

DIC REPORT 2022

The DIC Group Integrated Report



"The DIC Way" was formulated to represent the DIC Group's fundamental management philosophy. In line with The DIC Way, the DIC Group will continue to promote efforts aimed at enhancing corporate value and achieving sustainable growth.



The DIC Way

Mission

We create enhanced value and utilize innovation to introduce socially responsible and sustainable products.

Vision

We improve the human condition by safely delivering color comfort for sustainable prosperity — *Color & Comfort*

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 performance in the office, laboratory, and factory, by demonstrating commitment to customers, suppliers, and coworkers.*

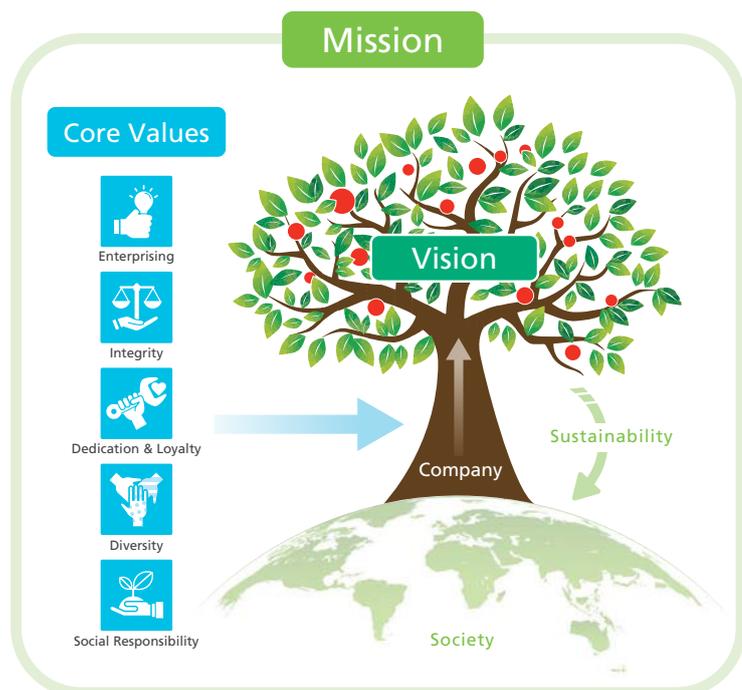
Diversity: Respect other viewpoints and work collaboratively while valuing collective goals over personal interests to achieve excellence; foster communication and cooperation with people from all backgrounds.*

Social Responsibility: Go beyond compliance to promote products and activities that achieve socially responsible and sustainable development that protect the environment.*

*=Annotation

Our Redefined Vision Statement

We have redefined our Vision to express our goals to deliver greater value through broader innovation, improving the human condition and promoting sustainability for a brighter future.



Contents

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 global website.

Printed/PDF-Form Publications

Reports on activities

DIC Report
(summary version)



Summary integrated report (published annually) (PDF-form 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 Global 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 global website.

WEB https://www.dic-global.com/pdf/csr/environment/dic_report_scope_en_2022.pdf

Reporting Period

Fiscal year 2021 (January 1–December 31, 2021)

Date of Publication

June 2022 (The next report is scheduled for publication in June 2023.)

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.

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Cover Design

The cover of this year's DIC Report takes its inspiration from the natural world, employing brightly colored flowers to evoke DIC's redefined vision statement, which expresses the Company's goals of delivering greater value through broader innovation, improving the human condition and promoting stability for a brighter future.

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

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

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®

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.

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.

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.

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

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.



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

1973

Enters the market for LCs

Develops revolutionary high-performance, long-lasting nematic liquid crystals (LCs), commencing its evolution into one of the world's foremost manufacturers of LCs.



Nematic LCs

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

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

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 sheffield 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

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.

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.

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.



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.

2021

Acquires the Colors & Effects business from BASF SE of Germany

Acquired a prominent global manufacturer of high-performance pigments, effect pigments (for cosmetics) and specialty inorganic pigments, based in Europe and with sites around the world, bringing together proprietary technologies and intellectual property that will unleash unparalleled development capabilities and yield exciting new products, as well as improving efficiency by expanding operating scale and reinforcing the DIC Group's position as a leading global pigments manufacturer.

2022

Inaugurates DIC Vision 2030 long-term management plan

Announces redefined vision statement—"We improve the human condition by safely delivering color and comfort for sustainable prosperity—Color & Comfort" and sets forth a new basic policy "Safely delivering Color & Comfort for sustainable prosperity to enhance shareholder value and long-term corporate value."

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 corporate social responsibility (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 signatory to the United Nations Global Compact (UNGC), with the aim of maintaining its reputation as a socially responsible corporate entity.



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 (DJSI) 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 2021, has been included in the index for seven consecutive years

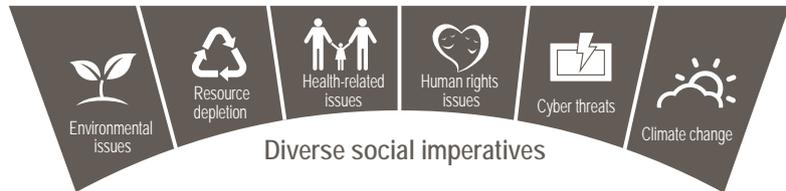
Member of
Dow Jones Sustainability Indices

Powered by the S&P Global CSA

The DIC Group's Approach to Value Creation

Delivering Color & Comfort

Build a business portfolio that helps achieve sustainable prosperity for society



Management capital (Inputs)

Financial capital

Funds essential to the provision of products and services

Manufacturing capital

Facilities and equipment essential to the provision of products and services

Intellectual capital

Accumulated technologies and know-how

Human capital

Ability to value diversity and to bolster satisfaction and productivity

Natural capital

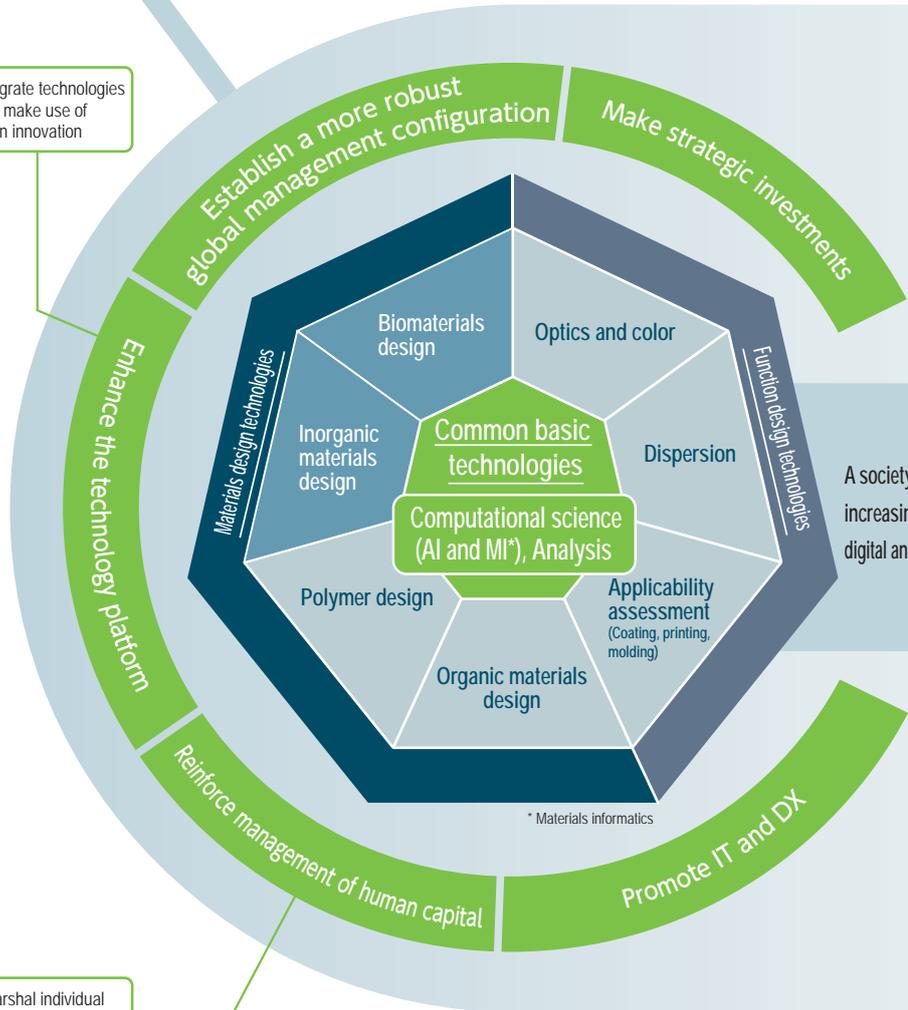
Carbon neutrality and consideration for biodiversity

Social capital

Cooperation with stakeholders and local communities

Integrate technologies and make use of open innovation

Marshal individual strengths to create organizational dynamism



A society that is increasingly green, digital and QOL-oriented

Materiality
(For more information, please see page 53.)

Reinforce ESG initiatives
The DIC Way

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.

Sustainable energy



- Specialty materials that contribute to the realization of the high-performance secondary batteries and fuel cells crucial to an electrified/hydrogen-powered society

e.g. | • Materials for secondary batteries and fuel cells
• Functional organic fillers



Healthcare



- High-performance nutritional supplements that support the health of people of all ages
- Healthcare-related products and services that deliver safety, peace of mind and comfort, contributing to a future in which people enjoy an improved quality of life (QOL)

e.g. | • High-performance nutritional products
• Natural skincare materials



Smart living



- High-performance materials and solutions that contribute to the realization of a sustainable society that coexists with a healthy global environment
- Chemical solutions for modern lives that have evolved and improved thanks to digitalization

e.g. | • Materials for 5G/6G-enabled devices
• Resins for next-generation semiconductors
• Bonding solutions for heterogeneous materials



Color science



- Color that is sustainable and ecologically sound
- Products with outstanding decorative properties that facilitate the creation of comfortable spaces
- Functional materials that leverage dyeing technologies to deliver convenience, satisfaction, safety and peace of mind

e.g. | • Functional pigments (for light detection and ranging (LiDAR) signal coatings, heat-blocking coatings)
• Biomass pigments
• Natural colorants for cosmetics



Sustainable packaging



- Materials that ensure tastier, more enjoyable and safer merchandise reaches consumers
- Materials that deliver safety, peace of mind and convenience, as well as help reduce food loss
- Product design that contributes to a circular economy, i.e., is conducive to recycling and uses plant-derived and renewable raw materials

e.g. | • Materials with outstanding barrier properties
• Biomass packaging
• Recycling systems (chemical recycling, materials recycling)



SDGs

2

ZERO HUNGER



3

GOOD HEALTH AND WELL-BEING



6

CLEAN WATER AND SANITATION



7

AFFORDABLE AND CLEAN ENERGY



9

INDUSTRY, INNOVATION AND INFRASTRUCTURE



11

SUSTAINABLE CITIES AND COMMUNITIES



12

RESPONSIBLE CONSUMPTION AND PRODUCTION



13

CLIMATE ACTION



14

LIFE BELOW WATER



15

LIFE ON LAND



SDGs Goals

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

Strategic Investments Under the DIC111 Medium-Term Management Plan

The basic concept of the DIC111 medium-term management plan, which guided the DIC Group from fiscal year 2019 through fiscal year 2021, was summarized as “Become a unique global company that is trusted by society by providing value safety and peace of mind, color and comfort.” Based on this concept, the plan set forth two basic strategies: “Value Transformation,” which focused on strengthening the Group’s corporate structure through qualitative reforms of businesses, and “New Pillar Creation,” which emphasized creating new businesses in response to ESH-related issues and social changes. The plan budgeted a total of ¥250 billion over three years for strategic investments aimed at accelerating growth while also balancing financial health and returns to shareholders.

In fiscal year 2021, the final year of DIC111, investments were made in M&As and start-ups in the pigments business and in a number of new businesses that expanded the Group’s product and technology portfolios.

1. Acquisition of the Colors & Effects Business from BASF

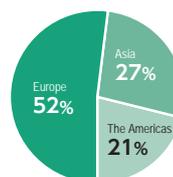
In August 2019, DIC resolved to acquire the shares and assets of the Colors & Effects business from BASF SE of Germany. This acquisition was finalized in June 2021, and we are currently promoting the integration of this business’ pigments portfolio into the Group’s pigments business.

Completion of Acquisition: June 30, 2021

- Purchase price (unadjusted): €1,010 million (approx. ¥128.9 billion) (Exchange rate used for calculation: €1.00 = ¥127.58) (Post-closing adjustments are pending. Accordingly, the actual final price may differ from this amount.)
- Method used to procure funds for acquisition: Bank loans (Thanks to the procurement of ¥60 billion through a subordinated term loan, DIC expects to maintain its debt-to-capital (D/C) ratio at 50% in fiscal year 2021.)
- The acquisition will cement DIC’s position as a leader in the global pigments industry.
- By expanding DIC’s portfolio of high-value-added products and optimizing its operations, this acquisition will accelerate Value Transformation.

Overview of the Colors & Effects Business

- One of the world’s premier manufacturers of high-performance pigments, effect pigments (pearlescent pigments for cosmetics) and specialty organic pigments
- Number of employees: Approx. 2,600
- Production sites: 11
- R&D laboratories: 4
- Operations are centered in Europe; the Colors & Effects business supplies more than 5,000 companies in 120-plus countries and territories worldwide



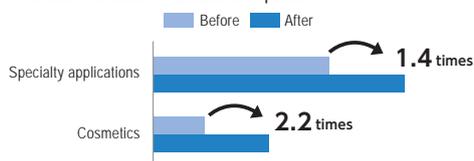
Geographical Breakdown of the Colors & Effects Business' Sales (Based on Results for 2020)

Based in Europe and with sites around the world, Colors & Effects, now a member of the DIC Group, has established itself as a prominent global manufacturer of high-performance pigments, effect pigments (pearlescent pigments for cosmetics) and specialty organic pigments. The business portfolios—including the technologies, products, production facilities, supply chains and customer service capabilities—of Colors & Effects and the Group harmonize well with each other, with little overlap.

Addition of High-Value-Added Products Expected to Boost Profitability

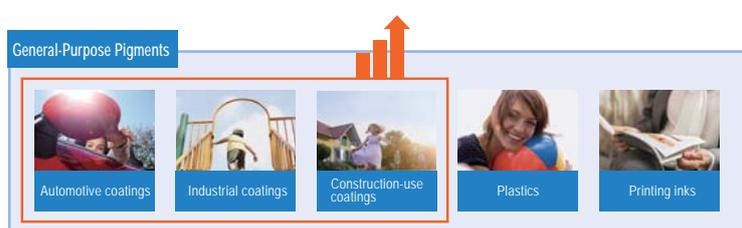
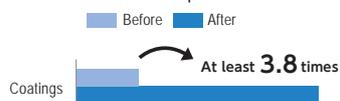
- In the area of functional pigments, the addition of effect pigments (pearlescent pigments for cosmetics) will significantly expand the DIC Group’s portfolio of pigments for cosmetics and specialty applications such as agriculture, which are major growth drivers.

