are classified and accounted for as follows: 1) all derivatives are recognized as either assets or liabilities and measured at fair value, with gains or losses recognized in the consolidated statement of income and 2) for derivatives used for hedging purposes, if derivatives qualify for hedge accounting because of high correlation and effectiveness between the hedging instruments and the hedged items, gains or losses on derivatives are deferred until maturity of the hedged transactions.

Receivables and payables denominated in foreign currencies are translated at the contracted rates if the forward contracts qualify for hedge accounting. Gains and losses related to qualifying hedges of firm commitments or anticipated transactions are deferred and recognized in income when the hedged transaction occurs. If interest rate swaps qualify for hedge accounting and meet certain specific matching criteria, they will not be measured at market value, rather the differential paid or received under the swaps will be recognized in interest expenses or interest income.

Per share information

Earnings per share (basic) is computed by dividing net income attributable to owners of the parent available to common shareholders by the weighted-average number of shares issued for the period.

Earnings per share (diluted) reflects the potential dilution that could occur if securities were exercised or converted into common stock. Earnings per share (diluted) assumes full conversion of the outstanding convertible notes and bonds at the beginning of the year (or at the time of issuance) with an applicable adjustment for related interest expense, net of tax, and full exercise of outstanding warrants.

Cash dividends per share presented in the accompanying consolidated statement of income are dividends applicable to the respective years, including dividends to be paid after the end of the year.

From the fiscal year ended December 31, 2017, the Company introduced the Board Benefit Trust (BBT). The shares held by the trust are recorded under net assets as treasury shares. The number of treasury shares excluded from the number of shares issued as of the balance sheet date used for the calculation of equity per share includes the number of shares held by the trust. The number of treasury shares excluded from the weighted-average number of shares issued during the fiscal year used for the calculation of earnings per share includes the number of shares held by the trust.

The number of treasury shares held by the trust excluded from the calculation of equity per share as of December 31, 2019 and 2018, is 146,200 shares and 147,800 shares, respectively. The number of treasury shares held by the trust excluded from the calculation of earnings per share as of December 31, 2019 and 2018, is 146,323 shares and 148,377 shares, respectively.

Note 3:

Accounting Changes

IFRS 16 Leases

The consolidated subsidiaries that prepare accounts under IFRS have applied IFRS 16 Leases (issued in January 2016) (IFRS 16) for the fiscal year ended December 31, 2019. In applying IFRS 16, they have adopted a method of recognizing the cumulative effects of applying this standard on the date of initial application, which is accepted as a transitional measure. With regard to leases that the Group as lessee previously classified as operating leases by applying IAS 17, these leases were recognized as right-of-use assets and lease liabilities on the date of initial application.

The impact of this change on consolidated profits and losses for the fiscal year ended December 31, 2019 was immaterial. Furthermore, a description of the impact of this change on per share information was omitted on the grounds of immateriality.

Accounting Standards Update (ASU) 2016-16 Corporate Income Tax "Intra-entity transfers of assets other than inventory"

The consolidated subsidiaries that adopt U.S. GAAP have applied ASU 2016-16 Corporate Income Tax "Intra-entity transfers of assets other than inventory" (ASU 2016-16) from the beginning of the fiscal year ended December 31, 2019. ASU 2016-16 requires recognition of the income tax consequences of an intra-entity transfer of assets other than inventory when the transfer occurs. Previously, under U.S. GAAP, the income tax consequences for asset transfers other than inventory could not be recognized until the asset was sold to a third party. ASU 2016-16 is required to be applied on a modified retrospective basis through a cumulative-effect adjustment to retained earnings as of the beginning of the period of adoption.

Accordingly, it resulted in decreasing retained earnings brought forward as of January 1, 2019, by ¥774 million. The impact of this change on consolidated profits and losses for the fiscal year ended December 31, 2019 was immaterial. Furthermore, a description of the impact of this change on per share information was omitted on the grounds of immateriality.

Note 4:

New Accounting Pronouncements

- **Practical Solution on Unification of Accounting Policies Applied to Foreign Subsidiaries, etc. for Consolidated Financial Statements (Practical Issues Task Force (PITF) No. 18, revised on June 28, 2019)**
- **Practical Solution on Unification of Accounting Policies Applied to Associates Accounted for Using the Equity Method (PITF No. 24, revised on September 14, 2018)**

(1) Overview

The ASBJ has revised PITF No. 18 "Practical Solution on Unification of Accounting Policies Applied to Foreign Subsidiaries, etc. for Consolidated Financial Statements" and PITF No. 24 "Practical Solution on Unification of Accounting Policies Applied to Associates Accounted for Using the Equity Method."

The major amendments are as follows:

For foreign subsidiaries etc., that elect to present subsequent changes in fair value of investment in equity instruments in other comprehensive income, when investments in the equity instruments are sold, an adjustment shall be made to recognize the difference between the acquisition cost and sales price as gain or loss for the corresponding fiscal year as a consolidation process, in accordance with the Tentative Practical Solution of "Unification of Accounting Policies Applied to Foreign Subsidiaries, etc. for the Consolidation Process."

For foreign subsidiaries etc., that need to recognize any asset impairment, an adjustment shall be made to recognize the valuation difference as loss for the corresponding fiscal year as a consolidation process.

(2) Date of adoption

The Company and its domestic consolidated subsidiaries will adopt these revised PITFs from the beginning of the fiscal year ending December 31, 2020.

(3) Impact of the adoption of the revised PITFs

The Company is in the process of measuring the effects of applying these revised PITFs in future applicable periods.

Accounting Standard for Revenue Recognition

- "Accounting Standard for Revenue Recognition" (ASBJ Statement No. 29, issued on March 30, 2018)
- "Implementation Guidance on Accounting Standard for Revenue Recognition" (ASBJ Guidance No. 30, issued on March 30, 2018)

(1) Overview

The International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) jointly developed a comprehensive accounting standard for revenue recognition and issued "Revenue from Contracts with Customers" in May 2014 (IFRS 15 by IASB, and ASU 2014-09 by FASB).

IFRS 15 was applied for annual reporting periods beginning on or after January 1, 2018, and ASU 2014-09 was also applied from annual reporting periods beginning after December 15, 2017. Based on such a situation, the ASBJ developed the comprehensive accounting standard for revenue recognition and the implementation guidance and issued them together.

The basic objective of the ASBJ in developing the accounting standard for revenue recognition was to enhance comparability between financial statements, which is one of the points of convenience of interfacing with IFRS 15. Accordingly, the accounting standard fundamentally incorporates the basic policies of IFRS 15. Also, where there are items that should be considered to reflect the business practices in Japan, alternative policies will be added to the extent that comparability is not lost.

(2) Date of adoption

The Company and its domestic consolidated subsidiaries will adopt the issued accounting standard and implementation guidance from the beginning of the fiscal year ending December 31, 2022.

(3) Impact of the adoption of the accounting standard and implementation guidance

The Company is in the process of measuring the effects of applying the accounting standard and implementation guidance in future applicable periods.

Accounting Standard for Fair Value Measurement

- "Accounting Standard for Fair Value Measurement" (ASBJ Statement No. 30, issued on July 4, 2019)
- "Accounting Standard for Measurement of Inventories" (ASBJ Statement No. 9, issued on July 4, 2019)
- "Accounting Standard for Financial Instruments" (ASBJ Statement No. 10, issued on July 4, 2019)
- "Implementation Guidance on Accounting Standard for Fair Value Measurement" (ASBJ Guidance No. 31, issued on July 4, 2019)

(1) Overview

The IASB and the FASB have provided detailed guidance of almost the same contents for fair value measurement (IFRS 13 Fair Value Measurement by IFRS, and ASU 2018-13 Fair Value Measurement (Topic 820) by U.S. GAAP). Based on such a situation, the ASBJ issued "Accounting Standard for Fair Value Measurement," etc., as a result of initiatives mainly concerning promoting the consistency between Japanese and international accounting standards regarding guidance for fair value measurement and required disclosures.

The basic objective of the ASBJ in developing the accounting standard for fair value measurement was to enhance comparability between financial statements of domestic and foreign entities, through a unified measuring method. Accordingly, the accounting standard fundamentally incorporates the basic policies of IFRS 13. Also, where there are items that should be considered to reflect the business practices in Japan, exceptional treatments have been established for certain items to the extent that comparability is not lost significantly.

(2) Date of adoption

The Company and its domestic consolidated subsidiaries will adopt the issued accounting standard and implementation guidance from the beginning of the fiscal year ending December 31, 2022.

(3) Impact of the adoption of the accounting standard and implementation guidance

The Company is in the process of measuring the effects of applying the accounting standard and implementation guidance in future applicable periods.

ASU 2016-02 Leases
ASU 2019-10 Financial Instruments-Credit Losses (Topic 326), Derivatives and Hedging (Topic 815) and Leases (Topic 842): Effective Dates

(1) Overview
These accounting standards require lessees to recognize a right-of-use asset and a lease liability in the statement of financial position. There are no significant changes for lessors in these accounting standards.

The FASB has issued ASU 2019-10, which amends the effective dates for three major accounting standards. The ASU defers the effective dates for the credit losses, derivatives and hedging, and leases standards for certain companies.

(2) Date of adoption
Foreign consolidated subsidiaries will adopt ASU 2016-02 from the beginning of the fiscal year ending December 31, 2021.

(3) Impact of the adoption of the accounting standards
The Company is in the process of measuring the effects of applying the accounting standards in future applicable periods.

Note 5:

Changes in Presentation (Consolidated Balance Sheet)

Changes due to application of "Partial Amendments to Accounting Standard for Tax Effect Accounting"
The Company has been applying "Partial Amendments to Accounting Standard for Tax Effect Accounting" (ASBJ Statement No. 28, issued on February 16, 2018) from the beginning of the fiscal year ended December 31, 2019, and changed the presentation of deferred tax assets and liabilities (that is, classified deferred tax assets and deferred tax liabilities as "Investments and other assets" and "Non-current liabilities," respectively).

As a result, the Company has changed the presentation of the consolidated balance sheet for the fiscal year ended December 31, 2018. More specifically, "Deferred tax assets" classified as "Current assets" decreased ¥8,891 million, and "Deferred tax assets" classified as "Investments and other assets" increased ¥4,701 million. Also, "Deferred tax liabilities" classified as "Current liabilities" decreased ¥325 million, and "Deferred tax liabilities" classified as "Non-current liabilities" decreased ¥3,865 million.

In addition, deferred tax assets and liabilities of the same tax-paying entities were offset for presentation purposes. As a result, total assets decreased ¥4,190 million in comparison with the amount before the change.

Furthermore, in Note 17 "Income Taxes," we added the contents described in the annotation (Note 8) (excluding total valuation allowance) and the annotation (Note 9), both for the "Accounting Standard for Tax Effect Accounting," stipulated in Paragraph 3 through Paragraph 5 of "Partial Amendments to Accounting Standard for Tax Effect Accounting." However, information concerning the previous fiscal year is not provided pursuant to the transitional treatment stipulated in Paragraph 7 of "Partial Amendments to Accounting Standard for Tax Effect Accounting."

Note 6:

Additional Information

Board Benefit Trust (BBT)
With regard to the compensation for executive officers, as well as directors who concurrently serve as executive officers (the "Target Officers"), the Company introduced a performance-based stock compensation plan called BBT (the "Plan") from the fiscal year ended December 31, 2017. The purpose of the Plan is to further clarify the linkage between the compensation of the Target Officers, and corporate performance and the value of the Company's shares. The intended result is strengthening the Target Officers' awareness of their contributions to the medium- to long-term improvement of corporate performance and value.

Accounting treatment related to the trust agreement is in accordance with "Practical Solution on Transactions of Delivering the Company's Own Stock to Employees etc. through Trusts" (PITF No. 30, issued on March 26, 2015).

(1) Outline of the transactions
The trust established under the Plan acquires the Company's shares by cash contributed by the Company. The trust provides shares of the Company and the cash equivalent to the market price of the shares of the Company (the "Company's Shares and Cash Benefits") to the Target Officers, in accordance with the Rules of Officer Share Benefit established by the Company. The Target Officers shall in principle receive the Company's Shares and Cash Benefits upon their retirement.

(2) The Company's shares remaining in the trust
The shares remaining in the trust are recorded under net assets as treasury shares at the book value in the trust (excluding incidental costs). The book value and the number of such treasury shares are ¥577 million and 146 thousand as of December 31, 2019, and ¥584 million and 148 thousand as of December 31, 2018, respectively.

Acquisition of the shares and assets of a pigments business from BASF SE and transformation of the business into a subsidiary

On August 29, 2019, the Company resolved to acquire the shares and assets of the Colors & Effects business of BASF SE, Europe's largest chemicals manufacturer, and entered into the master sale and purchase agreement. This transaction is subject to regulatory approval by pertinent U.S., European and other authorities as well as other customary conditions.

(1) Objectives of the acquisition of shares and assets
To hasten the qualitative transformation of its Color & Display business, the Company is working to expand its functional pigments business with the aim of driving growth as a leading global manufacturer of high-growth, high-value specialty pigments, including those for displays, cosmetics and automobiles. The annual global pigments market is estimated at approximately ¥2.3 trillion. The Company is a leader in organic pigments and a valued manufacturer of aluminum effect pigments. The target business, which is based in Europe and has sites around the world, has established itself as a prominent global manufacturer of effect pigments (for pearl pigments) and for specialty inorganic pigments. Accordingly, the product portfolios of the Company and the target business are highly complementary, with little product overlap. Through this acquisition, the Company will add a functional pigments product portfolio which is highly regarded by customers. The Company has committed itself to achieving sustainable growth for its color materials business by expanding its functional pigments business, recognizing this as crucial to bolstering its corporate value.

(2) Name of the seller of the target business
BASF SE

(3) Profile of the target business
This acquisition involves obtaining the pigments business-related assets—including technologies, patents and other intellectual property, as well as goodwill not included in the share purchase—and the shares of 18 individual companies.

(4) Schedule of the acquisition of the target business
By the end of 2020
(Notes)
1. This transaction is subject to regulatory approval by pertinent U.S., European and other authorities—including under the antitrust laws of the relevant countries—as well as other customary conditions.
2. Owing to regulatory review timing and other closing conditions, the effective date of the transfer of shares and assets may change.

(5) Cost of acquisition (Reference)
€985 million (¥116.2 billion)
(Notes)
1. The figure above is derived from adjusting cash and debt as of December 31, 2018, from the enterprise value (€1,150 million) of the target business. The actual cost of acquisition may vary depending on actual net cash/debt and differences in working capital, among others, at closing.
2. Advisory and other fees will depend on fees related to procedures to determine compliance with the anti-trust laws of the United States and Europe, as well as of other relevant countries. Accordingly, such expenses are not included.
3. The exchange rate used is ¥118.00/€1.00. This figure has been rounded.

(6) Plans for raising funds
With regard to the method of procuring funds for this acquisition, the Company planned to choose an approach that would avoid a decline in capital efficiency due to stock dilution and enable it to maintain financial soundness. Having since explored hybrid financing, the Company made the decision to use a subordinated term loan. In addition, the Company currently has no plans to raise funds through the issue of new shares (equity financing).
Please see Note 24 "Subsequent Events" for more information regarding financing through a subordinated term loan.

Note 7: Cash and Cash Equivalents

Cash and cash equivalents as of December 31, 2019 and 2018, include the following:

	Millions of yen	
	2019	2018
Cash and deposits	**¥16,786**	¥19,782
Less: time deposits and short-term investments which mature over three months after the date of acquisition	**(95)**	(1,151)
Cash and cash equivalents	**¥16,690**	¥18,631

Note 8: Investments in Unconsolidated Subsidiaries and Affiliates

Investments in unconsolidated subsidiaries and affiliates as of December 31, 2019 and 2018, include the following:

	Millions of yen	
	2019	2018
Investments in stock of unconsolidated subsidiaries and affiliates	**¥44,505**	¥53,498
Investments in equity of unconsolidated subsidiaries and affiliates	**653**	1,053
Total	**¥45,158**	¥54,551

Note 9: Investment Securities

The carrying amounts and aggregate fair values of available-for-sale securities as of December 31, 2019 and 2018, are as follows:

	Millions of yen			
				2019
	Cost	Unrealized gains	Unrealized losses	Fair value
Available-for-sale securities:				
Stocks	**¥8,330**	**¥3,147**	**¥(501)**	**¥10,976**
Total	**¥8,330**	**¥3,147**	**¥(501)**	**¥10,976**

	Millions of yen			
				2018
	Cost	Unrealized gains	Unrealized losses	Fair value
Available-for-sale securities:				
Stocks	¥8,338	¥2,865	¥(718)	¥10,485
Total	¥8,338	¥2,865	¥(718)	¥10,485

Note 10:

Property, Plant and Equipment

Accumulated depreciation on property, plant and equipment as of December 31, 2019 and 2018, is ¥563,939 million and ¥555,347 million, respectively.

Note 11:

Impairment of Long-Lived Assets

Impairment losses on long-lived assets for the fiscal year ended December 31, 2019, for each asset group are as follows:

Millions of yen

			2019
Used status	Category of assets	Location	Allocated impairment loss
Factory assets in use	**Buildings and structures and Land**	**Hirakata, Japan**	**¥1,463**
Factory assets in use	**Buildings and structures, Machinery, equipment and vehicles, Land, and Other**	**Kawaguchi, Japan**	**925**
Factory assets in use	**Buildings and structures, Machinery, equipment and vehicles, Land, and Other**	**China**	**690**
Total			**¥3,078**

In reviewing the impairment of long-lived assets, the Group categorizes its operating assets mainly by each consolidated company or product group.

The carrying amount of factory assets in use was reduced to its recoverable amount because the recoverable amount is less than the carrying amount.

For domestic consolidated subsidiaries, the recoverable amount was measured as value in use. Value in use of relevant assets was calculated by discounting future cash flows at a rate of 6.0%. For foreign consolidated subsidiaries, the recoverable amount was measured as value in use and was evaluated as zero.

Note 12:

Short-Term Loans Payable and Long-Term Loans Payable

Information with respect to short-term loans payable as of December 31, 2019 and 2018, is as follows:

The average interest rate for the fiscal years ended December 31, 2019 and 2018, is 2.26% and 1.92%, respectively, for short-term loans payable, and -0.01% and -0.01%, respectively, for commercial papers.

Bonds payable, long-term loans payable and lease obligations as of December 31, 2019 and 2018, comprise the following:

Millions of yen

	2019	2018
0.53% Japanese yen notes due 2022	**¥ 10,000**	¥ 10,000
1.00% Japanese yen notes due 2025	**10,000**	10,000
0.95% Japanese yen notes due 2036	**5,000**	5,000
0.36% Japanese yen notes due 2026	**5,000**	5,000
0.42% Japanese yen notes due 2027	**10,000**	10,000
0.15% Japanese yen notes due 2022	**10,000**	10,000
0.15% Japanese yen notes due 2023	**10,000**	10,000
0.19% Japanese yen notes due 2024	**10,000**	—
0.28% Japanese yen notes due 2029	**10,000**	—
Loans due 2020–2031, with an average interest rate of 1.30%	**146,058**	169,583
Lease obligations	**6,435**	4,896
Subtotal	**232,493**	234,479
Less: current portion of long-term loans payable	**(23,456)**	(49,792)
Less: current portion of bonds	**—**	—
Less: lease obligations—current	**(1,244)**	(667)
Total	**¥207,793**	¥184,020

The annual maturities of bonds payable, long-term loans payable and lease obligations for the fiscal years subsequent to December 31, 2019, are as follows:

	Millions of yen
2020	¥ 24,700
2021	27,881
2022	61,791
2023	18,280
2024	24,648
Thereafter	75,193
Total	¥232,493

The amounts of assets pledged as collateral and secured borrowings and loans as of December 31, 2019, comprise the following:

	Millions of yen
Assets pledged as collateral:	
Cash and deposits	¥ 14
Notes and accounts receivable—trade	3,141
Inventories	1,505
Property, plant and equipment	2,702
Total	¥7,362
Secured borrowings and loans:	
Short-term loans payable	¥ 79
Current portion of long-term loans payable	74
Long-term loans payable	686
Total	¥838

Note 13: Retirement and Pension Plans

(1) Overview of adopted retirement and pension plans

The Company and a number of domestic consolidated subsidiaries have defined benefit pension plans such as a cash balance–style pension plan and retirement plans, and defined contribution pension plans. Some foreign consolidated subsidiaries maintain defined benefit pension plans and defined contribution pension plans. The Company contributes certain available-for-sale securities to the employee retirement benefit trust.