Increase in Net Sales Attributable to Acquisition

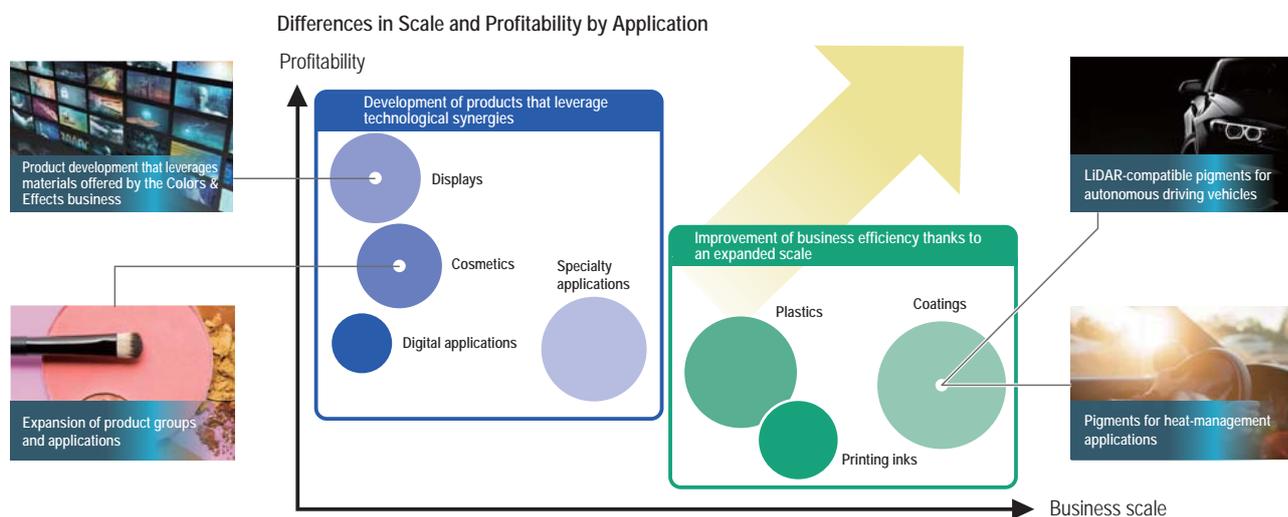


- In the area of general-purpose pigments, sales for use in industrial, construction-use and automotive coatings are increasing. The acquisition of the Colors & Effects business will particularly expand the Group’s presence in the market for pigments for automotive coatings by broadening its product portfolio and improving its product development capabilities.

Increase in Net Sales Attributable to Acquisition



This acquisition, and the integration of the two companies' technologies and intellectual property, will give the DIC Group unparalleled R&D and product development capabilities. The expansion of scale will improve business efficiency, strengthening the Group's position as a leading global pigments manufacturer.



2. Capital Alliance with GSM

In March 2021, DIC entered into a capital and business alliance with Green Science Materials, Inc. (GSM), a green biotech start-up based in Kumamoto, Japan, that has succeeded in commercializing *SACRAN*TM, a polysaccharide extracted from Suizenji nori, an indigenous blue-green algae.

A biotech start-up launched by the Japan Advanced Institute of Science and Technology (JAIST), GSM capitalizes on the research achievements in the extraction of *SACRAN*TM of JAIST researchers, notably Dr. Maiko Okajima and Professor Tatsuo Kaneko, becoming the first company in the world to successfully commercialize *SACRAN*TM. A macromolecular polysaccharide extracted from Suizenji nori, *SACRAN*TM boasts outstanding moisture-retention capacity, anti-inflammatory properties and skin barrier functions, boding well for its use in a wide range of skincare products. GSM is currently working to develop artificial culture and cultivation technologies for Suizenji nori with the aim of facilitating the efficient mass production and global sales of *SACRAN*TM. The company is also actively engaged in conservation efforts in and around the Kogane River in Asakura, Fukuoka Prefecture, the only place where this algae grows naturally.

The alliance with GSM will enable DIC to share mass cultivation and functional ingredient extraction technologies accumulated in the production of edible blue-green algae *Spirulina* with the goal of helping establish technologies for the artificial cultivation of Suizenji nori. In addition, GSM will work with DIC Group company Sun Chemical Corporation, which oversees Group operations in the Americas and Europe, to expand sales of Suizenji nori and *SACRAN*TM worldwide, as well as to promote the development of new applications for both.



3. Investment in Vaxa Technologies

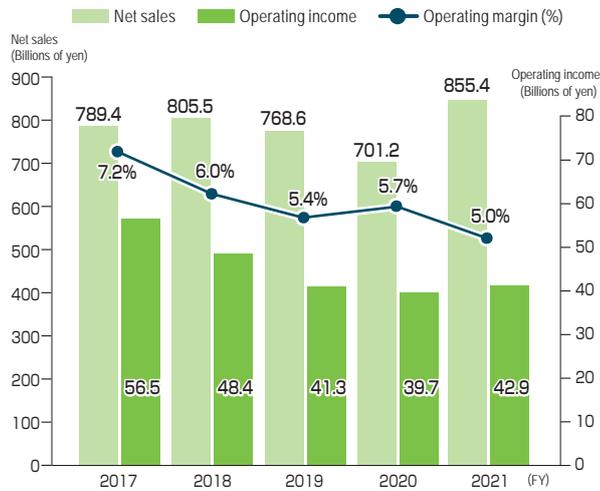
In April 2021, DIC completed investment in Vaxa Technologies Ltd., a biotech start-up headquartered in Israel, as part of a strategic expansion of DIC's health food and other algae-derived products businesses.

Vaxa Technologies possesses unique proprietary light-emitting diode (LED)-illuminated photobioreactors and algae cultivation technologies and is engaged in the development and commercialization of proprietary clean, high-value-added algae products. Vaxa Technologies' cultivation process employs renewable energy, achieving excellent productivity while requiring significantly less land and fresh water than conventional cultivation methods. This process also converts discharged CO₂ into useful materials, making the process carbon negative and thus highly sustainable.

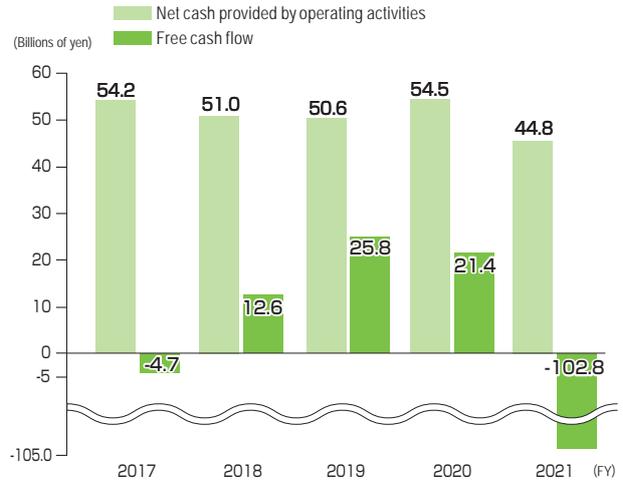


Financial Information

Net Sales, Operating Income and Operating Margin



Net Cash Provided by Operating Activities and Free Cash Flow



Notes:

*1 Owing to an investment of ¥24.9 billion in TAIYO HOLDINGS CO., LTD., capital expenditure and investment increased in fiscal year 2017.

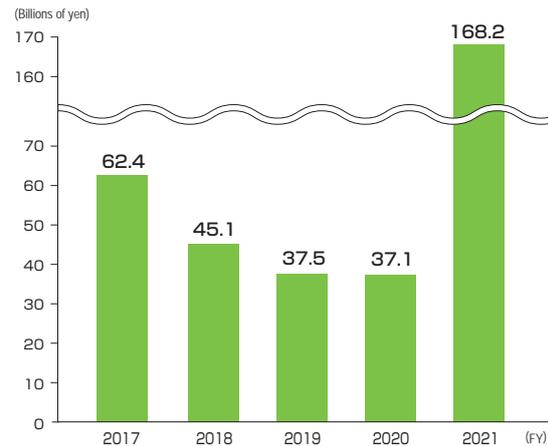
*2 The increase in capital expenditure and investment in fiscal year 2021 reflects the impact of DIC's acquisition of the Colors & Effects pigments business from BASF SE (acquisition cost: ¥128.9 billion).

Operating Income after Tax and ROIC*



* ROIC : Operating income x (1 - Effective tax rate of 28%) / (Net interest-bearing debt + Net assets)

Capital Expenditure and Investment

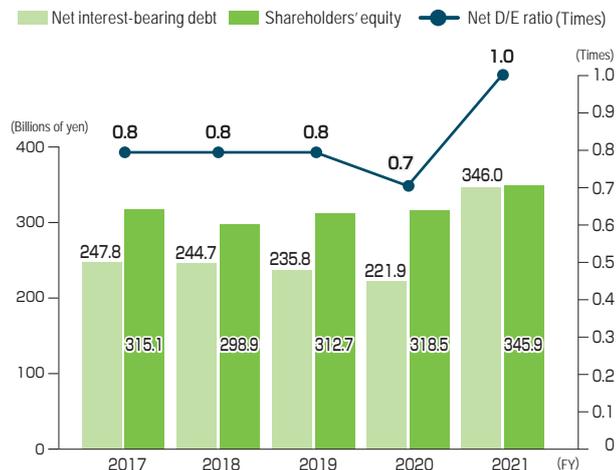


Notes:

1. Owing to an investment of ¥24.9 billion in TAIYO HOLDINGS CO., LTD., capital expenditure and investment increased in fiscal year 2017.

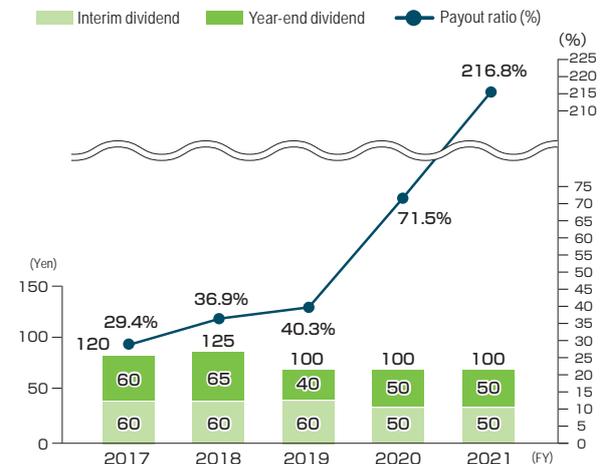
2. The increase in capital expenditure and investment in fiscal year 2021 reflects the impact of DIC's acquisition of the Colors & Effects pigments business from BASF SE (acquisition cost: ¥128.9 billion).

Shareholders' Equity, Net Interest-Bearing Debt and Net D/E Ratio*



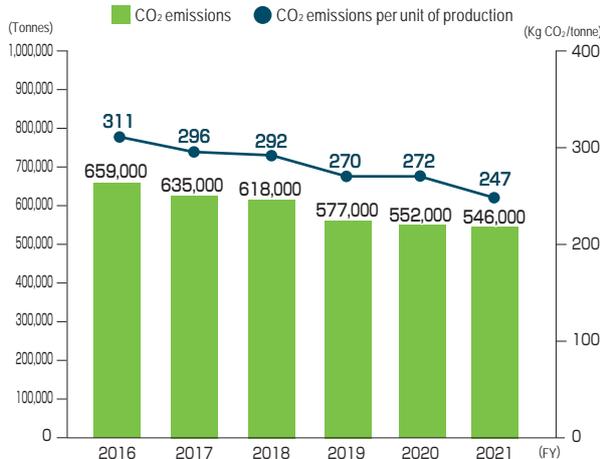
* Net D/E ratio: Net Interest-bearing debt / Shareholders' equity

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



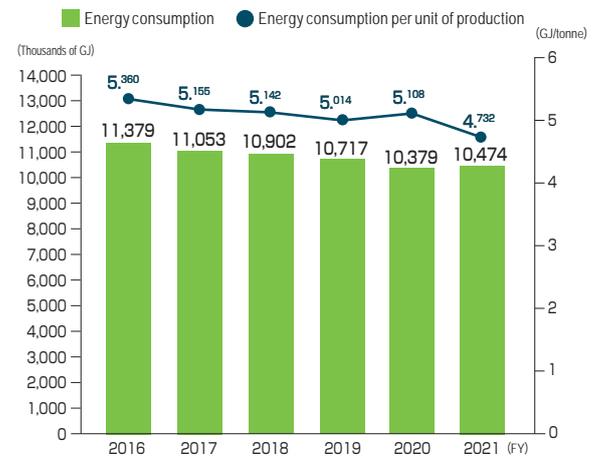
Nonfinancial Information

Global CO₂ Emissions and CO₂ Emissions per Unit of Production (DIC Group)



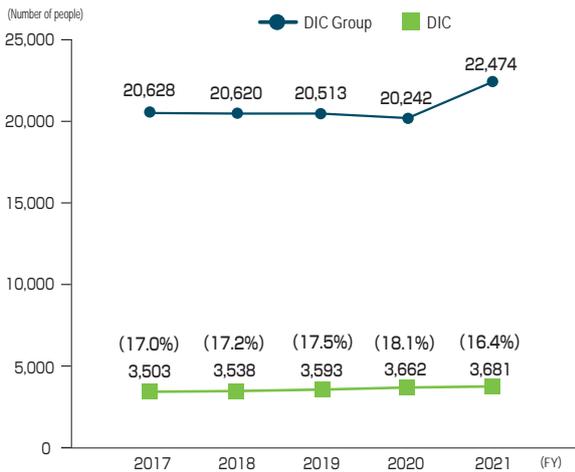
* CO₂ emissions per unit of production is calculated using adjusted production volume (parent company in Japan only). (Notification submitted to Japan's Ministry of Economy, Trade and Industry)

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



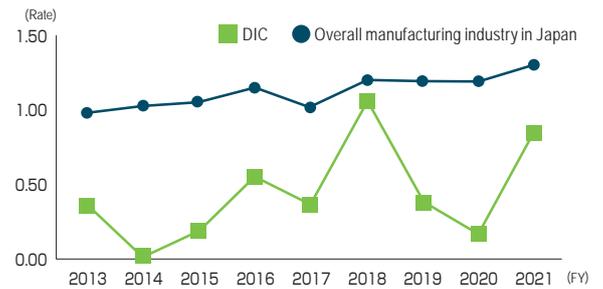
* Energy consumption per unit of production is calculated using adjusted production volume (parent company in Japan only). (Notification submitted to Japan's Ministry of Economy, Trade and Industry)

Number of Employees (DIC Corporation and the DIC Group)



Notes:
 1. Percentage figures in parentheses represent the proportion of DIC Group employees accounted for by employees of DIC Corporation.
 2. Employees numbers for DIC Corporation are calculated based on information in the Company's Annual Securities Report and thus differ from those in the Human Resources Management section of this report.