(2) Defined benefit pension plans (including multi-employer plan)

Changes in defined benefit obligations

	Millions of yen	
	Domestic plans	Foreign plans
As of January 1, 2019	¥91,678	¥135,066
Service cost	2,184	549
Interest cost	729	4,082
Actuarial gains and losses	(405)	16,658
Benefits paid	(4,691)	(6,805)
Past service cost	306	153
Exchange translation differences	—	549
Other	(102)	729
As of December 31, 2019	¥89,699	¥150,981

Note: Some of the domestic consolidated subsidiaries have adopted a simplified method for the calculation of retirement benefits.

	Millions of yen	
	Domestic plans	Foreign plans
As of January 1, 2018	¥93,561	¥153,835
Service cost	2,211	693
Interest cost	739	3,918
Actuarial gains and losses	(106)	(9,072)
Benefits paid	(4,727)	(6,148)
Past service cost	—	(69)
Exchange translation differences	—	(8,386)
Other	—	295
As of December 31, 2018	¥91,678	¥135,066

Note: Some of the domestic consolidated subsidiaries have adopted a simplified method for the calculation of retirement benefits.

Changes in plan assets

	Millions of yen	
	Domestic plans	Foreign plans
As of January 1, 2019	**¥114,309**	**¥117,005**
Expected return on plan assets	**3,086**	**5,800**
Actuarial gains and losses	**12,834**	**12,995**
Contributions by the employer	**4,333**	**3,719**
Benefits paid	**(4,593)**	**(6,782)**
Exchange translation differences	**—**	**951**
Other	**—**	**(15)**
As of December 31, 2019	**¥129,969**	**¥133,673**

	Millions of yen	
	Domestic plans	Foreign plans
As of January 1, 2018	¥ 125,464	¥ 132,566
Expected return on plan assets	3,206	6,163
Actuarial gains and losses	(11,247)	(12,992)
Contributions by the employer	1,537	4,703
Benefits paid	(4,651)	(5,964)
Exchange translation differences	—	(7,515)
Other	—	44
As of December 31, 2018	¥ 114,309	¥ 117,005

Reconciliation of defined benefit obligations and plan assets on retirement benefits recognized in the consolidated balance sheet

	Millions of yen	
	2019	
	Domestic plans	Foreign plans
Funded defined benefit obligations	**¥ 88,562**	**¥ 149,637**
Plan assets	**(129,969)**	**(133,673)**
Subtotal	**(41,407)**	**15,964**
Unfunded defined benefit obligations	**1,137**	**1,344**
Net amount of liabilities and assets recognized in consolidated balance sheet	**¥ (40,270)**	**¥ 17,308**
Liabilities (net defined benefit liability)	**¥ 1,193**	**¥ 20,184**
Assets (net defined benefit asset)	**(41,463)**	**(2,876)**
Net amount of liabilities and assets recognized in consolidated balance sheet	**¥ (40,270)**	**¥ 17,308**

	Millions of yen	
	2018	
	Domestic plans	Foreign plans
Funded defined benefit obligations	¥ 90,473	¥ 134,098
Plan assets	(114,309)	(117,005)
Subtotal	(23,836)	17,093
Unfunded defined benefit obligations	1,205	968
Net amount of liabilities and assets recognized in consolidated balance sheet	¥ (22,631)	¥ 18,061
Liabilities (net defined benefit liability)	¥ 1,630	¥ 18,889
Assets (net defined benefit asset)	(24,261)	(828)
Net amount of liabilities and assets recognized in consolidated balance sheet	¥ (22,631)	¥ 18,061

Retirement benefit expenses and its breakdowns

	Millions of yen	
	2019	
	Domestic plans	Foreign plans
Service cost	**¥ 2,184**	**¥ 549**
Interest cost	**729**	**4,082**
Expected return on plan assets	**(3,086)**	**(5,800)**
Recognition of actuarial gains and losses	**431**	**1,408**
Amortization of past service cost	**306**	**153**
Total	**¥ 563**	**¥ 392**

Notes: 1. Other than these retirement benefit expenses, severance costs in the consolidated statement of income include retiree premium benefit.
2. ¥443 million of losses from amortization of past service cost has been recognized in extraordinary loss as a result of the amendment to the retirement benefit plans of the Company and a number of consolidated subsidiaries during the fiscal year ended December 31, 2019.

	Millions of yen	
	2018	
	Domestic plans	Foreign plans
Service cost	¥ 2,211	¥ 693
Interest cost	739	3,918
Expected return on plan assets	(3,206)	(6,163)
Recognition of actuarial gains and losses	(678)	1,303
Amortization of past service cost	—	(69)
Total	¥ (934)	¥ (318)

Note: Other than these retirement benefit expenses, severance costs in the consolidated statement of income include retiree premium benefit.

Past service cost and actuarial gains and losses

The past service cost and actuarial gains and losses recognized in accumulated other comprehensive income as remeasurements of defined benefit plans (amount before income tax effect) for the fiscal years ended December 31, 2019 and 2018, are as follows:

	Millions of yen	
	2019	
	Domestic plans	Foreign plans
Past service cost	**¥ —**	**¥ 10**
Actuarial gains and losses	**13,669**	**(2,919)**
Total	**¥13,669**	**¥(2,909)**

	Millions of yen	
	2018	
	Domestic plans	Foreign plans
Past service cost	¥ —	¥ (876)
Actuarial gains and losses	(11,819)	(278)
Total	¥(11,819)	¥(1,154)

Unrecognized past service cost and unrecognized actuarial gains and losses

The unrecognized past service cost and unrecognized actuarial gains and losses recognized in accumulated other comprehensive income as remeasurements of defined benefit plans (amount before income tax effect) for the fiscal years ended December 31, 2019 and 2018, are as follows:

	Millions of yen	
	2019	
	Domestic plans	Foreign plans
Unrecognized past service cost	**¥ —**	**¥ (737)**
Unrecognized actuarial gains and losses	**11,874**	**(47,746)**
Total	**¥11,874**	**¥(48,483)**

	Millions of yen	
	2018	
	Domestic plans	Foreign plans
Unrecognized past service cost	¥ —	¥ (747)
Unrecognized actuarial gains and losses	(1,795)	(44,827)
Total	¥(1,795)	¥(45,574)

Major breakdown of plan assets

	2019	
	Domestic plans	Foreign plans
Equity securities	**55.9%**	**21.2%**
Debt securities	**22.5%**	**63.0%**
Other	**21.6%**	**15.8%**
Total	**100.0%**	**100.0%**

Note: 29.7% of the assets of the domestic plans is available-for-sale securities contributed to the employee retirement benefit trust.

	2018	
	Domestic plans	Foreign plans
Equity securities	49.6%	24.8%
Debt securities	24.9%	56.3%
Other	25.5%	18.9%
Total	100.0%	100.0%

Note: 23.5% of the assets of the domestic plans is available-for-sale securities contributed to the employee retirement benefit trust.

Actuarial assumptions

	2019	
	Domestic plans	Foreign plans
Discount rate	**0.8%**	**0.4%–3.2%**
Expected return rate on plan assets	**3.0%**	**4.6%–5.5%**
Expected rate of increase in salary	**3.1%**	**1.7%–3.5%**

Note: Expected return rate on plan assets is determined by considering the current and anticipated future portfolio of plan assets and current and anticipated future long-term performance of individual asset classes that comprise the funds' asset mix.

	2018	
	Domestic plans	Foreign plans
Discount rate	0.8%	1.3%–4.4%
Expected return rate on plan assets	3.0%	4.9%–6.0%
Expected rate of increase in salary	3.1%	2.0%–3.5%

Note: Expected return rate on plan assets is determined by considering the current and anticipated future portfolio of plan assets and current and anticipated future long-term performance of individual asset classes that comprise the funds' asset mix.

(3) Defined contribution pension plans

The required contributions borne by the Company and a number of consolidated subsidiaries in relation to the defined contribution pension plans for the fiscal years ended December 31, 2019 and 2018, are ¥2,001 million and ¥1,940 million, respectively.

Note 14:

Net Assets

Japanese companies are subject to the Companies Act of Japan (the "Companies Act"). The significant provisions in the Companies Act that affect financial and accounting matters are summarized below:

(1) Dividends

Under the Companies Act, companies can pay dividends at any time during the fiscal year in addition to the year-end dividend upon resolution at the shareholders' meeting. For companies that meet certain criteria such as: (a) having a board of directors, (b) having independent auditors, (c) having a board of corporate auditors and (d) the term of service of the directors being prescribed as one year rather than the two years of a normal term by its articles of incorporation, the board of directors may declare dividends (except for dividends in kind) at any time during the fiscal year if the company has prescribed so in its articles of incorporation. The Company meets all the above criteria.

The Companies Act permits companies to distribute dividends in kind (non-cash assets) to shareholders subject to a certain limitation and additional requirements.

Semiannual interim dividends may also be paid once a year upon resolution by the board of directors if the articles of incorporation of the company so stipulate. The Companies Act provides certain limitations on the amounts available for dividends or the purchase of treasury shares. The limitation is defined as the amount available for distribution to the shareholders, but the amount of net assets after dividends must be maintained at no less than ¥3 million.

(2) Increases/decreases and transfer of common stocks, reserve and surplus

The Companies Act requires that an amount equal to 10% of dividends must be appropriated as a legal reserve (a component of retained earnings) or as additional paid-in capital (a component of capital surplus) depending on the equity account charged upon the payment of such dividends until the total of the aggregate amount of legal reserve and additional paid-in capital equals 25% of the common stock. Under the Companies Act, the total amount of additional paid-in capital and legal reserve may be reversed without limitation. The Companies Act also provides that common stock, legal reserve, additional paid-in capital, other capital surplus and retained earnings can be transferred among the accounts under certain conditions upon resolution of the shareholders.

(3) Treasury shares and treasury stock acquisition rights

The Companies Act also provides for companies to purchase treasury shares and dispose of such treasury shares by resolution of the board of directors. The amount of treasury shares purchased cannot exceed the amount available for distribution to the shareholders which is determined by a specific formula.

Under the Companies Act, stock acquisition rights, which were previously presented as a liability, are now presented as a separate component of equity.

The Companies Act also provides that companies can purchase both treasury stock acquisition rights and treasury shares. Such treasury stock acquisition rights are presented as a separate component of equity or deducted directly from stock acquisition rights.

Note 15:

Capital Stock

The total amount of capital stock authorized as of December 31, 2019 and 2018, is 150,000,000 shares.

The total amount of capital stock issued as of December 31, 2019 and 2018, is 95,156,904 shares.

Note 16:

Treasury Shares

The number of treasury shares as of December 31, 2019 and 2018, is follows:

Shares

	2019			
	As of January 1, 2019	Increase in FY2019	Decrease in FY2019	As of December 31, 2019
Treasury shares:				
Common stock	**511,035**	**2,187**	**1,600**	**511,622**
Total	**511,035**	**2,187**	**1,600**	**511,622**

Notes: 1. The shares held by the BBT (146,200 shares) are included in the number of treasury shares.
2. The increase of treasury shares of common stock (2,187 shares) was due to the purchase of odd-lot shares.
3. The decrease of treasury shares of common stock (1,600 shares) was due to the benefit of the Company's shares by the BBT.

Shares

	2018			
	As of January 1, 2018	Increase in FY2018	Decrease in FY2018	As of December 31, 2018
Treasury shares:				
Common stock	512,293	2,642	3,900	511,035
Total	512,293	2,642	3,900	511,035

Notes: 1. The shares held by the BBT (147,800 shares) are included in the number of treasury shares.
2. The increase of treasury shares of common stock (2,642 shares) was due to the purchase of odd-lot shares.
3. The decrease of treasury shares of common stock (3,900 shares) was due to the benefit of the Company's shares by the BBT.

Note 17:

Income Taxes

The differences between the normal effective statutory tax rate in Japan and the actual effective tax rate for the fiscal years ended December 31, 2019 and 2018, are as follows:

	2019	2018
Normal effective statutory tax rate in Japan	**30.6%**	30.9%
Adjustments:		
Valuation allowance change	**2.5%**	(0.6)%
Tax rate differences	**(6.4)%**	(4.6)%
Equity in earnings of affiliates	**(2.1)%**	(2.4)%
Entertainment and other non-deductible expenses	**3.0%**	2.4%
Elimination of intercompany dividends income	**9.7%**	12.0%
Dividends income and other non-taxable income	**(15.2)%**	(9.8)%
State, provincial, municipal and local taxes	**0.8%**	0.8%
Tax credit for research and development and others	**(1.3)%**	(1.7)%
Tax credit for the Special Tax Law for the March 11 Earthquake	**(0.1)%**	(0.8)%
Other	**5.4%**	4.6%
Actual effective tax rate	**26.9%**	30.8%

The tax effects of significant temporary differences and loss carryforwards, which resulted in deferred tax assets and liabilities, as of December 31, 2019 and 2018, are as follows:

	Millions of yen	
	2019	2018
Deferred tax assets:		
Inventories	**¥ 3,381**	¥ 3,407
Property, plant and equipment	**4,777**	4,155
Intangible assets	**4,863**	4,470
Research and development costs	**4,693**	4,736
Allowance for doubtful accounts	**1,685**	1,788
Provision for bonuses	**1,717**	1,917
Net defined benefit liability	**5,733**	5,464
Unrealized gain	**799**	900
Net operating loss carryforwards (Note)	**18,198**	18,974
Other	**8,481**	9,176
Subtotal	**54,326**	54,987
Less: valuation allowance for tax loss carryforwards	**(8,315)**	—
Less: valuation allowance for temporary differences	**(4,023)**	—
Valuation allowance	**(12,338)**	(12,084)
Total	**41,989**	42,903
Deferred tax liabilities:		
Property, plant and equipment	**(2,475)**	(3,120)
Net defined benefit asset	**(6,852)**	(1,728)
Contribution of securities to employee retirement benefit trust	**(1,277)**	(1,277)
Deferred income taxes related to gains from property, plant and equipment	**(2,683)**	(2,791)
Valuation difference on available-for-sale securities	**(812)**	(665)
Other	**(3,466)**	(2,816)
Total	**(17,565)**	(12,397)
Net deferred tax assets	**¥ 24,424**	¥ 30,506

Note: The expiration of tax loss carryforwards, the related valuation allowances and the resulting net deferred tax assets as of December 31, 2019, were as follows:

	2020	2021	2022	2023	2024	Thereafter	Total
Tax loss carryforward (*a)	¥ 191	¥ 746	¥1,260	¥1,476	¥ 182	¥14,344	¥18,198
Valuation allowance	(179)	(123)	(252)	(171)	(153)	(7,437)	(8,315)
Net deferred tax assets	11	623	1,008	1,305	29	6,907	(*b) 9,883

*(*a) Tax loss carryforward shown in the above table is after multiplying by the statutory tax rate.*
*(*b) Deferred tax assets of ¥9,883 million was recognized for tax loss carryforward of ¥18,198 million. No valuation allowance is recognized for tax loss carryforward since the amount was determined to be recoverable based on expected future taxable income.*

Note 18:

Research and Development Costs

Research and development costs charged to income for the fiscal years ended December 31, 2019 and 2018, are ¥12,505 million and ¥12,923 million, respectively.

Note 19:

Leases

Operating leases

Future minimum rental payments under non-cancellable operating leases as of December 31, 2019 and 2018, are as follows:

	Millions of yen	
	2019	2018
Due within one year	**¥1,932**	¥ 2,570
Due after one year	**6,379**	7,663
Total	**¥8,311**	¥10,233

Note: The consolidated subsidiaries that adopt IFRS began applying IFRS 16 Leases from the fiscal year ended December 31, 2019. With regard to leases of the consolidated subsidiaries as lessee previously classified as operating leases, was included only in the figures as of December 31, 2018.

Note 20:

Financial Instruments

Group policy for financial instruments

The Group manages funds with safe and secure financial assets. Means of financings include direct financing such as the issuance of bonds and commercial papers and liquidation of receivables, as well as indirect financing such as short- and long-term bank borrowings, the terms of which are determined based on financial market conditions and account balances at the time.

Nature and extent of risks arising from financial instruments

Receivables such as trade notes and accounts receivable are exposed to customer credit risk. In addition, some of such receivables are denominated in foreign currencies and are exposed to the market risk of fluctuation in foreign currency exchange rates. Investment securities, mainly the stocks of customers and suppliers, are exposed to the risk of market price fluctuations.

Payment terms of payables, such as trade notes and accounts payable, are less than one year. In addition, some of such payables are denominated in foreign currencies and are exposed to the market risk of fluctuation in foreign currency exchange rates.

Funds needed for operations are mainly procured as short-term loans payable, whereas funds needed for capital expenditure and investment are mainly procured as long-term loans payable, bonds payable and lease obligations with regard to finance lease transactions. A part of such bank loans, bonds and lease obligations are exposed to market risks from changes in variable interest rates. Trade accounts payable and loans payable of the Company are also exposed to liquidity risk that the Company cannot meet its contractual obligations in full on maturity dates.

Risk management for financial instruments

The Company manages its credit risk from trade notes and accounts receivable on the basis of internal guidelines, which include the monitoring of payment terms and balances of customers by the sales and business administration departments to identify the default risk of customers at an early stage. The consolidated subsidiaries of the Company manage the exposure to credit risk on their own in accordance with their internal guidelines. Investment securities are managed by monitoring market values, the financial position of issuers and considering the relationship with customers and suppliers on a regular basis. The Group also tries to mitigate liquidity risk by arranging lines of credit with financial institutions, along with adequate financial planning.

Fair values of financial instruments

The following tables present the carrying amounts and the fair values of financial instruments as of December 31, 2019 and 2018. Financial instruments whose fair values are not reliably measured are excluded from the tables below.

	Millions of yen		
	2019		
	Carrying amount	Fair value	Difference
Assets:			
Cash and deposits	¥ 16,786	¥ 16,786	¥ —
Notes and accounts receivable—trade	211,232	211,232	—
Investment securities			
Stocks of subsidiaries and affiliates	26,723	31,574	4,851
Other	10,976	10,976	—
Total	¥265,717	¥270,568	¥4,851
Liabilities:			
Notes and accounts payable—trade	¥108,562	¥108,562	¥ —
Short-term loans payable	20,139	20,139	—
Current portion of long-term loans payable	23,456	23,645	189
Lease obligations (current)	1,244	1,244	—
Income taxes payable	2,556	2,556	—
Bonds payable	80,000	80,640	640
Long-term loans payable	122,602	123,014	412
Lease obligations (non-current)	5,191	5,514	323
Total	¥363,750	¥365,314	¥1,564
Derivative financial instruments: (Note)			
Hedge accounting—not applied	¥ (106)	¥ (106)	¥ —
Hedge accounting—applied	985	985	—
Total	¥ 879	¥ 879	¥ —

Note: Figures are net of debts and credits that arise from derivative financial instruments. Net debt amounts are indicated in parentheses.

	Millions of yen		
			2018
	Carrying amount	Fair value	Difference
Assets:			
Cash and deposits	¥ 19,782	¥ 19,782	¥ —
Notes and accounts receivable—trade	209,763	209,763	—
Investment securities			
Stocks of subsidiaries and affiliates	27,497	25,120	(2,377)
Other	10,485	10,485	—
Total	¥267,527	¥265,150	¥(2,377)
Liabilities:			
Notes and accounts payable—trade	¥118,554	¥118,554	¥ —
Short-term loans payable	29,986	29,986	—
Current portion of long-term loans payable	49,792	49,817	25
Lease obligations (current)	667	667	—
Income taxes payable	2,843	2,843	—
Bonds payable	60,000	60,648	648
Long-term loans payable	119,791	120,091	300
Lease obligations (non-current)	4,229	4,565	336
Total	¥385,862	¥387,171	¥ 1,309
Derivative financial instruments: (Note)			
Hedge accounting—not applied	¥ 152	¥ 152	¥ —
Hedge accounting—applied	19	19	—
Total	¥ 171	¥ 171	¥ —

Note: Figures are net of debts and credits that arise from derivative financial instruments. Net debt amounts are indicated in parentheses.

The valuation techniques used to estimate the fair values of financial instruments and information on the marketable securities and derivative financial instruments are as follows:

Assets

Cash and deposits and notes and accounts receivable–trade

The fair values of cash and deposits and notes and accounts receivable–trade approximate their carrying amounts as these amounts are settled in a short period of time.

Investment securities

The fair values of investment securities are measured at the quoted market price on the stock exchange.