Occupational Accident Frequency Rate (DIC Corporation)

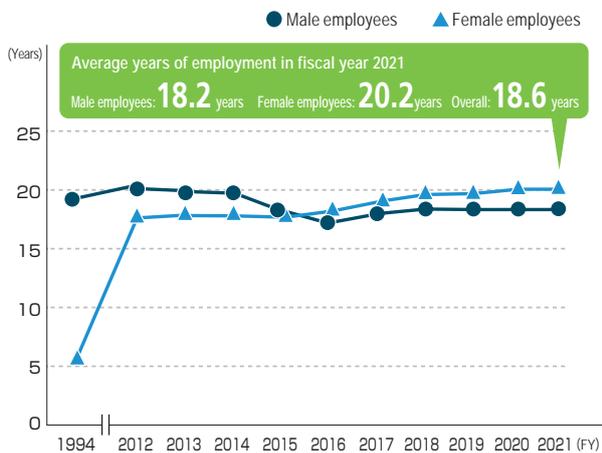


Note: The frequency rate expresses the frequency of accidents resulting in workdays lost in a fiscal year, calculated as the number of deaths or injuries per million work hours.

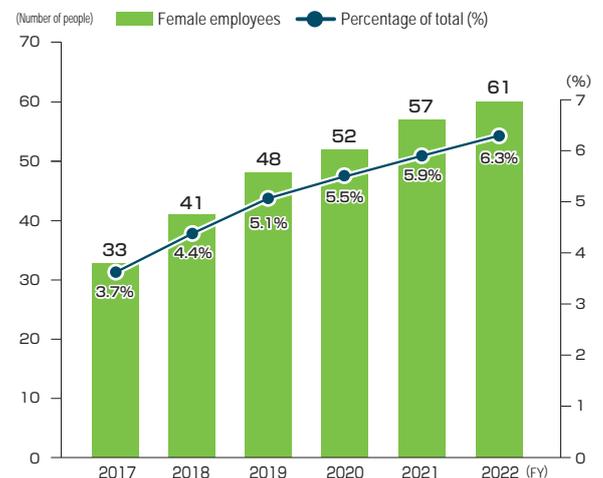
$$\text{Frequency rate} = \frac{\text{Number of deaths or injuries due to occupational accidents}}{\text{Total work hours}} \times 1,000,000$$

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)



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: 20,474 (Nonconsolidated: 3,345)
 Number of subsidiaries and affiliates: 189 (Domestic: 29) (Overseas: 160)



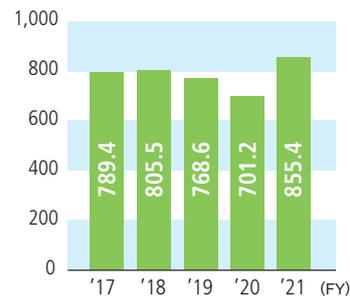
Corporate headquarters (Tokyo)

Note: Corporate data is as of December 31, 2021. Net sales and operating income are for fiscal year 2021. The nonconsolidated number of employees refers to individuals registered as employees of DIC Corporation and thus differs from the figure in the Annual Securities Report.



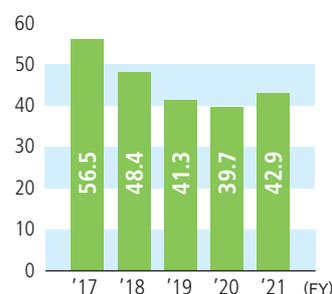
Net Sales

(Billions of yen)



Operating Income

(Billions of yen)



Global Network

DIC has 189 companies in 63 countries and territories around the world.



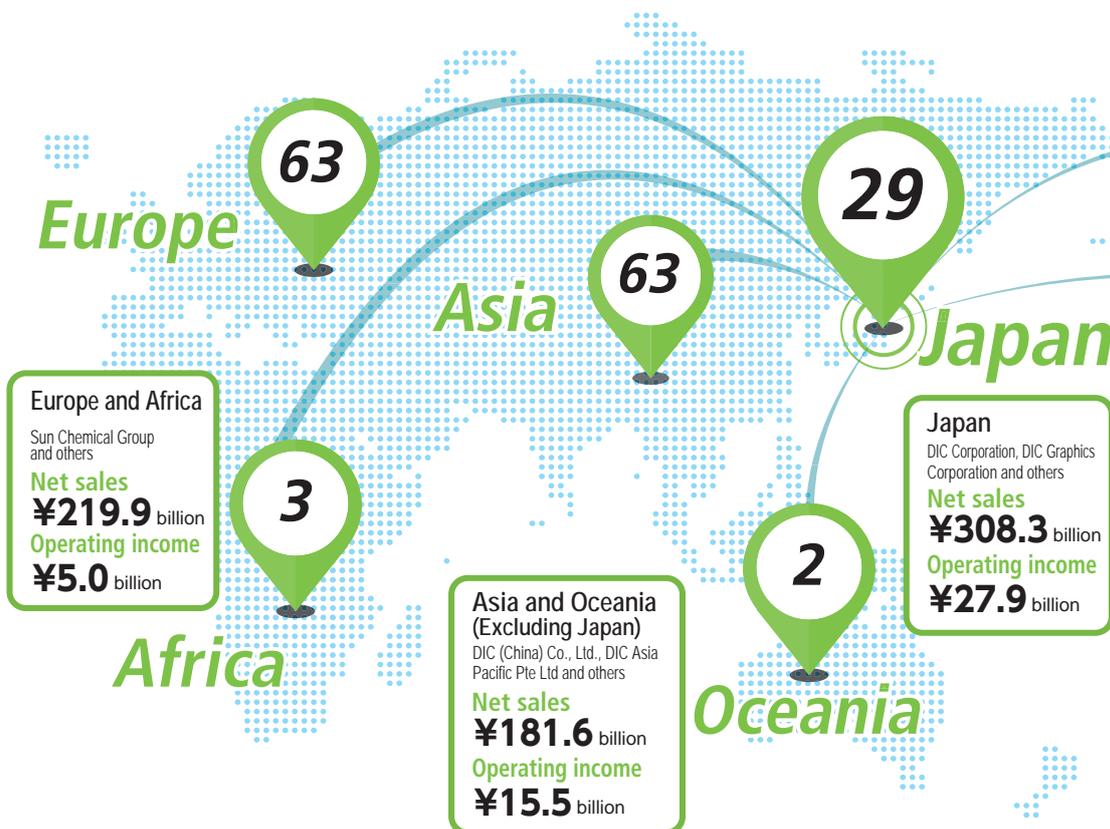
DIC (China) Co., Ltd. (PRC)



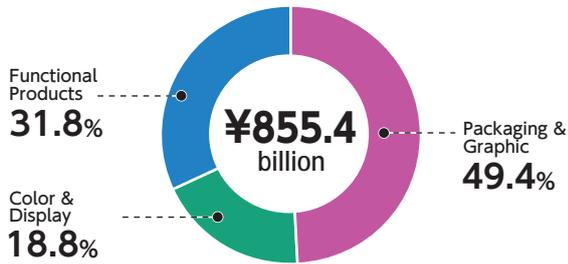
DIC Asia Pacific Pte Ltd (Singapore)



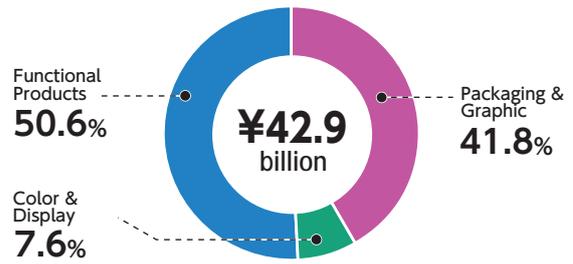
Sun Chemical Corporation headquarters (United States)



Breakdown of Fiscal Year 2021 Net Sales by Segment



Breakdown of Fiscal Year 2021 Operating Income by Segment

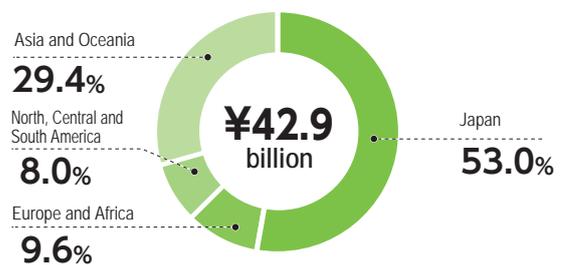


Note: Fiscal year 2021 net sales and operating income as used here include intersegment transactions. For this reason, and because of the existence of transactions classified as "others," which are not attributable to reportable segments, these figures differ from reported net sales and operating income.

Breakdown of Fiscal Year 2021 Net Sales by Region

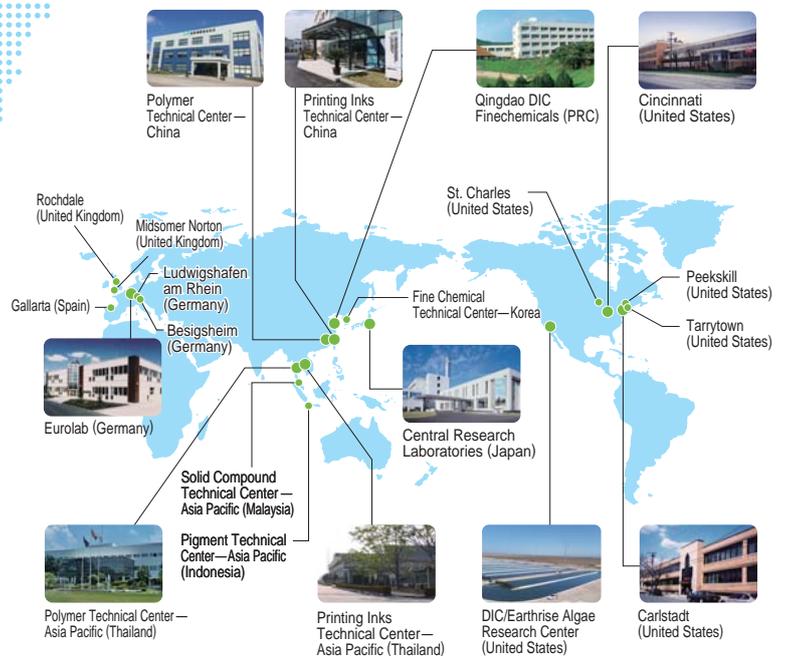
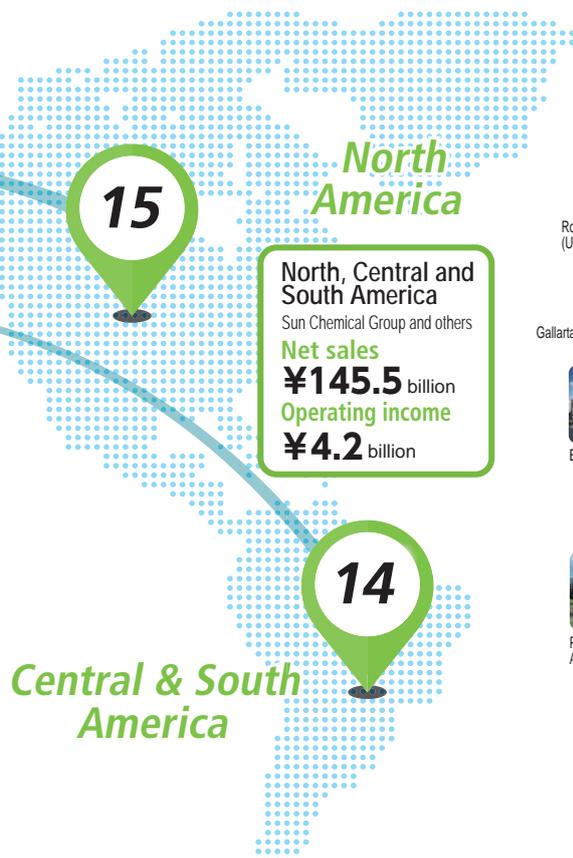


Breakdown of Fiscal Year 2021 Operating Income by Region



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



TOP MESSAGE

Kaoru Ino

President & CEO
DIC Corporation

Becoming a unique and
trusted global company
ideally positioned to deliver
sustainable prosperity
for the global economy



We've evolved our Color & Comfort value proposition To secure a brighter future for the planet and humanity

Reflecting on the DIC111 Medium-Term Management Plan

■ Seeking Sustainable Growth By Strengthening Profitable Businesses And Building On Success

Between fiscal 2019 and 2021, the DIC Group promoted our DIC111 Medium-Term Management Plan. Based on the fundamental concept of becoming “a unique and trusted global company” by consistently generating value by safely providing Color and Comfort, we strove to strengthen our business structure through qualitative transformation. Under the two basic strategies of Business Transformation and New Pillar Creation, we created new businesses that respond to social issues and change, recording high sales of 950 billion yen and operating income of 70 billion yen in fiscal year 2021.

Amid growing US-China trade friction, the COVID-19 pandemic, and a series of supply chain disruptions, we experienced sluggish sales and fell significantly short of achieving our plan. However, despite major global trade disruptions, the DIC Group steadily promoted our two basic strategies and achieved measurable gains.

In a major achievement, we instantly established a leading position in organic and inorganic pigments globally by acquiring Germany-based BASF's Colors & Effects pigment business (hereinafter, “C&E pigment business”). We're also keeping pace with rapidly accelerating digitalization. Moreover, we managed to capture 5G-related demand by developing low-dielectric materials that enable high-speed communications.

In addition to added economic value, we accelerated the shift of our printing ink business to high social value packaging inks, contributing to greater sustainability amid the growing attention on the climate crisis and circularity. We continue to steadily advance Value Transformation among our existing businesses, with packaging ink already contributing some 80% of printing ink sales. Among our new businesses, we are announcing new products in each of the four priority areas (electronics, automotive, next-generation packaging, and healthcare), and we can already see a clear path toward our goal of New Pillar Creation.

While we've delivered a level of results under our basic strategy, to make up for any gaps in sales or profit plans, we must continue to tackle challenges in four remaining areas: 1) Further clarify our business portfolio, while achieving sustainable growth via portfolio transformation; 2) Develop synergies in the early stage of acquisitions, including the growth-driving C&E pigment business acquisition, to further improve our performance; 3) Establish new businesses as new business pillars by promoting more key investments and acquisitions; 4) And finally, promote further structural reforms for greater efficiency and business conversion in the shrinking publishing and newspaper ink business, as well as the struggling TFT LCD business—which is now experiencing intense competition.

Long-Term Management Plan DIC Vision 2030 (2022 – 2030)

■ Our Revised Vision: Enhancing Corporate Value by Maximizing Our Social Significance

The global climate crisis has clarified our social goals for the next ten years. Given the introduction of the 2030 Sustainable Development Goals (SDGs) and from the perspective of achieving carbon neutrality by 2050, the world has made great strides toward devising a global solution towards achieving sustainability.

Moreover, COVID-19 has drastically changed people's behavioral patterns: People are now proactive about the so-called “new normal”—what we recognize as the transition to a digital society, including remote work and digital marketing. Unless we take appropriate measures, a failure to adapt to this new normal will affect our corporate competitiveness. In the face of such dramatic social change and paradigm shifts, our typical three-year management plan inevitably felt short-sighted. Thus, I made the decision to shift to a long-term management plan.

What is the proper long-term perspective for a large company like ours? We considered what maximizes our social significance beyond merely maximizing profits. We based our evaluation on the recognition that taking a long-term perspective and improving corporate value favors overall shareholder interests. In other words, we see social interests as inclusive of shareholder interests.