Liabilities

Notes and accounts payable–trade, short-term loans payable and income taxes payable

The fair values of these accounts approximate their carrying amounts as these amounts are settled in a short period of time.

Current portion of long-term loans payable and long-term loans payable

For long-term loans payable bearing a floating interest rate, the fair values of those subject to special treatment of interest rate swaps are based on present value by totaling the amount of principal and interest, together with related interest rate swaps, discounted by the interest rate that would apply if equivalent long-term loans were newly entered into. The fair values of other long-term loans payable for which a floating interest rate is applied approximate their carrying amounts, due to the fact that the market rate of interest is quickly factored in while credit status of the Company remains unchanged.

On the other hand, the fair values of long-term loans payable for which a fixed interest rate is applied are determined by discounting the cash flows related to the long-term loans payable. The discount rate applied for the calculation above is the interest rate that may be currently available to the Group for loans payable with similar terms and conditions.

Lease obligations (current) and lease obligations (non-current)

The fair values of these accounts are determined by discounting the cash flows related to the lease obligations. The discount rate applied for the calculation above is the interest rate that may be currently available to the Group for lease obligations with similar terms and conditions.

Bonds payable

The fair values are measured at the quoted market prices.

Derivative financial instruments

Please see Note 21 "Derivative Financial Instruments" for more information.

Financial instruments whose fair value is not reliably measured

There are no market prices for non-listed stocks and others (carrying amounts as of December 31, 2019 and 2018, are ¥21,614 million and ¥29,541 million, respectively) whose future cash flows cannot be estimated. The fair values of such non-listed stocks and others are not reliably determinable and thus excluded from investment securities.

Redemption schedule for financial assets and securities

The redemption schedules for financial assets and securities with contractual maturities as of December 31, 2019 and 2018, are summarized as follows:

Millions of yen

	2019			
	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years through 10 years	Due after 10 years
Notes and accounts receivable—trade	**¥211,232**	**¥—**	**¥—**	**¥—**
Total	**¥211,232**	**¥—**	**¥—**	**¥—**

Millions of yen

	2018			
	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years through 10 years	Due after 10 years
Notes and accounts receivable—trade	¥209,763	¥—	¥—	¥—
Total	¥209,763	¥—	¥—	¥—

Repayment schedule for bonds payable, long-term loans payable and other interest-bearing debt

The repayment schedules for bonds payable, long-term loans payable and other interest-bearing debt with contractual maturities as of December 31, 2019 and 2018, are summarized as follows:

Millions of yen

	2019			
	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years through 10 years	Due after 10 years
Short-term loans payable	**¥20,139**	**¥ —**	**¥ —**	**¥ —**
Current portion of long-term loans payable	**23,456**	**—**	**—**	**—**
Lease obligations (current)	**1,244**	**—**	**—**	**—**
Bonds payable	**—**	**40,000**	**35,000**	**5,000**
Long-term loans payable	**—**	**90,039**	**32,495**	**68**
Lease obligations (non-current)	**—**	**2,561**	**2,062**	**568**
Total	**¥44,839**	**¥132,600**	**¥69,557**	**¥5,636**

	Millions of yen			
	2018			
	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years through 10 years	Due after 10 years
Short-term loans payable	¥29,986	¥ —	¥ —	¥ —
Current portion of long-term loans payable	49,792	—	—	—
Lease obligations (current)	667	—	—	—
Bonds payable	—	30,000	25,000	5,000
Long-term loans payable	—	94,823	24,968	—
Lease obligations (non-current)	—	2,431	1,798	—
Total	¥80,445	¥127,254	¥51,766	¥5,000

Note 21:

Derivative Financial Instruments

The Group has entered into various foreign currency forward contracts, currency options and swaps, interest rate swaps and commodity swaps.

Foreign currency forward contracts and currency options and swaps are entered into to hedge the effects of exchange rate changes on receivables and payables or anticipated transactions denominated in foreign currencies. Interest rate swaps are entered into to hedge the effects of interest rate changes and to reduce financing cost. Commodity swaps are entered into to hedge the effects of commodity price changes of fuel. Loans denominated in foreign currencies are entered into to hedge a part of risks associated with the fluctuations of exchange rates for investments in foreign entities.

The Group does not use derivative instruments for trading or speculative purposes. Derivative transactions performed by the Group have risks due to fluctuations of exchange rates, interest rates and other factors.

Because these transactions are executed with creditworthy financial institutions, the Group does not anticipate the likelihood of any losses resulting from default by the counterparties to these agreements.

Internal regulation for managing derivative transactions has been established for the purpose of risk control in the Company, and all derivative transactions are performed under this regulation.

The execution of derivative transactions is carried out by the Company's finance department, and the management of risk is monitored by the Company's accounting department. Transactions are periodically reported to the board of directors by the officer in charge of the Finance and Accounting Division.

Consolidated subsidiaries execute transactions in accordance with their regulations for derivative management and periodically report the results of those transactions to the Company.

Derivative transactions to which hedge accounting is not applied as of December 31, 2019 and 2018

(1) Currency related

Millions of yen

	2019			
	Contract/notional amount	Contract/notional amount due after one year	Fair value	Unrealized gain/loss
Currency swaps: (Note 1)				
(Payment in Australian $ and receipt in U.S.$)	**¥ 1,067**	**¥—**	**¥ (24)**	**¥ (24)**
Other	**315**	**—**	**(5)**	**(5)**
Foreign currency forward contracts: (Note 2)				
Selling				
Russian ruble	**3,272**	**—**	**(21)**	**(21)**
U.S.$	**3,172**	**—**	**3**	**3**
Colombian peso	**1,512**	**—**	**(18)**	**(18)**
Canadian $	**1,322**	**—**	**(14)**	**(14)**
Other	**550**	**—**	**(2)**	**(2)**
Buying				
U.S.$	**1,829**	**—**	**(27)**	**(27)**
Other	**779**	**—**	**1**	**1**
Total	**¥13,817**	**¥—**	**¥(106)**	**¥(106)**

Notes: 1. The fair values of currency swap contracts are measured using the quoted price obtained from financial institutions.
2. The fair values of foreign currency forward contracts are measured using the forward quotation.

Millions of yen

	2018			
	Contract/notional amount	Contract/notional amount due after one year	Fair value	Unrealized gain/loss
Currency options: (Note 1)				
Selling				
Euro	¥ 1,205	¥—	¥(14)	¥(14)
Buying				
U.S.$	1,252	—	37	37
Euro	865	—	4	4
Foreign currency forward contracts: (Note 2)				
Selling				
Russian ruble	2,736	—	106	106
Colombian peso	1,549	—	18	18
Canadian $	1,273	—	20	20
Other	380	—	(8)	(8)
Buying				
U.S.$	3,878	—	(14)	(14)
Other	394	—	3	3
Total	¥13,532	¥—	¥152	¥152

Notes: 1. The fair values of currency options are measured using the quoted price obtained from financial institutions. Currency options used are called collar options, which effectively limit the risk arising from the changes in exchange rate by the combination of buying call options and selling put options, or selling call options and buying put options.
2. The fair values of foreign currency forward contracts are measured using the forward quotation.

Derivative transactions to which hedge accounting is applied as of December 31, 2019 and 2018

(1) Currency related

Millions of yen

	Hedged item	2019 Contract/notional amount	2019 Contract/notional amount due after one year	2019 Fair value
Foreign currency forward contracts: (Note 1)				
Selling				
U.S.$	Forecast transaction	¥ 359	¥—	¥ (1)
Other		168	—	(2)
Buying				
Euro	Forecast transaction and Accounts payable—trade	23,553	—	994
Other		92	—	0
Foreign currency forward contracts: (Notes 1 and 2)				
Selling				
U.S.$	Accounts receivable—trade	2,593	—	
Other		275	—	
Currency swaps: (Notes 1 and 3)				
(Payment in Japanese yen and receipt in U.S.$)	Loans payable	10,871	—	
Total		¥37,909	¥—	¥991

Notes: 1. The fair values of foreign currency forward contracts are measured using the quoted price obtained from financial institutions.

2. Exchange contracts appropriated to specific debts and credits are settled together with either accounts receivable–trade or accounts payable–trade subject to hedged transaction. Accordingly, the fair values of such exchange contracts are reflected in accounts receivable–trade or accounts payable–trade.

3. Currency swaps appropriated to specific credits are settled together with loans payable subject to hedged transaction. Accordingly, the fair values of such currency swaps are reflected in loans payable.

Millions of yen

	Hedged item	2018 Contract/notional amount	2018 Contract/notional amount due after one year	2018 Fair value
Foreign currency forward contracts: (Note 1)				
Selling				
U.S.$	Forecast transaction	¥ 391	¥—	¥ 9
Other		338	—	7
Buying				
U.S.$	Accounts payable—trade	78	—	(1)
Foreign currency forward contracts: (Notes 1 and 2)				
Selling				
U.S.$	Accounts receivable—trade	2,552	—	
Other		540	—	
Total		¥3,899	¥—	¥15

Notes: 1. The fair values of foreign currency forward contracts are measured using the quoted price obtained from financial institutions.

2. Exchange contracts appropriated to specific debts and credits are settled together with either accounts receivable–trade, loans payable or accounts payable–trade subject to hedged transaction. Accordingly, the fair values of such exchange contracts are reflected in accounts receivable–trade, loans payable or accounts payable–trade.

(2) Interest related

Millions of yen

	Hedged item	2019 Contract/notional amount	2019 Contract/notional amount due after one year	2019 Fair value
Interest rate swaps: (Note) (Fixed rate payment, floating rate receipt)	Loans payable	**¥66,306**	**¥66,306**	
Total		**¥66,306**	**¥66,306**	**¥—**

Note: If interest rate swaps qualify for hedge accounting and meet certain specific criteria, they are settled together with loans payable subject to hedged transaction. Accordingly, the fair values of such interest rate swaps is reflected in loans payable.

Millions of yen

	Hedged item	2018 Contract/notional amount	2018 Contract/notional amount due after one year	2018 Fair value
Interest rate swaps: (Note) (Fixed rate payment, floating rate receipt)	Loans payable	¥62,596	¥46,559	
Total		¥62,596	¥46,559	¥—

Note: If interest rate swaps qualify for hedge accounting and meet certain specific criteria, they are settled together with loans payable subject to hedged transaction. Accordingly, the fair values of such interest rate swap is reflected in loans payable.

(3) Commodity related

Millions of yen

	Hedged item	2019 Contract/notional amount	2019 Contract/notional amount due after one year	2019 Fair value
Commodity swaps: (Note) (Fixed price payment, floating price receipt)	Fuel	**¥42**	**¥—**	**¥(6)**
Total		**¥42**	**¥—**	**¥(6)**

Note: The fair values of commodity swap is measured using the quoted price obtained from the exchange.

Millions of yen

	Hedged item	2018 Contract/notional amount	2018 Contract/notional amount due after one year	2018 Fair value
Commodity swaps: (Note) (Fixed price payment, floating price receipt)	Fuel	¥153	¥42	¥4
Total		¥153	¥42	¥4

Note: The fair values of commodity swap is measured using the quoted price obtained from the exchange.

Note 22: Commitments and Contingent Liabilities

Contingent liabilities as of December 31, 2019 and 2018, are as follows:

Millions of yen

	2019	2018
Trade notes discounted with banks	**¥ —**	¥ 9
Liabilities for guarantee and other	**583**	637
Total	**¥583**	¥646

In the opinion of management, the eventual settlement of pending lawsuits in which any of the companies in the Group is the defendant will not have a material effect on the consolidated financial position or consolidated results of operations of the Group.

Note 23:

Other Comprehensive Income

Each component of other comprehensive income and related tax effects (including those on non-controlling interests) for the fiscal years ended December 31, 2019 and 2018, comprises the following:

	Millions of yen	
	2019	2018
Valuation difference on available-for-sale securities:		
Gains (losses) arising during the year	**¥ 564**	¥ (6,160)
Reclassification adjustments to profit (loss)	**(73)**	(3,118)
Amount before income tax effect	**491**	(9,278)
Income tax effect	**(164)**	2,776
Total	**327**	(6,502)
Deferred gains or losses on hedges:		
Gains (losses) arising during the year	**1,008**	6
Reclassification adjustments to profit (loss)	**(42)**	17
Amount before income tax effect	**966**	23
Income tax effect	**(297)**	(6)
Total	**669**	17
Foreign currency translation adjustment:		
Adjustments arising during the year	**(4,394)**	(20,112)
Reclassification adjustments to profit (loss)	**—**	(91)
Amount before income tax effect	**(4,394)**	(20,203)
Total	**(4,394)**	(20,203)
Remeasurements of defined benefit plans:		
Adjustments arising during the year	**8,892**	(13,529)
Reclassification adjustments to profit (loss)	**1,868**	556
Amount before income tax effect	**10,760**	(12,973)
Income tax effect	**(3,491)**	3,560
Total	**7,269**	(9,413)
Share of other comprehensive income of associates accounted for using equity method:		
Gains (losses) arising during the year	**(1,298)**	(1,547)
Reclassification adjustments to profit (loss)	**554**	2
Total	**(744)**	(1,545)
Total other comprehensive income	**¥ 3,127**	¥(37,646)

Note 24:

Subsequent Events

(Dividends)

At the Company's annual general meeting of shareholders held on March 26, 2020, the shareholders approved the following appropriations of retained earnings:

	Millions of yen
Cash dividends, ¥40.00 per share	**¥3,792**
Total	**¥3,792**

Note: The total amount of dividends resolved at the annual general meeting of shareholders held on March 26, 2020, includes dividends of ¥6 million for the Company's shares held by the BBT.

(Financing through a Subordinated Term Loan)

Procurement of a total of ¥60 billion through a subordinated term loan ("the subordinated loan") was approved at a meeting of the Company's Board of Directors held on March 24, 2020.

1. Purpose and significance of the subordinated loan

The Company had resolved to acquire the shares and assets of the Colors & Effects business of German firm BASF SE on August 29, 2019.

With regard to the method of procuring funds for this acquisition, the Company planned to choose an approach that would avoid a decline in capital efficiency due to stock dilution and enable it to maintain financial soundness. Having since explored hybrid financing, the Company made the decision to use a subordinated loan.

Also, the Company currently has no plans to raise funds through the issue of new shares (equity financing).

2. Characteristics of the subordinated loan

A subordinated loan is a type of hybrid financing midway between equity and debt. Accordingly, while classified as debt, it has characteristics similar to equity. As a result, the subordinated loan will be eligible for recognition by credit rating agencies as having equity credit attributes to a certain extent, enabling the Company to strengthen its financial base without causing stock dilution. Specifically, the Company expects 50% of the total amount procured to be assessed as having equity credit attributes by the Japan Credit Rating Agency, Ltd.

3. Summary of the subordinated loan

Total amount procured	¥60 billion
Contract date (scheduled)	March 31, 2020
Drawdown date	Any date within one year of the contract date
Use of funds procured	Business acquisition
Due date	60 years from the drawdown date
Early repayment*	The Company may repay before the due date all or part of the principal on each interest payment date five years from the drawdown date or later, or in certain other specified circumstances.
Applicable interest rate	From drawdown date up to the 10th year, at base floating interest rate plus the initial spread. From the 10th year up to the 25th year, at base floating interest rate plus a 0.25% step-up from the initial spread. From the 25th year on, at base floating interest rate plus a 1.00% step-up from the initial spread.
Interest deferral clause	The Company may defer payment of interest.
Subordination clause	The creditors of the subordinated loan shall have a claim subordinated to that of other senior debt creditors in the event of the Company's liquidation, bankruptcy, corporate reorganization or civil rehabilitation proceedings under Japanese law or any equivalent proceedings under any laws other than Japanese law. Any provisions stipulated in the subordinated loan agreement shall not be amended in any manner detrimental to any of the Company's creditors other than the creditors of the subordinated loan.
Lenders	MUFG Bank, Ltd., Mizuho Bank, Ltd., etc.
Assessment of equity credit attributes (expected)	Japan Credit Rating Agency: Medium / 50%

** In the case of early repayment of the subordinated loan, the Company anticipates procuring funds through the issue of common stock or debt (refinancing securities) approved by rating agencies as having equity credit attributes equivalent to or higher than the subordinated loan. However, if the Company satisfies certain financial requirements when early repayment is made five years after the drawdown date or later, it may defer the procurement of funds through refinancing securities.*

Note 25: Segment Information

(1) Segment information

New corporate organization introduced

Effective from January 1, 2019, the Company revised its segmentation to coincide with the launch of its medium-term management plan, DIC111. Accordingly, figures for the fiscal year ended December 31, 2018, have been restated.

Description of reportable segments

The reportable segments of the Group are components for which discrete financial information is available and whose operating results are regularly reviewed by the board of directors to evaluate their performance and determine the allocation of management resources.

The Group has six product divisions, namely "Printing Materials," "Packaging Materials," "Color Materials," "Display Materials," "Performance Materials" and "Composite Materials," and each product division conducts its business.

The product divisions are aggregated into three reportable segments, namely "Packaging & Graphic," "Color & Display" and "Functional Products," based on the similarity of the products and services.

"Packaging & Graphic" mainly consists of gravure inks, flexo inks, offset inks, news inks, jet inks and polystyrene. "Color & Display" mainly consists of organic pigments, liquid crystal materials and health foods. "Functional Products" mainly consists of synthetic resins, such as acrylic, polyurethane, epoxy resins, PPS compounds and industrial adhesive tapes.

Methods of measurement for the amounts of sales, profit (loss), assets, liabilities and other items for each reportable segment

The accounting policies of each reportable segment are consistent with those disclosed in Note 2 "Summary of Significant Accounting Policies."

Segment profits are based on operating income.

Intersegment sales are mainly based on market price or cost of goods manufactured.

Information about sales, profit (loss), assets, liabilities and other items

Millions of yen

	2019					
	Reportable Segments					
	Packaging & Graphic	Color & Display	Functional Products	Total	Others	Total
Sales:						
Sales to customers	**¥416,377**	**¥ 86,500**	**¥265,248**	**¥768,125**	**¥ 443**	**¥768,568**
Intersegment sales	**—**	**29,912**	**3,342**	**33,253**	**—**	**33,253**
Total sales	**416,377**	**116,411**	**268,590**	**801,378**	**443**	**801,821**
Segment profit	**19,178**	**10,784**	**19,234**	**49,196**	**433**	**49,629**
Segment assets	**¥358,108**	**¥ 93,475**	**¥320,720**	**¥772,303**	**¥31,367**	**¥803,670**
Others:						
Depreciation and amortization	**12,910**	**5,099**	**13,515**	**31,524**	**552**	**32,076**
Amortization of goodwill	**21**	**—**	**78**	**99**	**—**	**99**
Investments in affiliates	**5,379**	**652**	**35,169**	**41,200**	**3,958**	**45,158**
Increase in property, plant and equipment and intangible assets	**12,384**	**5,840**	**15,345**	**33,569**	**413**	**33,982**

Millions of yen

	2018					
	Reportable Segments					
	Packaging & Graphic	Color & Display	Functional Products	Total	Others	Total
Sales:						
Sales to customers	¥434,679	¥ 91,440	¥278,779	¥804,898	¥ 600	¥805,498
Intersegment sales	—	32,673	3,337	36,010	—	36,010
Total sales	434,679	124,113	282,116	840,908	600	841,508
Segment profit	19,887	14,977	20,809	55,673	417	56,090
Segment assets	¥355,044	¥ 95,079	¥320,453	¥770,576	¥33,884	¥804,460
Others:						
Depreciation and amortization	13,334	4,662	13,381	31,377	343	31,720
Amortization of goodwill	22	1	103	126	30	156
Investments in affiliates	5,231	1,184	44,557	50,972	3,579	54,551
Increase in property, plant and equipment and intangible assets	11,551	6,616	13,503	31,670	243	31,913

Reconciliation between reportable segment total and amounts disclosed in consolidated financial statements

Millions of yen

	2019	2018
Sales:		
Reportable segment total	**¥801,378**	¥840,908
Sales in "Others"	**443**	600
Elimination of intersegment transactions	**(33,253)**	(36,010)
Sales in consolidated financial statements	**¥768,568**	¥805,498

Millions of yen

	2019	2018
Profit:		
Reportable segment total	**¥49,196**	¥55,673
Profit in "Others"	**433**	417
Corporate expenses	**(8,297)**	(7,705)
Operating income in consolidated financial statements	**¥41,332**	¥48,385

Note: Corporate expenses consist substantially of R&D expenses incurred by the DIC Central Research Laboratories to develop new products, which are not included in any reportable segment.