Moving forward, we shall find our purpose in leveraging our company's unique attributes (the reason for our existence) to maximize our social significance, and continuously promote "purpose-driven management" by recognizing this as our mission, sharing our purpose with all of our many stakeholders, beginning with our employees. Here, we have revised our Vision Statement.

Based on our evolved Color and Comfort valued proposition, we've revised Vision Statement as follows:

We improve the human condition by safely delivering color and comfort for sustainable prosperity—*Color & Comfort*

We've evolved our Color and Comfort value proposition to provide a wide range of value beyond chemistry, securing a brighter future for the planet and humanity. Here, we devised the long-term management plan DIC Vision 2030 with a basic policy of "pursuing social benefits that include shareholder interests, striving to enhance long-term corporate, leveraging our evolved Color & Comfort value proposition."

The DIC Group in 2030

DIC Vision 2030 sets our sights on building a business portfolio that "contributes to sustainable prosperity" while "contributing to the realization of sustainability for the global environment and for society." Moreover, "to increase the sales ratio of sustainable products from the current 40% to 60% by 2030" and "to achieve carbon neutrality by 2050 (DIC NET ZERO 2050)," we've set a goal to "reduce annual CO₂ emissions by 50% of 2013 levels by 2030" (See Diagram 1).

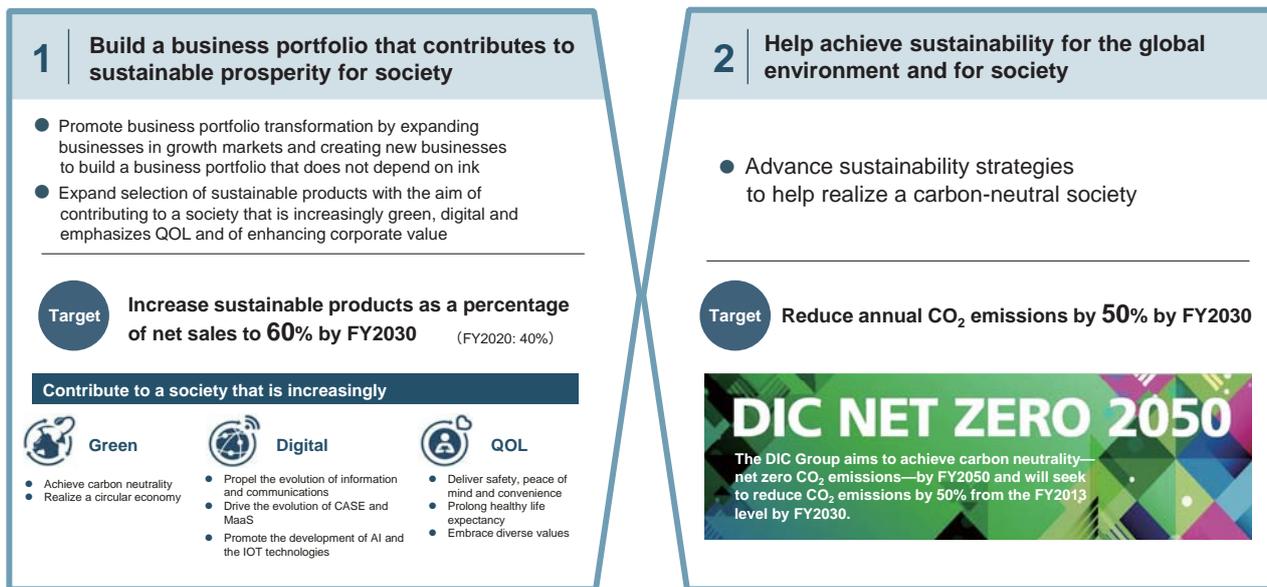


Diagram 1: DIC Vision 2030 Targets

Addressing our business portfolio, we'll seek to avoid an overreliance on our traditional ink products, building a diversified business portfolio by more actively allocating management resources to our five newly established priority business areas to further increase social value. Moreover, to enhance our corporate value through the delivery of more sustainable products, we've identified three key areas in which we are uniquely positioned to contribute to society: Green, Digital, and Quality of Life (QOL).

We created two phases. Phase One, the first four years through 2025, will be a foundation building period, in which management will emphasize investment efficiency and earning power using Return on Invested Capital (ROIC) management. Here, we'll promote business the portfolio transformation we've been promoting since the previous management plan. Phase Two, the next five years through 2030, will be a period of realizing and developing our goals to expand sustainable products that contribute to solving social issues (See Diagram 2).

- Increase weighting of sustainable products*, which help address social imperatives and deliver both social value and economic value
- Adopt return on invested capital (ROIC)** as a metric and seek to improve investment efficiency

* For more information on sustainable products.
 ** ROIC: Net operating income after tax / (Net interest-bearing debt + Net assets)

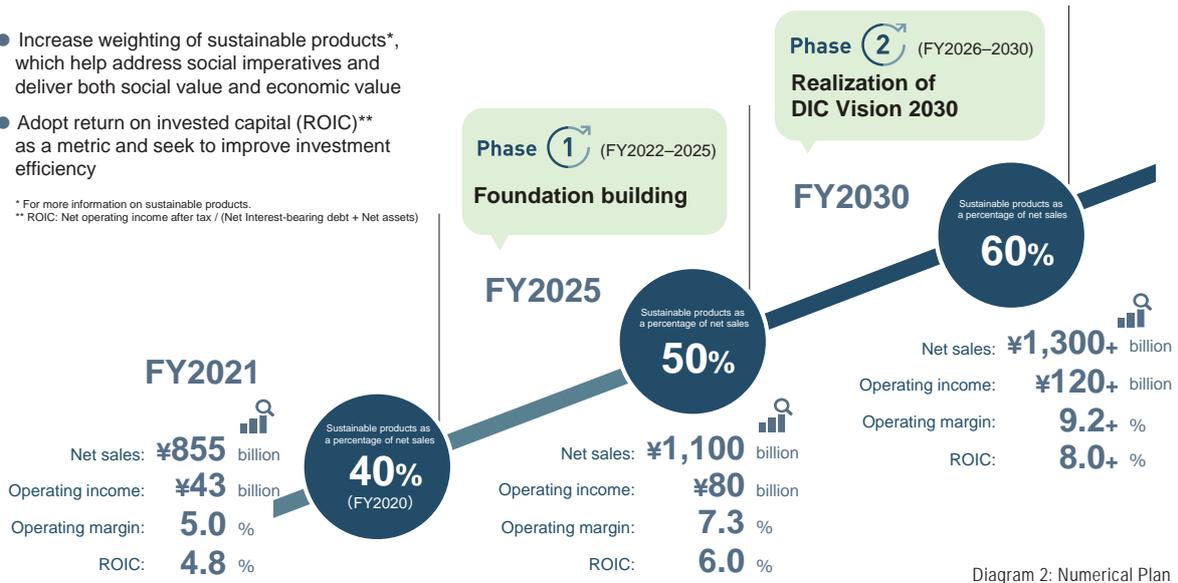


Diagram 2: Numerical Plan

Basic Strategy for Achieving Our Targets

Business Portfolio Transformation: Our Five Priority Business Areas

We've established five priority business areas for promoting business portfolio transformation, maximizing our impacts on market growth and society: Sustainable Energy, Healthcare, Smart Living, Color Science, and Sustainable Packaging. We've determined that these are the five business areas offering us the greatest opportunities to contribute to social issues and demand, leveraging DIC Group strengths.

By concentrating management resources in these five areas, we'll promote the efficiency of our efforts toward Value Transformation and New Pillar Creation. Notably, in Sustainable Energy and Healthcare, we'll leverage DIC Group strengths to deliver products such as next-generation high-capacity and long-life secondary battery materials, and high-performance nutrition based on naturally derived materials. We'll invest in these businesses and grow them into new pillar businesses in high-growth markets.

In Smart Living, Color Science, and Sustainable Packaging, we'll continue expanding our business and maximizing synergies through M&A. In this plan, we've positioned already mature markets like Publishing Inks and TFT LCDs for structural reform projects, and we plan to continue optimizing business operations through right sizing while closely monitoring market conditions (See Diagram 3).

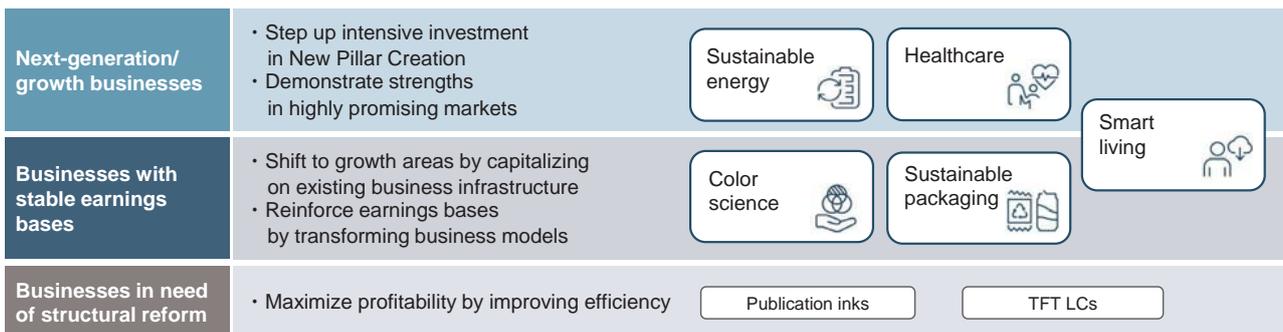


Diagram 3: Five Priority Business Areas

Business Portfolio Transformation: Five Measures Supporting Transformation

In addition to concentrating management resources on five priority business areas, we've also developed five vital measures supporting business portfolio transformation (See Diagram 4).

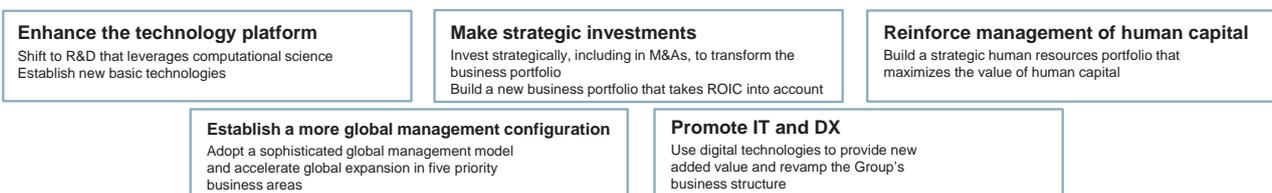


Diagram 4: Five Measures



Among the five measures, strengthening human capital management is one of our most vital strategies. We need all DIC Group members to share our “corporate purpose” to truly become a Group pursuing social value. To that end, we must invest in a global HR system that helps our members maximize their value. As 74% of all DIC Group members (as of December 31, 2021) are employed by affiliates based outside Japan, the DIC Group is truly a global organization. And as our diversity is a major source of our competitiveness, we must continue to promote human resource development, actively acquiring talent from external sources while increasing meaningful roles throughout the Group, regardless of a member’s nationality or gender. Moreover, with an eye toward a post-COVID-19 world, we must also improve member motivation, promote workplace reforms through digitalization, and enhance productivity through process reforms. Moving forward, we must focus on promoting internal communications, both within and outside Japan, fostering a sense of unity through empathy and trust, and promoting the challenges needed for fostering innovation (See Diagram 5).



Diagram 5: Reinforcing Human Capital Management

DIC Corporation is currently developing Work Style Revolution 2020 (WSR2020) promoting work style reform through a committee that I’m chairing myself. This initiative seeks to promote “behavioral changes” by reviewing and radically changing the work style of every member. We believe that senior management must work together with members at all levels to effectively transform our organization together, creating an ideal environment where all members can work effectively, with a sense of challenge, supporting mutual growth, unbound by archaic customs or implicit rules. We seek to transform our culture to create an environment where all can interact freely and say, “I’m glad I joined DIC.”

We’ll conduct internal research to measure how member awareness and behavior changes, and determine necessary course corrections, while maintaining open dialogs with members for flexible responses. Using the opportunity created by the C&E pigment business acquisition, we’re strengthening our global management structure by promoting the global exchange of human resources and information sharing. For example, we made the President of Sun Chemical Corporation—our controlling entity in Europe and the U.S.—an Executive Officer at DIC Corporation—our global headquarters—so we can be involved in reforms in Europe, the U.S., and throughout the entire Group. Moving forward, we’ll continue increasing opportunities for Japanese and non-Japanese members to work together on the same tracks in various departments within DIC Corporation.

For strategic investments, we have established a 2025 strategic investment quota of 230 billion yen to grow the company, transform our business portfolio, and launch new businesses. This investment quota encompasses M&A funds for acquiring new technologies and operations, as well as capital investments for launching new products. For example, we'll make a wide range of investments in Sustainable Energy—which we'll seek to cultivate as a new business pillar—and the five priority business areas, particularly Smart Living. We'll promptly respond to changes in the environment and determine investment targets.

Beside strategic investments, we've planned total 2025 investments of 70 billion yen, including green electricity to reduce CO₂ emissions, technology platform expansions, and promoting IT digitalization. For our technology platforms, we'll shift to research and development utilizing AI and materials informatics* while expanding design technology for inorganic materials and biomaterials acquired in the C&E pigment business acquisition and joint developments with venture capital firms. We'll also strengthen and accelerate our development of new technologies and new products.

*Materials Informatics: Efforts to improve technological development efficiency using informatics (information science) and methods that utilize statistical analysis, etc.



Our Sustainability Strategy

Our sustainability strategy seeks to demonstrate DIC's strengths in the three key areas in which we are uniquely positioned to contribute to society—Green, Digital, and QOL—defining “sustainable products” using our own proprietary sustainability index that balances social contributions and environmental burden reductions as coordinates, as we seek to increase our current sales ratio of sustainable products from 40% to 60% by 2030. By providing new products, such as inks and pigments using biomaterials as raw materials, low-dielectric materials compatible with high-capacity, high-speed communications, such as 5G and 6G, and natural materials that support safe, secure, and convenient living, we believe we can provide a wide range of value beyond traditional chemistry.

Moreover, the DIC Group has been promoting DIC NET ZERO 2050 since 2021. Through Scope 1 and Scope 2 activities, such as promoting the green electrification of production equipment, we aim to reduce annual CO₂ emissions by 50% of 2013 levels by 2030. Furthermore, by further reducing carbon contributions throughout the value chain, including Scope 3—for example, by promoting recycling and biomaterials use—we aim to achieve carbon neutrality by 2050.

Promoting Sustainable Prosperity

The DIC Group's acquisition of the C&E pigment business in 2021 has attracted more diverse human resources, strengthening our global network. We anticipate a significant increase in sales in 2022 as we resolve logistics issues that emerged upon closing the acquisition, expanding business activities with an eye toward the post-COVID-19 world. Conversely, earnings remain uncertain due to the fluid situation amid ongoing geopolitical unrest and the accompanying rise in energy prices.

Given current circumstances, to realize our revised Vision and long-term management plan DIC Vision 2030, we must share our “corporate purpose” with stakeholders, promoting it among all DIC Group members. It is especially vital that we all internalize this approach on a personal level. Since announcing DIC Vision 2030, senior management, including yours truly, has commenced visits to our domestic facilities to discuss our renewed purpose and its significance, enhancing understanding among all members. Moving forward, as conditions allow, I also hope to visit sites outside Japan as well. Senior management must create a common understanding through direct dialogue with all members, engaging in frank discussions to realize our plans.

The DIC Group shall strive to maximize Group profits as well as our social significance, to secure a brighter future for the planet and humanity as expressed in our revised Vision. Recognizing the preciousness of peace, and how the DIC Group can contribute to world, we must work with stakeholders to deliver sustainable prosperity and promote DIC's development as “a unique and trusted global company.”

DIC Vision 2030 Long-Term Management Plan

DIC has announced a defined vision statement, “We improve the human condition by safely delivering color and comfort for sustainable prosperity—Color & Comfort,” and a newly formulated long-term management plan, DIC Vision 2030, to guide it through fiscal year 2030.

Basic Policy

Safely delivering Color & Comfort for sustainable prosperity
to enhance shareholder value and long-term corporate value
—Establishing a business portfolio beyond ink products and implementing carbon neutrality initiatives—

DIC in the Future

1 Build a business portfolio that contributes to sustainable prosperity for society

- Promote business portfolio transformation by expanding businesses in growth markets and creating new businesses to build a business portfolio that does not depend on ink
- Expand selection of sustainable products with the aim of contributing to a society that is increasingly green, digital and emphasizes QOL and of enhancing corporate value

Target Increase sustainable products as a percentage of net sales to **60% by FY2030** (FY2020: 40%)

Contribute to a society that is increasingly



Green

- Achieve carbon neutrality
- Realize a circular economy



Digital

- Propel the evolution of information and communications
- Drive the evolution of CASE and MaaS
- Promote the development of AI and the IOT technologies



QOL

- Deliver safety, peace of mind and convenience
- Prolong healthy life expectancy
- Embrace diverse values

2 Help achieve sustainability for the global environment and for society

- Advance sustainability strategies to help realize a carbon-neutral society

Target Reduce annual CO₂ emissions by **50% by FY2030**

DIC NET ZERO 2050

The DIC Group aims to achieve carbon neutrality—net zero CO₂ emissions—by FY2050 and will seek to reduce CO₂ emissions by 50% from the FY2013 level by FY2030.

Basic Strategies

Business Portfolio Transformation

Designate and focus the allocation of management resources in five priority business areas that contribute to an increasingly green, digital and QOL-oriented society

Five priority business areas

 Smart living

 Sustainable energy

 Color science

 Healthcare

 Sustainable packaging

Value Transformation
Strengthen corporate structure through qualitative reforms of businesses

New Pillar Creation
Create new businesses in response to ESH-related issues and social changes

Enhance the technology platform
Shift to R&D that leverages computational science
Establish new basic technologies

Make strategic investments
Invest strategically, including in M&As, to transform the business portfolio
Build a new business portfolio that takes ROIC into account

Reinforce management of human capital
Build a strategic human resources portfolio that maximizes the value of human capital

Establish a more global management configuration
Adopt a sophisticated global management model and accelerate global expansion in five priority business areas

Promote IT and DX
Use digital technologies to provide new added value and revamp the Group's business structure

Sustainability Strategies

Expand sustainable products
Work to expand sustainable products, that is, products that demonstrate unique competitive strengths and respond to ESH-related issues

Reduce CO₂ emissions
Promote efforts to reduce CO₂ emissions and help realize a carbon-neutral society

Respond to a circular economy
Advance efforts to respond to a circular economy, thereby contributing to a sustainable society

1 Business Portfolio Transformation

- Identify and concentrate allocation of management resources in five priority business areas in which DIC can make important contributions to a society that is increasingly green, digital and QOL-oriented.
- Based on market growth potential and degree of impact on society, identify five priority business areas at the intersection of ESH-related issues and DIC's competitive strengths.
 - ▶ Sustainable energy ▶ Healthcare ▶ Smart living ▶ Color science ▶ Sustainable packaging
- Establish sustainable energy and healthcare as new business pillars
- Promote Value Transformation in smart living, color science and sustainable packaging to make these businesses more sustainable

Business Portfolio Transformation: Five Priority Business Areas

<p>Sustainable energy</p> <ul style="list-style-type: none"> ● Specialty materials that contribute to the realization of the high-performance secondary batteries and fuel cells crucial to an electrified/hydrogen-powered society <p>e.g. Materials for secondary batteries and fuel cells Functional organic fillers</p>  	<p>Healthcare</p> <ul style="list-style-type: none"> ● High-performance nutritional supplements that support the health of people of all ages ● Healthcare-related products and services that deliver safety, peace of mind and comfort, contributing to a future in which people enjoy an improved QOL <p>e.g. High-performance nutritional products Natural skincare materials</p>  	
<p>Smart living</p> <ul style="list-style-type: none"> ● High-performance materials and solutions that contribute to the realization of a sustainable society that coexists with a healthy global environment ● Chemical solutions for modern lives that have evolved and improved thanks to digitalization <p>e.g. Materials for 5G/6G-enabled devices, resins for next-generation semiconductors, bonding solutions for heterogeneous materials</p>  	<p>Color science</p> <ul style="list-style-type: none"> ● Color that is sustainable and ecologically sound ● Products with outstanding decorative properties that facilitate the creation of comfortable spaces ● Functional materials that leverage dyeing technologies to deliver convenience, satisfaction, safety and peace of mind <p>e.g. Functional pigments (for LiDAR signal coatings, and heat-blocking coatings,) biomass pigments, natural colorants for cosmetics</p>  	<p>Sustainable packaging</p> <ul style="list-style-type: none"> ● Materials that ensure tastier, more enjoyable and safer merchandise reaches consumers ● Materials that deliver both safety, peace of mind and convenience, as well as help reduce food loss ● Product design that contributes to environmental soundness, i.e., is conducive to recycling and uses plant-derived and renewable raw materials <p>e.g. Materials with outstanding barrier properties, biomass packaging, recycling systems (chemical recycling, materials recycling)</p>  

Five Strategies to Transform DIC's Business Portfolio

Reinforce management of human capital	<ul style="list-style-type: none"> ● Build a strategic human resources portfolio that maximizes the value of human capital
Make strategic investments	<ul style="list-style-type: none"> ● Invest strategically, including in M&As, to transform the business portfolio ● Build a new business portfolio that takes ROIC into account
Enhance the technology platform	<ul style="list-style-type: none"> ● Shift to R&D that leverages computational science ● Establish new basic technologies
Establish a more robust global management configuration	<ul style="list-style-type: none"> ● Adopt a sophisticated global management model and accelerate global expansion in five priority business areas
Promote IT and DX	<ul style="list-style-type: none"> ● Use digital technologies to provide new added value and revamp the Group's business structure

2 Sustainability Strategies

- Work to expand sustainable products, that is, products that demonstrate unique competitive strengths and respond to ESH-related issues
Target: Increase sustainable products to 60% of net sales by fiscal year 2030 (fiscal year 2020: 40%)
- Promote efforts to reduce CO₂ emissions and help realize a carbon-neutral society
Target: Achieve carbon neutrality by 2050 and reduce annual CO₂ emissions (Scope 1 and 2) by 50% from the fiscal year 2013 level by fiscal year 2030
- Advance efforts to respond to a circular economy, thereby contributing to a sustainable society

The society to which DIC seeks to contribute	Value provided by DIC products	Sustainable product examples	
 Green <ul style="list-style-type: none"> ● Achieve carbon neutrality ● Realize a circular economy 	<ul style="list-style-type: none"> ● Contain renewable materials ● Lower energy use, improve insulation and reduce weight ● Address the issue of marine plastics ● Can be recycled ● Reduce waste ● Prolong product life 	 Sustainable energy <ul style="list-style-type: none"> • Materials for next-generation secondary batteries and fuel cells • Functional inorganic fillers 	 Sustainable packaging <ul style="list-style-type: none"> • Materials with outstanding barrier properties • Biomass packaging
 Digital <ul style="list-style-type: none"> ● Propel the evolution of information and communications ● Drive the evolution of CASE vehicles and MaaS ● Promote the development of AI and IoT technologies 	<ul style="list-style-type: none"> ● Contribute to high-capacity, high-speed communications ● Support the IoT 	 Smart living <ul style="list-style-type: none"> • Materials for 5G/6G-enabled devices • Resins for next-generation semiconductors 	 Color science <ul style="list-style-type: none"> • Functional pigments for LIDAR signal coatings
 QOL <ul style="list-style-type: none"> ● Deliver safety, peace of mind and convenience ● Prolong healthy life expectancy ● Embrace diverse values 	<ul style="list-style-type: none"> ● Contribute to health and comfort ● Help reduce food loss ● Reduce emissions of volatile organic compounds (VOCs) and enhance safety 	 Healthcare <ul style="list-style-type: none"> • High-performance nutritional products • Natural skincare materials 	 Color science <ul style="list-style-type: none"> • Natural colorants for cosmetics

Consolidated Results Targets (Fiscal Years 2022–2025)

(Billions of yen)	2021 Actual	2022 Targets	2025 Targets	Change from 2021
Net sales	855.4	950	1,100	+29%
Operating income	42.9	54	80	+37.1
Operating margin	5.0%	5.7%	7.3%	+2.3 pt
Net income	4.4	28	45	+40.6
EBITDA ^{*1}	69.0	88	137	+68
ROIC ^{*2}	4.8%	5.2%	6.0%	+1.2 pt
Net D/E ratio ^{*3} (Net D/C ratio) ^{*4}	1.0 (47.6%)	1.0 (48.7%)	Less than 1 time (Less than 50%)	—

*1 EBITDA = Net income + Total income taxes + (Interest expenses – Interest income) + Depreciation and amortization

*2 ROIC = Net operating income after tax / (Net interest-bearing debt + Net assets)

*3 Net D/E ratio = Net interest-bearing debt / Net worth

*4 Net D/C ratio = Net interest-bearing debt / (Net interest-bearing debt + Net assets)

12-Year Summary

Key Financial Data

Period	113	114	115	116	117	118	119	120	121	122	123	124
Fiscal year	2010	2011	2012	2013 ³	2014	2015	2016	2017	2018	2019	2020	2021
Income												
Net sales (Billions of yen)	779.0	734.3	703.8	784.0	830.1	820.0	751.4	789.4	805.5	768.6	701.2	855.4
Operating income (Billions of yen)	37.2	35.0	38.5	44.1	41.1	51.1	54.2	56.5	48.4	41.3	39.7	42.9
Operating margin (%)	4.8	4.8	5.5	5.6	4.9	6.2	7.2	7.2	6.0	5.4	5.7	5.0
R&D and technology-related expenses ¹ (Billions of yen)	26.3	23.7	23.0	19.8	25.3	26.8	26.2	27.4	28.4	27.9	26.2	28.0
Of which, R&D costs (Billions of yen)	11.0	9.1	8.8	8.8	10.9	12.2	11.2	12.4	12.9	12.5	12.0	13.5
Ordinary income (Billions of yen)	31.7	30.8	35.1	40.9	39.9	49.0	55.8	57.0	48.7	41.3	36.5	43.8
Net income attributable to owners of the parent (Billions of yen)	15.8	18.2	19.1	28.8	25.2	37.4	34.8	38.6	32.0	23.5	13.2	4.4
EBITDA (Billions of yen)	63.7	61.5	65.2	69.1	77.0	94.0	82.6	86.1	81.4	67.4	55.6	69.0
EBITDA margin (%)	8.2	8.4	9.3	9.8	9.3	11.5	11.0	10.9	10.1	8.8	7.9	8.1
Financial Position												
Total assets (Billions of yen)	703.8	675.1	693.0	761.7	803.7	778.9	764.8	831.8	801.3	803.1	818.0	1,071.5
Net assets (Billions of yen)	130.4	124.5	160.7	218.9	276.7	289.9	307.0	344.0	327.3	343.5	351.4	381.0
Equity ratio (%)	15.3	15.1	19.8	25.6	31.1	33.7	36.4	37.9	37.3	38.9	38.9	32.3
Net interest-bearing debt (Billions of yen)	314.7	298.8	293.0	283.6	257.4	244.1	224.0	247.8	244.7	235.8	221.9	346.0
Net D/E ratio (Times)	2.9	2.9	2.1	1.5	1.0	0.9	0.8	0.8	0.8	0.8	0.7	1.0
Net D/C ratio (%)	70.7	70.6	64.6	56.4	48.2	45.7	42.2	41.9	42.8	40.7	38.7	47.6
Cash Flows												
Net cash provided by operating activities (Billions of yen)	30.9	31.2	41.4	33.9	46.4	29.1	62.5	54.2	51.0	50.6	54.5	44.8
Net cash used in investing activities (Billions of yen)	(12.3)	(17.6)	(23.7)	(9.8)	(27.4)	(10.0)	(32.2)	(58.9)	(38.4)	(24.9)	(33.0)	(147.6)
Free cash flow (Billions of yen)	18.6	13.7	17.7	24.0	19.0	19.1	30.3	(4.7)	12.6	25.8	21.4	(102.8)
Net cash provided by (used in) financing activities (Billions of yen)	(26.3)	(7.1)	(26.6)	(32.8)	(26.1)	(24.8)	(26.9)	11.4	(11.8)	(26.8)	6.3	99.5
Cash and cash equivalents (Billions of yen)	22.9	29.6	22.5	15.0	16.4	15.1	16.7	17.7	18.6	16.7	41.4	37.6
Per Share Information²												
Earnings per share (Yen)	175.96	197.90	207.98	292.26	267.81	389.40	366.72	407.56	338.40	248.29	139.81	46.12
Price earnings ratio (PER) (Times)	11.0	8.4	9.5	10.9	10.9	8.5	9.7	10.5	10.0	12.2	18.6	62.8
Dividends per share (Yen)	40	40	60	60	60	80	100	120	125	100	100	100
Payout ratio (%)	22.7	20.2	28.8	20.5	22.4	20.5	27.3	29.4	36.9	40.3	71.5	216.8
Other Indicators												
ROIC (%)	5.8	5.8	6.3	6.1	5.7	6.9	7.3	7.2	6.0	5.2	5.0	4.8
Return on equity (ROE) (%)	15.1	17.3	16.0	16.1	11.3	14.6	12.9	13.0	10.4	7.7	4.2	1.3
Capital expenditure (Billions of yen)	20.8	27.0	26.6	27.1	33.6	32.1	31.3	33.6	32.1	35.0	34.0	38.6
Depreciation and amortization (Billions of yen)	33.0	29.7	27.4	25.9	33.8	32.9	32.4	31.5	32.8	33.1	32.6	37.4
Overseas sales ratio (%)	57.3	58.2	56.7	66.6	63.4	65.1	62.4	63.4	63.6	63.5	64.8	67.3
Average exchange rate (¥/US\$)	87.69	79.77	79.93	97.06	106.32	120.85	109.96	112.33	110.46	109.11	106.37	109.75
Average exchange rate (¥/EUR)	116.63	110.88	103.11	129.25	141.41	134.14	122.06	127.03	130.46	122.13	121.43	129.73
Number of employees	21,572	20,455	20,273	20,034	20,411	20,264	20,481	20,628	20,620	20,513	20,242	22,474

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

² Per share information has been adjusted to reflect the impact of the consolidation of shares.