Millions of yen

	2019	2018
Assets:		
Reportable segment total	**¥772,303**	¥770,576
Assets in "Others"	**31,367**	33,884
Elimination between segments	**(45,235)**	(40,964)
Corporate assets	**44,648**	37,800
Assets in consolidated financial statements	**¥803,083**	¥801,296

Note: Corporate assets consist of deferred tax assets and assets of the DIC Central Research Laboratories and Kawamura Memorial DIC Museum of Art, which are not included in any reportable segment.

Other items are as follows:

Millions of yen

	2019				2018			
	Reportable Segments	Others	Adjustments	Consolidated	Reportable Segments	Others	Adjustments	Consolidated
Depreciation and amortization	**¥31,524**	**¥ 552**	**¥1,051**	**¥33,127**	¥31,377	¥ 343	¥1,105	¥32,825
Amortization of goodwill	**99**	**—**	**—**	**99**	126	30	—	156
Investments in affiliates	**41,200**	**3,958**	**—**	**45,158**	50,972	3,579	—	54,551
Increase in property, plant and equipment and intangible assets	**33,569**	**413**	**980**	**34,962**	31,670	243	171	32,084

Notes: 1. The adjustments for depreciation and amortization are mainly depreciation and amortization related to the DIC Central Research Laboratories that cannot be allocated to any reportable segment.
2. The adjustments for increase in property, plant and equipment and intangible assets are mainly capital investments of the DIC Central Research Laboratories that cannot be allocated to any reportable segment.

(2) Related information

Information about geographical areas

Millions of yen

	2019			
	Japan	USA	Others	Total
Net sales (Note)	**¥280,147**	**¥96,654**	**¥391,767**	**¥768,568**
Property, plant and equipment	**125,932**	**28,685**	**77,559**	**232,176**

Note: Net sales is based on customer location and is classified by country.

Millions of yen

	2018			
	Japan	USA	Others	Total
Net sales (Note)	¥292,857	¥97,682	¥414,959	¥805,498
Property, plant and equipment	127,257	28,898	71,996	228,151

Note: Net sales is based on customer location and is classified by country.

Information about major customers

Not applicable for the fiscal years ended December 31, 2019 and 2018, because there is no single customer which accounts for more than 10% of net sales shown on the consolidated statement of income.

(3) Impairment loss of assets by reportable segment

Millions of yen

	2019					
	Packaging & Graphic	Color & Display	Functional Products	Others	Corporate and eliminations	Consolidated
Impairment loss	**¥2,388**	**¥690**	**¥—**	**¥—**	**¥—**	**¥3,078**

There was no impairment loss of assets for the fiscal year ended December 31, 2018.

(4) Amortization and unamortized balances of goodwill by reportable segment

Millions of yen

	2019					
	Packaging & Graphic	Color & Display	Functional Products	Others	Corporate and eliminations	Consolidated
Amortization	**¥21**	**¥—**	**¥ 78**	**¥—**	**¥—**	**¥ 99**
Unamortized balances	**7**	**—**	**755**	**—**	**—**	**762**

Millions of yen

	2018					
	Packaging & Graphic	Color & Display	Functional Products	Others	Corporate and eliminations	Consolidated
Amortization	¥22	¥ 1	¥103	¥30	¥—	¥156
Unamortized balances	34	—	—	—	—	34

Note 26:

Related-Party Transactions

(1) Related-party transactions with the Company

Related-party transactions with directors, corporate auditors, major individual shareholders and others of the Company for the fiscal years ended December 31, 2019 and 2018, are as follows:

Millions of yen

2019

Type of related party	Name	Location	Capital or investment	Principal business	Ownership of voting rights	Relation with related parties	Contents of transaction	Amount of transaction (Note 1)	Account	Balance at year-end (Note 2)
Companies where directors and their close relatives owned a majority of the voting rights (Note 3)	Nissei Real-Estate Co., Ltd.	Chiyoda-ku, Tokyo	10	Rental of properties and others	—	Rental of buildings and others	Payment of rent for buildings and others (Note 4)	2,232	Security deposit	1,832
	Dainichi Can Co., Ltd.	Chiyoda-ku, Tokyo	10	Manufacture and sale of metallic containers	—	Purchase of metallic containers and others	Purchase of metallic containers and others (Note 5)	459	Electronically recorded obligations, accounts payable–trade, and accounts payable–other	192
							Sales of merchandise and finished goods, and offering of service (Note 6)	67	Trade notes and accounts receivable	16
	Nissin Trading Co., Ltd.	Chiyoda-ku, Tokyo	20	Sale, import and export of petrochemical-related products	—	Purchase of raw materials and others	Purchase of raw materials and others (Note 7)	6,936	Electronically recorded obligations, accounts payable–trade, and accounts payable–other	1,720
							Sales of merchandise and finished goods, and offering of service (Note 6)	3,803	Accounts receivable–trade and accounts receivable–other	1,480

Notes: 1. Excluding consumption taxes.
2. Including consumption taxes.
3. Yoshihisa Kawamura, a director of the Company, and his close relatives substantially own a majority of the voting rights of Nissei Real-Estate Co., Ltd.
Dainichi Can Co., Ltd. and Nissin Trading Co., Ltd. are fully owned by Nissei Real-Estate Co., Ltd.
4. "Rental of buildings and others" are determined based on an arms-length transaction in the neighboring area.
5. "Purchase of metallic containers and others" are determined based on an arms-length transaction.
6. "Sales of merchandise and finished goods, and offering of service" are determined based on an arms-length transaction.
7. "Purchase of raw materials and others" are determined based on an arms-length transaction.

Millions of yen

2018

Type of related party	Name	Location	Capital or investment	Principal business	Ownership of voting rights	Relation with related parties	Contents of transaction	Amount of transaction (Note 1)	Account	Balance at year-end (Note 2)
Companies where directors and their close relatives owned a majority of the voting rights (Note 3)	Nissei Real-Estate Co., Ltd.	Chiyoda-ku, Tokyo	10	Rental of properties and others	—	Rental of buildings and others	Payment of rent for buildings and others (Note 4)	2,206	Security deposit	1,833
	Dainichi Can Co., Ltd.	Chiyoda-ku, Tokyo	10	Manufacture and sale of metallic containers	—	Purchase of metallic containers and others	Purchase of metallic containers and others (Note 5)	525	Trade notes, accounts payable and other accounts payable	217
							Sales of merchandise and finished goods, and offering of service (Note 6)	61	Trade notes and accounts receivable	31
	Nissin Trading Co., Ltd.	Chiyoda-ku, Tokyo	20	Sale, import and export of petrochemical-related products	—	Purchase of raw materials and others	Purchase of raw materials and others (Note 7)	6,038	Trade notes, accounts payable and other accounts payable	1,665
							Sales of merchandise and finished goods, and offering of service (Note 6)	4,435	Trade accounts receivable and other accounts receivable	1,408

Notes: 1. Excluding consumption taxes.

2. Including consumption taxes.

3. Yoshihisa Kawamura, a director of the Company, and his close relatives substantially own a majority of the voting rights of Nissei Real-Estate Co., Ltd.
Dainichi Can Co., Ltd. and Nissin Trading Co., Ltd. are fully owned by Nissei Real-Estate Co., Ltd.
Nissei Real-Estate Co., Ltd., Dainichi Can Co., Ltd. and Nissin Trading Co., Ltd. transferred all the Company's shares to SHOEI INC. and do not own voting rights of the Company as of the balance sheet date.

4. "Rental of buildings and others" are determined based on an arms-length transaction in the neighboring area.

5. "Purchase of metallic containers and others" are determined based on an arms-length transaction.

6. "Sales of merchandise and finished goods, and offering of service" are determined based on an arms-length transaction.

7. "Purchase of raw materials and others" are determined based on an arms-length transaction.

(2) Related-party transactions with the consolidated subsidiaries

Related-party transactions with directors, corporate auditors, major individual shareholders and others of the Company for the fiscal years ended December 31, 2019 and 2018, are as follows:

Millions of yen

2019

Type of related party	Name	Location	Capital or investment	Principal business	Ownership of voting rights	Relation with related parties	Contents of transaction	Amount of transaction (Note 1)	Account	Balance at year-end (Note 2)
Companies where directors and their close relatives owned a majority of the voting rights (Note 3)	Nissei Real-Estate Co., Ltd.	Chiyoda-ku, Tokyo	10	Rental of properties and others	—	Rental of buildings and others	Payment of rent for buildings and others (Note 4)	15	Security deposit	8
	Dainichi Can Co., Ltd.	Chiyoda-ku, Tokyo	10	Manufacture and sale of metallic containers	—	Purchase of metallic containers and others	Purchase of metallic containers and others (Note 5)	790	Electronically recorded obligations, accounts payable–trade, and accounts payable–other	333
							Sales of merchandise and finished goods, and offering of service (Note 6)	59	Trade notes and accounts receivable	25
	Nissin Trading Co., Ltd.	Chiyoda-ku, Tokyo	20	Sale, import and export of petrochemical-related products	—	Purchase of raw materials and others	Purchase of raw materials and others (Note 7)	1,381	Electronically recorded obligations, accounts payable–trade, and accounts payable–other	238
							Sales of merchandise and finished goods, and offering of service (Note 6)	638	Accounts receivable–trade and accounts receivable–other	223

Notes: 1. Excluding consumption taxes.
2. Including consumption taxes.
3. Yoshihisa Kawamura, a director of the Company, and his close relatives substantially own a majority of the voting rights of Nissei Real-Estate Co., Ltd.
Dainichi Can Co., Ltd. and Nissin Trading Co., Ltd. are fully owned by Nissei Real-Estate Co., Ltd.
4. "Rental of buildings and others" are determined based on an arms-length transaction in the neighboring area.
5. "Purchase of metallic containers and others" are determined based on an arms-length transaction.
6. "Sales of merchandise and finished goods, and offering of service" are determined based on an arms-length transaction.
7. "Purchase of raw materials and others" are determined based on an arms-length transaction.