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



With the aim of achieving the goals of DIC Vision 2030, we have adopted ROIC as a metric and are working to realize business portfolio transformation.

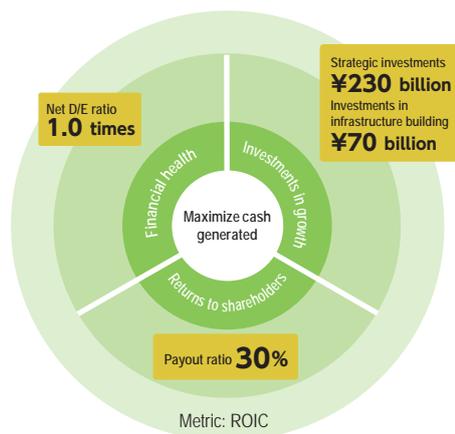
Shuji Furuta

Director, Executive Officer
Head of Finance and Accounting Unit, CFO

Basic Approach

With the aim of ensuring we evolve into the organization envisioned in our long-term management plan, DIC Vision 2030, formulated in fiscal year 2022, we have adopted return on invested capital (ROIC), which reflects investment efficiency and earning power, as a metric and are promoting the transformation of our business portfolio. Our approach to financial management centers on balancing three priorities: Maintaining sound financial health, investing in growth and ensuring returns to shareholders that are commensurate with income growth. We will also actively place sustainability at the center of financing efforts.

In addition to ROIC, under DIC Vision 2030 we will emphasize the net debt-to-equity (D/E) ratio*¹ to gauge financial health, the payout ratio to evaluate returns to shareholders, and earnings before interest, taxes, depreciation and amortization (EBITDA)*² to judge ability to generate cash, as indicators of financial performance and efforts to maximize shareholder value.

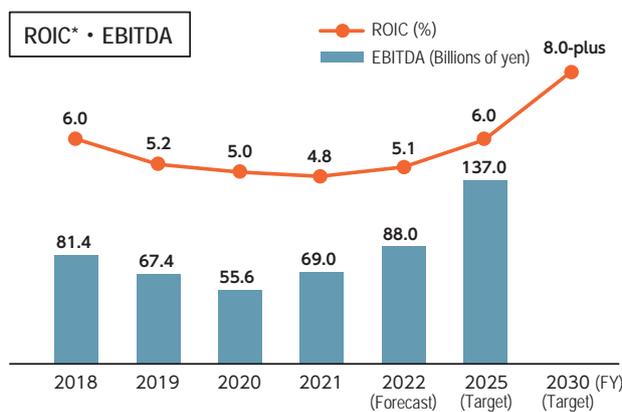
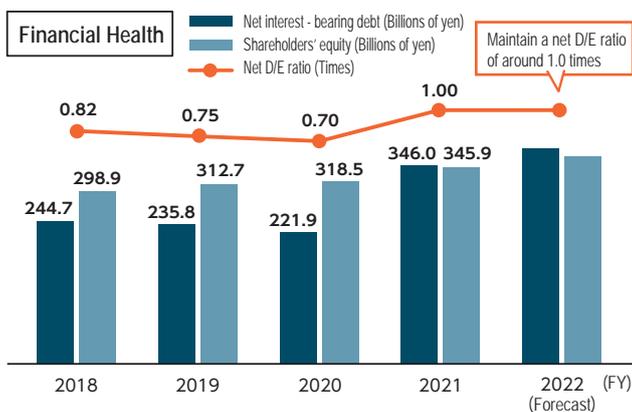


Emphasis on Boosting ROIC and Maintaining Sound Financial Health

We have set a long-term goal of boosting ROIC to 8.0%-plus in fiscal year 2030. To advance the transformation of our business portfolio and further bolster capital efficiency, we are making the most of cash generated in businesses with stable earnings bases through reinvestment in next-generation growth businesses and have established criteria for withdrawing from businesses with low growth potential and profitability.

We employ EBITDA and the cash conversion cycle (CCC) as metrics for cash provided by operating activities. In addition to using EBITDA to measure our ability to generate cash, we monitor the debt-to-EBITDA ratio to assess financial soundness from the perspective of cash flow. We also manage CCC, used to assess working capital, meticulously by, among others, setting regional targets.

Our goal for financial soundness is to maintain our net D/E ratio at around 1.0 times, underscoring our determination to uphold sound financial health while also pursuing an active investment strategy. We will also continue creating safety nets against sudden sharp fluctuations in the operating environment, including by procuring funds through subordinated term loans, a type of hybrid financing recognized by credit rating agencies as having equity credit attributes, establishing a global commitment line and keeping the percentage of total borrowings accounted for by long-term debt at 80%.



* ROIC: Operating income x (1 - effective tax rate) / (Net interest-bearing debt + Net assets)

Investments to Accelerate Growth

To achieve the targets of DIC Vision 2030, we will allocate a total of ¥300 billion to investments—comprising ¥230 billion for strategic investments and ¥70 billion for investments in infrastructure building—over the four years from fiscal year 2022 through fiscal year 2025. Strategic investments will focus on advancing Value Transformation in three of the five priority business areas set forth in the plan (smart living, color science and sustainable packaging) to make these businesses more profitable, and New Pillar Creation in the remaining two (sustainable energy and healthcare) to establish these as new business pillars. Investments in infrastructure building will emphasize contributing to sustainability, including through the reduction of CO₂ emissions, enhancing our technology platform and promoting IT and digital transformation (DX).

Principal Strategic Investments



Promoting Sustainable Finance

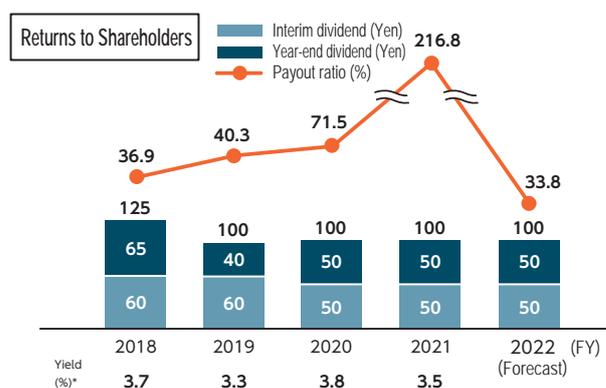
We continue to accelerate efforts to secure sustainable finance with the aim of promoting the sustainability strategies of DIC Vision 2030, as a core category of strategies set forth in the plan. The term “sustainable finance” describes the practice of incorporating ESG criteria—including environmental issues such as climate change and social considerations such as human rights and poverty—into financial services to help bring about sustainable outcomes. We are committed to entering into sustainable finance agreements to advance our sustainability strategies, as well as to contribute to the achievement of the SDGs.

Major Achievements in Sustainable Finance

Timing	Description
September 2019	Becomes first chemicals industry company to sign Mizuho Eco Finance contract with Mizuho Bank, Ltd.
September 2020	Concludes Positive Impact Finance (with unspecified use of funds) loan agreement with Sumitomo Mitsui Trust Bank, Limited
March 2022	Concludes Positive Impact Finance loan agreement with Mizuho Bank, Ltd.
April 2022	Enters into green loan agreement with MUFJ Bank, Ltd.

Stable Returns to Shareholders

With the aim of continuing to ensure stable returns to shareholders, DIC Vision 2030 maintains our existing target for a consolidated dividend payout ratio of 30%, which will serve as a guideline for dividends over the medium term. In fiscal year 2021, we paid a full-term dividend of ¥100.00, comprising an interim dividend of ¥50.00 and a year-end dividend of ¥50.00. We also anticipate an annual dividend of ¥100.00 in fiscal year 2022.



*1 D/E ratio: Interest-bearing debt / Shareholders' equity

*2 EBITDA: Net income attributable to owners of the parent + Total income taxes + (Interest expenses - Interest income) + Depreciation and amortization

* Dividend yield: Annual dividends / Closing price per share at fiscal year-end

Packaging & Graphic

Packaging Materials that Bring Safety and Peace of Mind



Masamichi Sota
 Managing Executive Officer
 President, Packaging & Graphic Business Group



Main Products

[Printing Materials]

Gravure inks, flexo inks, offset inks, news inks, jet inks, metal decorative inks, printing plates, security inks

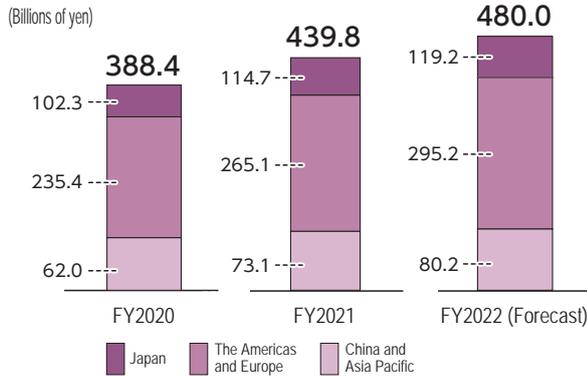
[Packaging Materials]

Polystyrene, packaging adhesives, multilayer films

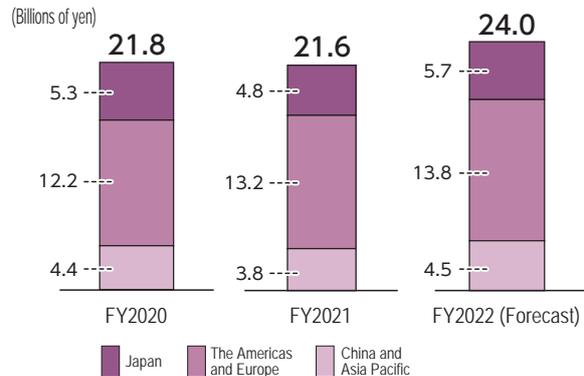
This segment includes not only printing inks but also adhesives, films and a broad range of other packaging materials and solutions, the markets for which continue to see robust growth in Asia and emerging economies.

Segment Operating Results

Net Sales



Operating Income



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.

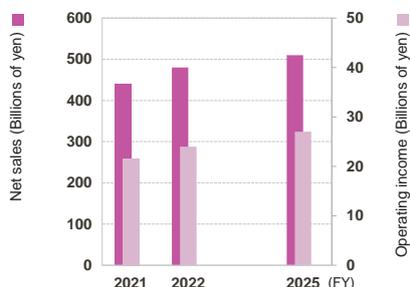
Business Strategies Under DIC Vision 2030

Basic Strategies

- Looking ahead to the realization of a circular economy, work to develop sustainable next-generation packaging materials with the aim of locking in new demand and expanding the packaging materials business
- Take the lead in the market for next-generation sustainable packaging by developing products and proposing solutions compatible with a focus on the "5Rs"
- Accelerate shift to high-performance, high-value-added products by, among others, expanding specialty products, promoting digitalization and responding to demand for smart packaging
- Build existing businesses into stable revenue sources by securing organic growth and streamlining operations in Asia

* Reuse, Reduce, Recycle, Redesign and Reduce CO₂

Net Sales and Operating Income Targets



Principal Measures

- Develop packaging materials and propose packaging solutions with a focus on the 5Rs**
 - Hasten the global deployment of fast-curing solvent-free adhesive *DUALAM*[®]
 - Add depth to sustainable technologies, including those essential to the push toward paper, mono-material and biomass packaging, as well as those for deinking
 - Build a closed-loop recycling system for polystyrene employing chemical recycling
- Propose packaging solutions that capitalize on Group capabilities and deliver safety, peace of mind and convenience**
 - Develop functional films, including resealable products and peelable offerings for container lid films
 - Capitalize on technologies for reducing foreign matter in packaging materials to improve safety and peace of mind
- Address needs arising from the spread of digitalization**
 - Expand applications for water-based jet inks for industrial printing
 - Respond to increased use of jet inks for printing on packaging (paper containers, corrugated cardboard, labels, etc.) and on textiles

In the Packaging & Graphic business, the DIC Group works to help realize safe, secure and convenient lifestyles by offering packaging materials suitable for a circular economy. With a focus on the 5Rs, the Group will continue striving to add depth to sustainable technologies, including those essential to the push toward paper, mono-material and biomass packaging, as well as those for deinkable, releasable and peelable materials, with the aim of providing market-leading next-generation sustainable products. The Group is also advancing efforts to build a closed-loop recycling system for polystyrene employing chemical recycling, leveraging jet ink technologies to promote digitalization and responding to demand for smart packaging. The Group will seek to build existing businesses into stable revenue sources by locking in demand and streamlining operations in Asia and other promising markets.

Key Development in Fiscal Year 2021

DIC Graphics Expands Its Lineup of SIAA-Certified Antibacterial and Antiviral Varnishes and Environment-Friendly Products Imparting outstanding antibacterial and antiviral properties to packaging for food products and daily necessities as well as a broad range of printed materials

In fiscal year 2021, DIC Group company DIC Graphics expanded its lineup of antibacterial and antiviral varnishes for use with gravure, flexo and offset printing inks that have earned Society of International Antimicrobial Articles (SIAA)* certification and thus bear an SIAA mark.



The COVID-19 pandemic has increased needs related to the disinfection of living spaces, spurring the expanded use of antibacterial and antiviral products to prevent the spread of infection owing to the handling of packaging for food products and daily necessities, as well as printed materials such as catalogs. As part of its drive to expand its lineup of environment-friendly products, the DIC Group is also developing inks made with plant-derived biomass that contribute to effective resource use and do not rely on finite resources, thereby ensuring suitability for a circular economy.

Key announcements by DIC and DIC Graphics during the period under review included the following.

- March 2021: Commercialization of the *DICDRY* BM series of biomass-based adhesives for flexible packaging is accelerated
- April 2021: Five biomass-based inks for offset printing earn Biomass Mark
- May 2021: *GROSSA* BM biomass-based ink for reverse printing and antiviral varnish is launched
- August 2021: Biomass-based *FINART* BM gravure inks obtain OK Compost INDUSTRIAL and OK Compost HOME certification

About DIC Graphics' Antibacterial and Antiviral Varnishes

The effectiveness of these varnishes in inhibiting the proliferation of specified bacteria on the surfaces of antibacterial products has been confirmed in tests compliant with JIS Z 2801, the Japanese Industrial Standards' standard for antibacterial activity and efficacy against specific bacteria on plastic, metals, ceramics and other surfaces, while their ability to reduce specified viruses on surfaces has been confirmed in tests compliant with ISO 21702, the International Organization for Standardization's standard for antiviral activity on plastics and other nonporous surfaces. Although antibacterial and antiviral effectiveness has been confirmed, actual performance may differ depending on application, printing environment, processing conditions, substrate or storage conditions.

* The SIAA is an organization of antibacterial agent and product manufacturers and testing bodies, the goal of which is to popularize products that have been safely and appropriately treated. Taking into account the views of not only industry but also consumer representatives, experts and government authorities, the SIAA creates criteria for the quality and safety of antibacterial products and administers the SIAA Mark labelling program for products it certifies as complying with these criteria.

Color & Display

Color and Display Materials that Make Life Colorful



SDGs Goals 3 and 13



Yoshinari Akiyama
Managing Executive Officer
President, Color & Display Business Group



Main Products

[Color Materials]

Pigments for printing inks, pigments for coatings and plastics, pigments for specialty applications, pigments for color filters, pigments for cosmetics, health foods

[Display Materials]

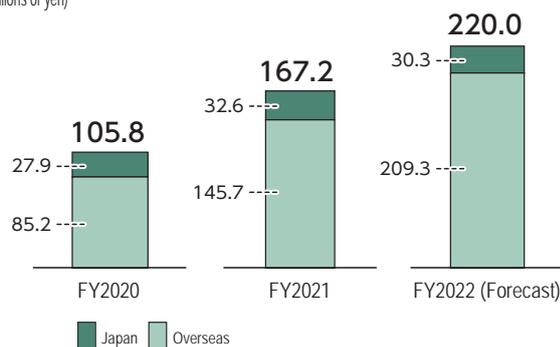
Thin-film transistor liquid crystal (TFT LC) materials, supertwisted nematic liquid crystal (STN LC) materials

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

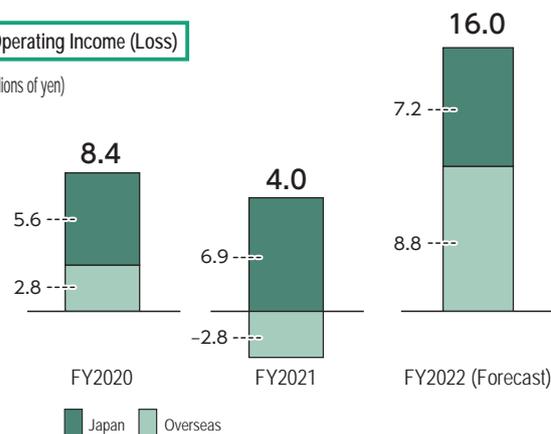
Net Sales

(Billions of yen)



Operating Income (Loss)

(Billions of yen)



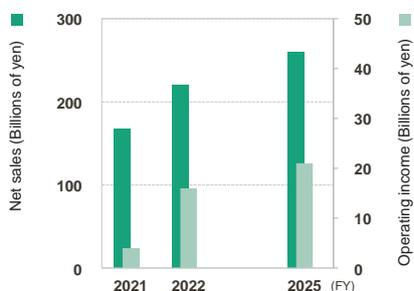
Note: Graph figures include interregional transactions within the segment. Accordingly, the aggregates of regional net sales and operating income figures for the segment differ from the figures presented above.

Business Strategies Under DIC Vision 2030

Basic Strategies

- Establish an unrivaled competitive advantage by swiftly realizing synergies with the Colors & Effects business
- Shift focus to materials with outstanding decorative properties and functionality and increase the weighting of sustainable products that deliver both social value and economic value
- Redefine “Spirulina business” as “healthcare business”
- Redefine “LCs business” as “electronics business”

Net Sales and Operating Income Targets



Principal Measures

- ▶ **Expand selection of sustainable materials, functional materials and materials with outstanding decorative properties**
 - Focus on the expansion of effect pigments with outstanding decorative properties and sustainable color materials that are safe and environment friendly
 - Emphasize functional pigments, including those for LiDAR signal coatings, which are key to autonomous driving vehicles
 - Enter the markets for red and yellow pigments for displays
- ▶ **Enhance pigments for cosmetics business**
 - Expand effect pigments for cosmetics
 - Broaden portfolio of naturally derived products
- ▶ **Reinforce healthcare business by introducing new products**
 - Expand portfolio beyond Spirulina and *Linablue*® by adding new nutritional supplements, natural colorants and cosmetics materials
- ▶ **Create new next-generation businesses, which will join core TFT LCs**
 - Expand presence in the market for products for electronics applications by augmenting portfolio of materials for smart windows, and 5G/6G-enabled devices, among others

The Color & Display business saw the scope of its operations expand significantly in fiscal year 2021 with DIC’s acquisition of the Colors & Effects business from BASF, as a result of which the Company became one of the world’s leading pigments manufacturers, boasting diverse technologies ranging from organic synthesis to inorganic material design.

By integrating Colors & Effects’ technologies and intellectual property with its own, DIC will leverage the resulting unparalleled development capabilities to shift its focus to functional pigments, including pigments with outstanding decorative properties and pigments for automotive coatings that do not interfere with autonomous driving vehicles’ ability to detect LiDAR signals, and swiftly realize synergies to establish a presence unrivaled by any of its competitors.

The DIC Group will also broaden the emphasis of its Spirulina business to healthcare overall, encompassing naturally derived nutritional supplements, natural colorants and cosmetics materials. In the area of LC materials, the Group will expand its presence in the market for products for electronics applications by augmenting its portfolio of materials for smart windows, and 5G/6G-enabled devices, among others.

Key Development in Fiscal Year 2021

Sun Chemical Introduces the “What’s IN Asia” Trends Program

Providing insights into trends in the Asia-Pacific region’s cosmetics market

In fiscal year 2021, U.S. Group company Sun Chemical introduced “What’s IN Asia,” a program offering insights into trends in the Asia-Pacific region’s cosmetics market alongside sample formulations. This semi-annual online program will continue to inspire customers around the world by providing information straight from Asia on the latest colors, textures and market directions. Volume 1: Fall 2022, the first installment of this program highlighted *Guochao* (“national trend”)—a movement centered on modern consumer goods infused with Chinese cultural elements—in the People’s Republic of China (PRC), top-selling beauty products in Japan and the trend toward “simple and subtle” beauty in the Republic of Korea (ROK), providing multiple sample formulations for each. Particularly notable, and evocative of the needs of consumers wanting to try something novel in a post-pandemic return to using makeup, was an innovative lip mud that offers a thick texture with a unique velvety finish. This is achieved by leveraging Sun Chemical’s newly expanded pigments portfolio, drawing on both a conventional organic pigment and the pearlescent *Redflecks*™ *MultiDimensions Shifting Sapphire* G680D pigment from Colors & Effects to deliver a look that is both matte and sparkling thanks to the interference color travel effect created with the latter, which provides a flash of blue and a touch of sparkle to the deep red background color.



Redflecks™ *MultiDimensions Shifting Sapphire* G680D

Functional Products

Functional Products that Add Comfort



SDGs Goals 6, 12 and 13



Takashi Ikeda
Managing Executive Officer
President, Functional Products Business Group



Main Products

[Performance Materials]

Synthetic resins for inks and coatings, molded products, adhesives and textiles (polyester resins, epoxy resins, polyurethane, acrylic resins, plasticizers, phenolic resins), papermaking chemicals, alkylphenols, sulphur chemicals, fiber and textile colorants, metal carboxylates, surface modifiers for electronics materials

[Composite Materials]

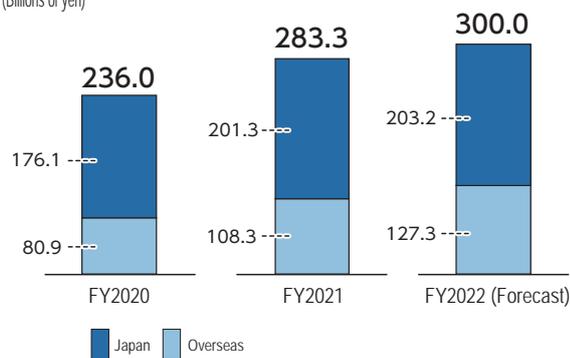
Polyphenylene sulfide (PPS) compounds, plastic colorants, interior housing products, industrial adhesive tapes, hollow-fiber membranes and modules, high-performance optical materials, plastic pallets, containers, decorative boards

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

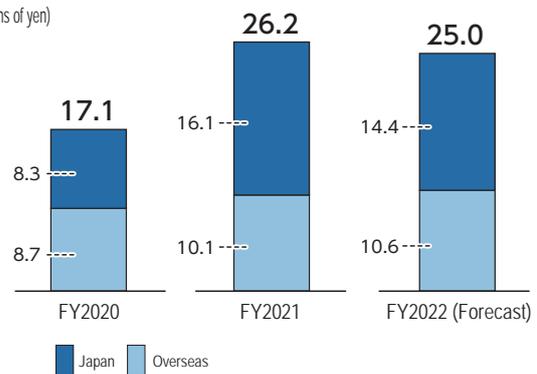
Net Sales

(Billions of yen)



Operating Income

(Billions of yen)



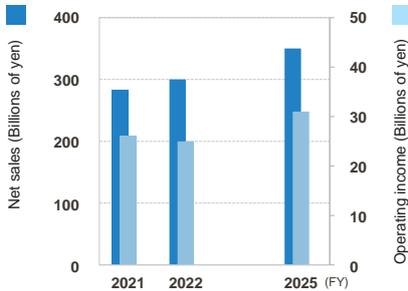
Note: Graph figures include interregional transactions within the segment. Accordingly, the aggregates of regional net sales and operating income figures for the segment differ from the figures presented above.

Business Strategies Under DIC Vision 2030

Basic Strategies

- Ensure the timely provision of functional materials that support digital innovation
- Contribute to a carbon-neutral society by promoting a shift to biomaterials
- Cultivate demand by directly communicating the appeal of materials, devices and services to consumers and society
- Supply polymers that help reduce environmental impact and impart functionality widely across Asia

Net Sales and Operating Income Targets



Principal Measures

- ▶ **Propose high-performance products for the semiconductor fabrication and mobility fields**
 - Extend functional materials portfolio with forward-looking offerings for an increasingly digital society, including low-dielectric resins, organic-inorganic hybrid resins and resins for optical materials
 - Augment lineup of industrial adhesive tapes and PPS compounds, and offer bonding and disassembly solutions, for CASE vehicles
- ▶ **Develop sustainable products**
 - Launch and expand sales of new environment-friendly waterborne resins
 - Develop and offer bio-based polymers
- ▶ **Increase selection of products that contribute to an improved QOL**
 - Augment portfolio of molding materials for medical applications
- ▶ **Expand operations in promising geographic areas**
 - Concentrate efforts to expand coating resins business in the PRC and the Asia-Pacific region on M&As

The Functional Products business will strive to offer forward-looking low-dielectric resins and other functional materials essential for an increasingly digital society, as well as promote a shift to biomaterials with the aim of contributing to the realization of a carbon-neutral (green) society, enabling it to not only provide materials but also cultivate demand by directly communicating the appeal of materials, devices and services to consumers and society.

In the PRC and the Asia-Pacific region, both of which continue to see strong market growth, DIC will promote efforts to expand its operations, particularly in the area of coating resins, including by securing new bases through M&As. In molding materials, the Company will seek to increase its selection of high-performance products for medical and other applications that will help realize a society with an improved QOL, as well as to leverage its diverse compounding, dispersion, mixing and other technologies to provide solutions for a post-pandemic new normal.

Key Development in Fiscal Year 2021

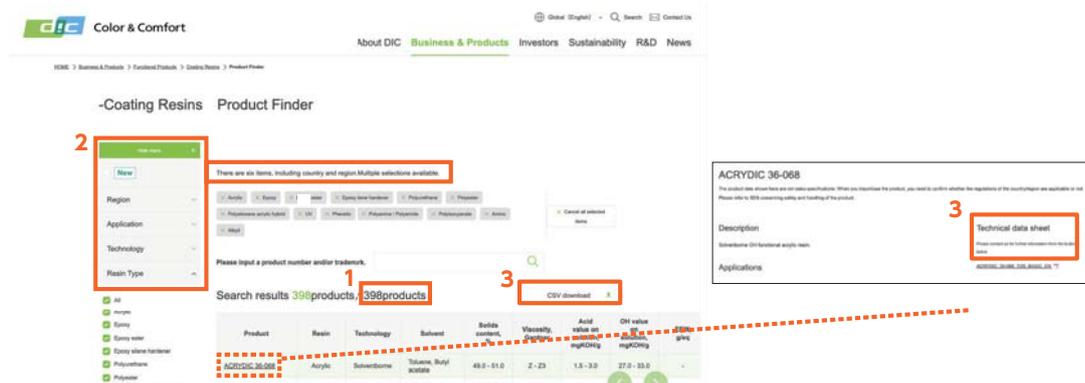
DIC Launches Global Common Coating Resins Product Finder

Allowing the timely provision of information and enhancing search convenience in Japanese, English and Chinese

In July 2021, DIC launched a new common coating resins product finder, which is available in Japanese, English and Chinese, on its global website. The new product finder makes it easy for users to identify the right product for their needs from among DIC's lineup of coating resins and to confirm recommended applications, key features and other basic product information.

Owing to the accelerated digitalization of businesses, web-based research and communications have become more prevalent. The coating resins market is no exception, with purchasing managers and technology developers increasingly using corporate websites when searching for products that satisfy performance requirements. Evolving market trends are also driving the diversification of customer needs. In response to these and other changes in its operating environment, DIC has built a global common coating resins product finder that facilitates the provision of relevant information in a timely and easy-to-understand manner. The three principal attributes of the new product finder are as follows:

- More than 300 products manufactured at sites around the world are included;
- Searches can be narrowed down to suit customer needs using six criteria, including region/country of use, application, resin type and features; and
- Technical materials—including technical data sheets—and search results can be downloaded.



Going forward, DIC will add new products developed and manufactured at DIC Group sites around the world, while at the same time working to further enhance product and technical information on its core coating resins. Through its global website, the Company will also continue to propose solutions that help address social imperatives and challenges faced by its customers.

New Business Development

New Businesses Created from the Perspective of ESH-Related Issues and Social Changes



SDGs Goals 8, 9 and 11



Kiyofumi Takano
 Managing Executive Officer
 General Manager, New Business Development
 Headquarters

The New Business Development Headquarters, established in fiscal year 2019, has identified four new priority business areas where ESH-related issues and social changes intersect with the DIC Group's competencies. The Group is making active use of external resources to secure access to new technologies with the aim of creating new businesses with the potential to become mainstays.

Key achievements to date include the launch of *Hatte Totte*[®] flexible wireless sensors in electronics (For more information, please see page 155 of the complete version of DIC Report 2022) and *CeramNex*[™], a flake alumina filler that imparts heat-dissipating properties to electronic components and is expected to contribute to the proliferation of CASE vehicles and 5G-enabled devices, as well as thermoplastic composites for 3D printers with antiviral and antibacterial functions in the automotive area.

In next-generation packaging, DIC commercialized *PASLIM*[®], an adhesive with oxygen-barrier properties that facilitates the manufacture of thinner and lighter laminated films for food packaging by reducing the number of film layers. (For more information, please see page 50 of the complete version of DIC Report 2022.)

In the area of healthcare, DIC continued conducting joint R&D with biotech start-ups. Of note, the Company is working with Green Earth Institute Co., Ltd., to develop a naturally derived aspartic acid using an innovative fermentation technology that absorbs CO₂, and a biodegradable aspartic acid-based waterborne superabsorbent polymer. In collaboration with Checkerspot, Inc., DIC is creating new ink binders, packaging adhesives and other products made with Checkerspot's novel biomass (algae)-based polyols.