Millions of yen

2018

Type of related party	Name	Location	Capital or investment	Principal business	Ownership of voting rights	Relation with related parties	Contents of transaction	Amount of transaction (Note 1)	Account	Balance at year-end (Note 2)
Companies where directors and their close relatives owned a majority of the voting rights (Note 3)	Nissei Real-Estate Co., Ltd.	Chiyoda-ku, Tokyo	10	Rental of properties and others	—	Rental of buildings and others	Payment of rent for buildings and others (Note 4)	15	Security deposit	8
	Dainichi Can Co., Ltd.	Chiyoda-ku, Tokyo	10	Manufacture and sale of metallic containers	—	Purchase of metallic containers and others	Purchase of metallic containers and others (Note 5)	754	Trade notes, accounts payable and other accounts payable	339
							Sales of merchandise and finished goods, and offering of service (Note 6)	57	Trade notes and accounts receivable	24
	Nissin Trading Co., Ltd.	Chiyoda-ku, Tokyo	20	Sale, import and export of petrochemical-related products	—	Purchase of raw materials and others	Purchase of raw materials and others (Note 7)	1,485	Trade notes, accounts payable and other accounts payable	267
							Sales of merchandise and finished goods, and offering of service (Note 6)	539	Trade accounts receivable and other accounts receivable	191

Notes: 1. Excluding consumption taxes.

2. Including consumption taxes.

3. Yoshihisa Kawamura, a director of the Company, and his close relatives substantially own a majority of the voting rights of Nissei Real-Estate Co., Ltd.
Dainichi Can Co., Ltd. and Nissin Trading Co., Ltd. are fully owned by Nissei Real-Estate Co., Ltd.
Nissei Real-Estate Co., Ltd., Dainichi Can Co., Ltd. and Nissin Trading Co., Ltd. transferred all the Company's shares to SHOEI INC. and do not own voting rights of the Company as of the balance sheet date.

4. "Rental of buildings and others" are determined based on an arms-length transaction in the neighboring area.

5. "Purchase of metallic containers and others" are determined based on an arms-length transaction.

6. "Sales of merchandise and finished goods, and offering of service" are determined based on an arms-length transaction.

7. "Purchase of raw materials and others" are determined based on an arms-length transaction.

1. Basic framework for internal control over financial reporting

Kaoru Ino, Representative Director, President and CEO, and Shuji Furuta, Head of Finance and Accounting Unit and CFO of DIC Corporation (the "Company"), are responsible for designing and operating internal control over the Company's financial reporting and have designed and operated internal control over financial reporting in accordance with the basic framework for internal control set forth in "On the Revision of the Standards and Practice Standards for Management Assessment and Audit concerning Internal Control Over Financial Reporting (Council Opinions)," issued by the Business Accounting Council of the Financial Services Agency of Japan.

Internal control aims to achieve its objectives to a reasonable extent with the organized and integrated function of basic individual elements of internal control as a whole. Accordingly, due to the inherent limitations, there is a possibility that misstatements may not be completely prevented or detected by internal controls over financial reporting.

2. Scope of assessment, the basis date of assessment and assessment procedures

The assessment of internal control over financial reporting for fiscal year 2019 was conducted as of December 31, 2019, which is the end of this fiscal year. The assessment was performed in accordance with relevant assessment standards generally accepted in Japan for internal control over financial reporting.

In conducting this assessment, we began by evaluating internal control which may have a material impact on overall consolidated financial reporting ("company-level controls") and, based on the results of this assessment, business processes to be assessed were selected. We then analyzed these selected business processes to identify key controls therein that may have a material impact on the reliability of the Company's financial reporting, after which we examined the design and operation of these controls. These procedures thus allowed us to accurately evaluate the effectiveness of the Company's internal control.

We determined the required scope of assessment of internal control over financial reporting for the Company and its consolidated subsidiaries and equity-method affiliates from the perspective of materiality or the degree to which it may affect the reliability of financial reporting. Materiality of the impact which may affect the reliability of financial reporting is determined based on potential quantitative and qualitative impact on financial reporting. In light of the results of assessment of company-level controls, we reasonably determined the scope of assessment of process-level controls. Consolidated subsidiaries and equity-method affiliates which were concluded as immaterial taking into account the degree of quantitative and qualitative impact are not included in the scope for assessment of company-level controls.

With regard to the process-level controls, significant locations and business units to be tested were selected based on the changes in the scope of consolidation during the year, as well as on net sales for the previous year, with locations and business units the combined sales volume of which reached approximately two-thirds of consolidated net sales being defined as "significant." The scope of assessment at these locations and business units encompassed business processes relevant to net sales, accounts receivable-trade, accounts payable-trade, inventories and manufacturing facilities included in property, plant and equipment as significant accounts that may have a material impact on the business objectives of the Company. In addition, business processes relating to (i) greater likelihood of material misstatements, and/or (ii) significant accounts involving estimates and management's judgment, were also identified as business processes having greater materiality, taking into account their impact on financial reporting, and were included in the scope.

3. Results of the assessment

Based on the results of the assessment, we concluded that as of the end of the fiscal year ended December 31, 2019, the Company's internal control over financial reporting was effectively maintained.

Kaoru Ino
Representative Director, President and CEO
DIC Corporation

Deloitte.

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INDEPENDENT AUDITOR'S REPORT

To the Board of Directors of DIC Corporation:

Report on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheet of DIC Corporation and its subsidiaries as of December 31, 2019, and the related consolidated statements of income, comprehensive income, changes in net assets, and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in Japan, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in Japan. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of DIC Corporation and its subsidiaries as of December 31, 2019, and the consolidated results of their operations and their cash flows for the year then ended in accordance with accounting principles generally accepted in Japan.

Report on Internal Control

We have audited management's report on internal control over financial reporting of the consolidated financial statements of DIC Corporation as of December 31, 2019.

Management's Responsibility for Report on Internal Control

Management is responsible for designing and operating effective internal control over financial reporting and for the preparation and fair presentation of its report on internal control in accordance with assessment standards for internal control over financial reporting generally accepted in Japan. There is a possibility that misstatements may not be completely prevented or detected by internal control over financial reporting.

Auditor's Responsibility

Our responsibility is to express an opinion on management's report on internal control based on our audit. We conducted our internal control audit in accordance with auditing standards for internal control over financial reporting generally accepted in Japan. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether management's report on internal control is free from material misstatement.

An internal control audit involves performing procedures to obtain audit evidence about the results of the assessment of internal control over financial reporting in management's report on internal control. The procedures selected depend on the auditor's judgment, including the significance of effects on reliability of financial reporting. An internal control audit includes examining representations on the scope, procedures and results of the assessment of internal control over financial reporting made by management, as well as evaluating the overall presentation of management's report on internal control.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, management's report on internal control referred to above, which represents that the internal control over financial reporting of the consolidated financial statements of DIC Corporation as of December 31, 2019 is effectively maintained, presents fairly, in all material respects, the results of the assessment of internal control over financial reporting in accordance with assessment standards for internal control over financial reporting generally accepted in Japan.

Deloitte Touche Tohmatsu LLC

March 26, 2020

Investor Information and Corporate Data

(As of December 31, 2019)

Investor Information

Common Stock

DIC common stock is listed and traded on the Tokyo Stock Exchange. There were 38,885 shareholders of record on December 31, 2019. On the Tokyo Stock Exchange, the high and low prices for each quarter of the years 2019 and 2018 were as follows:

	2019		2018	
	High	Low	High	Low
Jan.–Mar.	**¥3,635**	**¥3,170**	¥4,525	¥3,360
Apr.–Jun.	**3,545**	**2,587**	4,020	3,380
Jul.–Sept.	**3,130**	**2,534**	4,135	3,340
Oct.–Dec.	**3,290**	**2,894**	4,125	3,150

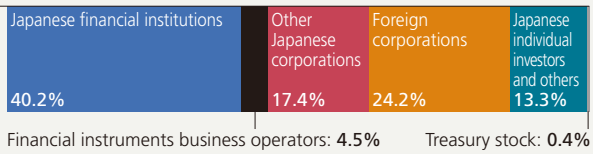
Total Number of Shares Authorized: 150,000,000 shares

Number of Unit Shares: 100 shares

Paid-in Capital: ¥96,556,692,787 (95,156,904 shares)

Independent Public Accountants: Deloitte Touche Tohmatsu LLC

Distribution of Shareholders



Financial instruments business operators: **4.5%**

Treasury stock: **0.4%**

Major Shareholders

	Number of Shares Owned (Thousands)	Percentage of Total
SHOEI INC.	12,694	13.39%
The Master Trust Bank of Japan, Ltd. (Trust Account)	6,893	7.27
Japan Trustee Services Bank, Ltd. (Trust Account)	5,009	5.28
The Dai-ichi Life Insurance Company, Limited	3,500	3.69
JP MORGAN CHASE BANK 385632	2,851	3.01
Japan Trustee Services Bank, Ltd. (Trust Account 4)	2,619	2.76
SMBC Nikko Securities Inc.	2,258	2.38
Aioi Nissay Dowa Insurance Co., Ltd.	2,020	2.13
NIPPON LIFE INSURANCE COMPANY	1,900	2.00
Japan Trustee Services Bank, Ltd. (Trust Account 7)	1,733	1.83
	41,477	43.74%

Transfer Agent: Mitsubishi UFJ Trust and Banking Corporation
10-11, Higashisuna 7-chome, Koto-ku, Tokyo
137-8081, Japan

Meeting of Shareholders: Our annual meeting of shareholders is held in March.

For Further Information, Contact:

Corporate Communications Dept.
DIC Corporation
DIC Building, 7-20, Nihonbashi 3-chome, Chuo-ku,
Tokyo 103-8233, Japan
Tel.: (03) 6733-3033
E-mail: prir@ma.dic.co.jp

Corporate Data

Registered Address

35-58, Sakashita 3-chome, Itabashi-ku,
Tokyo 174-8520, Japan

Corporate Headquarters

DIC Building, 7-20,
Nihonbashi 3-chome, Chuo-ku,
Tokyo 103-8233, Japan
Tel.: (03) 6733-3000
http://www.dic-global.com/

Principal Domestic Offices, Plants and Laboratories (Nonconsolidated)

Number of Branch Offices: 2
Number of Plants: 9
Number of Laboratories: 1

Number of Employees

20,513

Date of Foundation

February 15, 1908

Date of Incorporation

March 15, 1937

(Contact)

DIC Corporation

Corporate Communications Dept.
Sustainability Dept.

DIC Building, 7-20, Nihonbashi 3-chome, Chuo-ku, Tokyo 103-8233, Japan
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https://www.dic-global.com/en/

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