Business Strategies Under DIC Vision 2030

Basic Strategies

- Create businesses that reflect the dynamics of socioeconomic systems, including those for distributed energy and packaging materials recycling
- Accelerate the creation of new businesses by actively using CVC and M&As to secure new technologies

Net Sales and Operating Income Targets for Fiscal Year 2025

Net sales
 ¥33 billion

Operating income
 ¥10 billion

Principal Measures

- ▶ **Electronics**
 - Expand sales of silver seed film developed to reduce transmission loss in high-band communications
 - Bolster sales of flexible wireless sensors (*Hatte Totte*[®])
- ▶ **Automotive**
 - Commercialize materials for next-generation secondary batteries and fuel cells that support the move to clean energy-powered automobiles
 - Develop new inorganic fillers and expand sales of existing offerings for use in automotive electronics and carbon fiber-reinforced plastic (CFRP) materials that help reduce vehicle weight
- ▶ **Next-generation packaging**
 - Realize the practical implementation of materials recycling for flexible packaging films and commercialize recycled plastics
 - Develop and launch high-performance barrier films
- ▶ **Healthcare**
 - Develop and boost sales of nutritional supplements (docosahexaenoic acid (DHA), next-generation omega-3 fatty acids)
 - Expand portfolio of biomaterials, including natural colorants and skincare materials

DIC Vision 2030 outlines DIC's intention to leverage new basic technologies, namely, inorganic materials design and biomaterials design, to support its efforts in its four new priority business areas and create businesses that reflect the dynamics of socioeconomic systems, including those for distributed energy and packaging materials recycling.

DIC is also working to secure new technologies and build production facilities necessary to commercialize materials for next-generation secondary batteries and fuel cells that support the move to clean energy-powered automobiles.

Other principal measures include realizing the practical implementation of materials recycling for flexible packaging films, leveraging algae cultivation technologies to expand the DIC Group's portfolio of biomass-based healthcare products, and expanding sales of silver seed film developed to reduce transmission loss in high-band communications. (For more information, please see page 76.)

Sun Chemical's Activities



Sun Chemical grows while navigating the pandemic

Myron Petruch
President and CEO, Sun Chemical Corporation

Despite the challenges of operating in the ever-changing world of pandemic-induced health, safety, product supply and distribution issues, Sun Chemical demonstrated that our commitment to customers, employees and business growth are at the forefront of our strategy. Our focus remains on contributing to sustainable prosperity for society and creating attractive value propositions for our customers.

In 2021, we continued to expand our product portfolio to include sustainable solutions that improve the quality of life. Our focus on Value Transformation and New Pillar Creation is evident in many of our 2021 success stories!

■ New Technologies Strengthened Our Portfolio and Enhanced Our Business

In 2021, DIC acquired the Colors & Effects business of BASF, adding a world-class pigments portfolio which is now fully integrated with Sun Chemical's previously existing Performance Pigments group to form our Color Materials Division. This business represents the market leader for pigments and supports DIC's strategic priority of color science.

Our teams have worked collaboratively to enhance the value delivered to our customers through a combined portfolio of products and services. We are actively capturing operational synergies while developing brilliant new color technologies. Like many businesses, Color Materials has been dramatically impacted by the pandemic and associated downturns in the automotive and cosmetics markets, as well as supply chain disruptions. Despite these challenges, we leverage our strong market relationships and unparalleled agility to meet market demands and find innovative and socially responsible solutions for our customers.

■ Navigating Supply Chain Volatility with Focus on Our Customers and Employees

COVID-19 is felt in many parts of society and our business, but perhaps nowhere more strongly than in our supply chains. We face numerous challenges obtaining critical raw materials, as well as rapidly escalating freight and distribution costs as we look to supply our customers. While we have issued price increases in an effort to keep pace with these rising costs, our relentless focus is on our customers' needs, often rapidly developing alternative technical solutions, working with our manufacturing sites to adjust production schedules, and ensuring strong communications throughout the value chain to maintain transparency and reliability.

Our employees have steadfastly and resiliently maintained their singular focus on our customers throughout these compounded challenges, all while dealing with the personal and community impacts of the pandemic. We monitor our safety regularly, comply with environmental, health and safety regulations, and respond to the dynamic markets and communities in which we live, work and serve, while continuing to nimbly support one another.

■ Focus on Safety and Quality at Our Manufacturing Sites

The heartbeat of any manufacturing company is its production lines. All throughout the pandemic, over 7,000 Sun Chemical employees kept our manufacturing plants going throughout the world. Although they have dealt with frequently changing local regulations, supply disruptions and the personal impacts of the pandemic, their focus never wavered and their support for one another and our business inspired us all. We continue to make social and sustainable contributions to our local communities and create a family atmosphere where our team members and their families feel included and warmly supported.



DIC Asia Pacific's Activities



Remaining nimble amid tough market conditions

Paul Koek

Managing Director, DIC Asia Pacific Pte Ltd

Since 2020, DIC Asia Pacific has focused on safety, recovery and stable growth, while facing a growing supply chain crisis, rising raw material prices, ongoing COVID-19 transmissions, and in more recent days the Ukraine crisis which has led to higher energy costs. Despite these disruptions, DIC Asia Pacific has remained nimble to market changes and focused on delivering quality products and services.

Amid ongoing COVID-19 transmissions, global supply chain woes and raw material suppliers force majeure, DIC Asia Pacific has managed key raw materials and logistics to meet the daily requirements of our customers, while continuing to implement measures to keep members safe and optimize operations.

■ Responding to The DIC Way

Following our redefined vision statement, we are committed to improving the human condition by safely delivering color and comfort for sustainable prosperity. Learning from our past, DIC Asia Pacific is now well-equipped with robust supply chain management, sound financial health and well-rounded safety protocols to ensure resilience in the face of the uncertain times ahead.

DIC Asia Pacific is focused on becoming the DIC Group's driving force in the Asia-Pacific region. Using digital tools, Team DIC Asia is poised to drive success and engagement with all stakeholders, and ready to take on the challenges of 2022 to secure a foundation for the success of DIC Vision 2030.

■ Rising Demand for Sustainable Food Packaging

The Asia-Pacific region has benefitted from strong demand for safer and more sustainable food packaging as consumption behaviors changed. By year-end, we delivered overall volumes above pre-COVID-19 levels, with packaging volumes exceeding the prior year. The region will work toward delivering our commitments to our valued customers.



Our heroes in DIC Vietnam

■ Award-Winning Dedication and Loyalty in Vietnam

In January 2022, DIC (Vietnam) Co., Ltd., was awarded a certificate of appreciation by the Group in recognition for their strong dedication and loyalty to the Company and our customers. During the country's nationwide lockdown between July 2021 and October 2021, 57 members resided in the plant to ensure business and operations continuity, living the vision and values of The DIC Way.



■ Recovering from the Aftermath of the Malaysian Floods

Last year, a massive flood struck Malaysia. Our plant was flooded and personal property damaged. Without losing precious time, the local and regional teams stepped up to strategize the plant's recovery, as well as providing support to all affected members.



■ Securing Member Safety

Our top priority has always been the safety of all employees, whether they are working on-site at the factories or working from home. The high vaccination rates across the regional countries instilled much-needed confidence in our daily operations, as we welcomed most employees back to the plants.

DIC Australia Pty Ltd. and DIC New Zealand Ltd. also achieved their first ISO 45001 safety accreditation. All employees of the two companies are part of this success and this is a great step forward in demonstrating a positive change in DIC's safety culture, which has always been at the heart of our business.



DIC Australia and DIC New Zealand employees holding up their newly received ISO 45001 accreditation certificate.

DIC (China)'s Activities



Sun Tzu said, “He will win whose army is animated by the same spirit throughout all its ranks.” DIC (China) seeks to embody this tenet by building an organization in which management and employees are united and focused on the same objectives.

Mao Jianwei
General Manager, DIC (China) Co., Ltd.

In fiscal year 2022, DIC announced the DIC Vision 2030 long-term management plan, introducing a redefined vision statement and a new basic policy, setting forth priority business areas and outlining key strategies. These include making strategic investments, enhancing our technology platform, reinforcing management of human capital, promoting IT and DX and clarifying sustainability strategies. Additionally, with people the world over more and more aware that the evolution of humanity depends on realizing a society that is increasingly green, digital and QOL-oriented, DIC also deployed the DIC Sustainability Index with the aim of playing an active role in this process. Through these and other efforts, the entire DIC Group is striving to deliver greater social benefits that enhance value for all stakeholders, including shareholders, and to build corporate value.

The DIC Group operates in more than 60 countries and territories around the world with different cultures, customs, political systems and economic development levels. To ensure the success of DIC Vision 2030, we must ensure employees have an adequate understanding of our management philosophy, management vision and the plan's basic policy. A well-known quote from Sun Tzu's *The Art of War* is “He will win whose army is animated by the same spirit throughout all its ranks.” In other words, an organization in which people of all ranks are of one mind will be victorious. We are confident that aligning the philosophies and goals of management and employees of DIC (China) and the companies of the DIC Group in the PRC, thereby building an organization in which everyone is focused on the same objectives, will enable us to fully demonstrate the Group's comprehensive capabilities.

■ Prioritizing the Ability to Develop Products that Respond to Local Needs

DIC (China) oversees approximately 30 DIC Group companies in the PRC of various sizes operating in diverse environments. Thanks to rapid economic development since the country's economic reform and opening-up, the inland area, in particular, has morphed from a manufacturing center often called “the world's factory” into a consumer spending–fueled powerhouse dubbed “the world's market,” a change that has created huge business opportunities. To capitalize on these opportunities, the DIC Group is working to establish integrated global management while at the same time further strengthening its product development capabilities, taking into account regional and market-specific differences in product life cycle. This is positioning us to respond swiftly to local needs and contribute to the growth and development of the overall Group.

■ Improving Labor Productivity through Automated and Intelligent Processes

Owing to robust economic growth and declining birthrates, attributable to the erstwhile one-child policy, labor shortages have become an issue in the production sector. This is encouraging manufacturers to improve labor productivity by actively introducing digital and intelligent technologies. In this environment, DIC (China) recognizes the need to bolster the skills of employees at DIC Group production sites as well as to improve business practices by promoting ongoing improvements to production processes, notably by introducing automated and intelligent solutions. We are confident that such efforts to enhance labor productivity and introduce state-of-the-art technologies will enable us to secure the quality and cost advantages needed to thrive in this intensely competitive market.

■ Bolstering Employee Potential and Maximizing the Value of Human Resources

Achieving the goals of DIC Vision 2030 will not be easy. For this reason, it is crucial to bolster the potential of each Group employee and maximize the value of human resources by modifying the DIC Group's product portfolio in response to changes in the operating environment, thereby taking on the challenge of driving innovation and entering new business areas.

In recent years, DIC (China) has placed an increased emphasis on integrating the management of Group companies in the PRC with that of the overall DIC Group and is stepping up efforts to work with employees by increasing management transparency and promoting the standardization and fairness of management practices. Specific measures have included promoting information sharing, employee education and training, and awareness of The DIC Way, as well as working to bolster recognition of the DIC brand. By thus ensuring that employees across the country have a common understanding of DIC's management philosophy and the DIC Group Code of Business Conduct, and share the Group's mission, we will build an organization that is truly “animated by the same spirit throughout all its ranks,” with management and employees united and focused on the same objectives.

The announcement of DIC Vision 2030 provides an important opportunity for us to deepen our understanding of DIC's management philosophy and vision, lead Group companies in the PRC in line with concrete basic strategies and contribute to sustainable growth for the entire DIC Group.



Technical presentation at Qingdao DIC Finechemicals Co., Ltd.



National forklift contest winners



DIC Leadership Program participants from DIC (China) take part in a desert walk



20th anniversary celebration at DIC Synthetic Resins (Zhongshan) Co., Ltd.



Employees of DIC (Shanghai) Co., Ltd., on an excursion to Mount Sanqing

A Message from the General Manager of the Production Management Unit



We are working to help achieve the goals of DIC Vision 2030 in the production arena.

Naoyoshi Furuta

Managing Executive Officer
General Manager, Production Management Unit

Underpinning Everything: Safe Operations and Quality Assurance

The DIC Group manufactures a wide range of chemicals and related products in 63 countries and territories around the world and provides these products to customers through a global sales network. As its name indicates, the Production Management Unit, of which I am in charge, oversees the Group's core manufacturing activities. We place a priority on care for the environment, safety and health through Responsible Care initiatives and on ensuring compliance with the aim of supporting the operation of safe and secure production sites.

The Production Management Unit is also responsible for supporting production from the perspective of quality control and quality assurance. We view our mission as being to ensure that the quality of the products we provide meets the requirements of our customers and the market. Despite this, in fiscal year 2021 serious quality-related issues were discovered. These included improprieties in type testing of a foam fire extinguishing agent that resulted in approval of the product being rescinded and the suspension of Underwriters Laboratories' certification of LC polymers, both of which were disclosed publicly. We sincerely regret these incidents and, not satisfied with simply identifying causes and implementing measures to prevent recurrence, we continue working to transform awareness and improve product quality.

The Launch of DIC Vision 2030

The key to attaining the goals of DIC Vision 2030 is ensuring that everyone involved in production grasps the plan's content and direction and that each individual is committed to pressing forward steadily, exerting originality and ingenuity every day, with efforts that will bring the plan's goals to fruition. To this end, it is important to provide clear, concrete explanations of key policies and the plan's main points and promote the implementation of critical measures. We have already inaugurated a number of measures. For example, making bold investments with the goal of, among others, realizing mass production of new products developed in the five priority business areas outlined in DIC Vision 2030, responding to increasingly sophisticated quality requirements, and strengthening human capital by passing down technologies and providing support for digitalization. To create work environments conducive to job satisfaction for all employees, we are also promoting "ho-ren-so" and "o-hi-ta-shi"*—mnemonics used widely in management in Japan, with "ho-ren-so" standing for "hokoku" ("report"), "renraku" ("inform") and "sodan" ("consult"), and "o-hi-ta-shi" for "okorana" ("do not get angry"), "hitei shina" ("do not negate"), "tasukeru" ("help") and "shiji" ("instruct")—as well as one-on-one meetings. I want employees to feel that the production team is helping drive DIC's efforts to address challenges and at the same time to feel happy and proud of being part of that team and of contribution to the implementation of DIC Vision 2030's strategies.

* "Ho-ren-so" and "o-hi-ta-shi" are also a homonym of *horenso* (spinach) and "*ohitashi*," a side dish of blanched vegetables steeped in a savory broth.



Site evaluation at the Kashima Plant in fiscal year 2022

Climate Change Cannot Wait: Achieving Carbon Neutrality

The Production Management Unit also has a key role to play in meeting DIC's revised target for the reduction of CO₂ emissions, announced in fiscal year 2021, which calls for the Company to achieve carbon neutrality by fiscal year 2050 and reducing CO₂ emissions (Scope 1 and 2) 50% from the fiscal year 2013 level by fiscal year 2030.* Thanks to efforts to date, which have focused on energy-saving initiatives and environmental

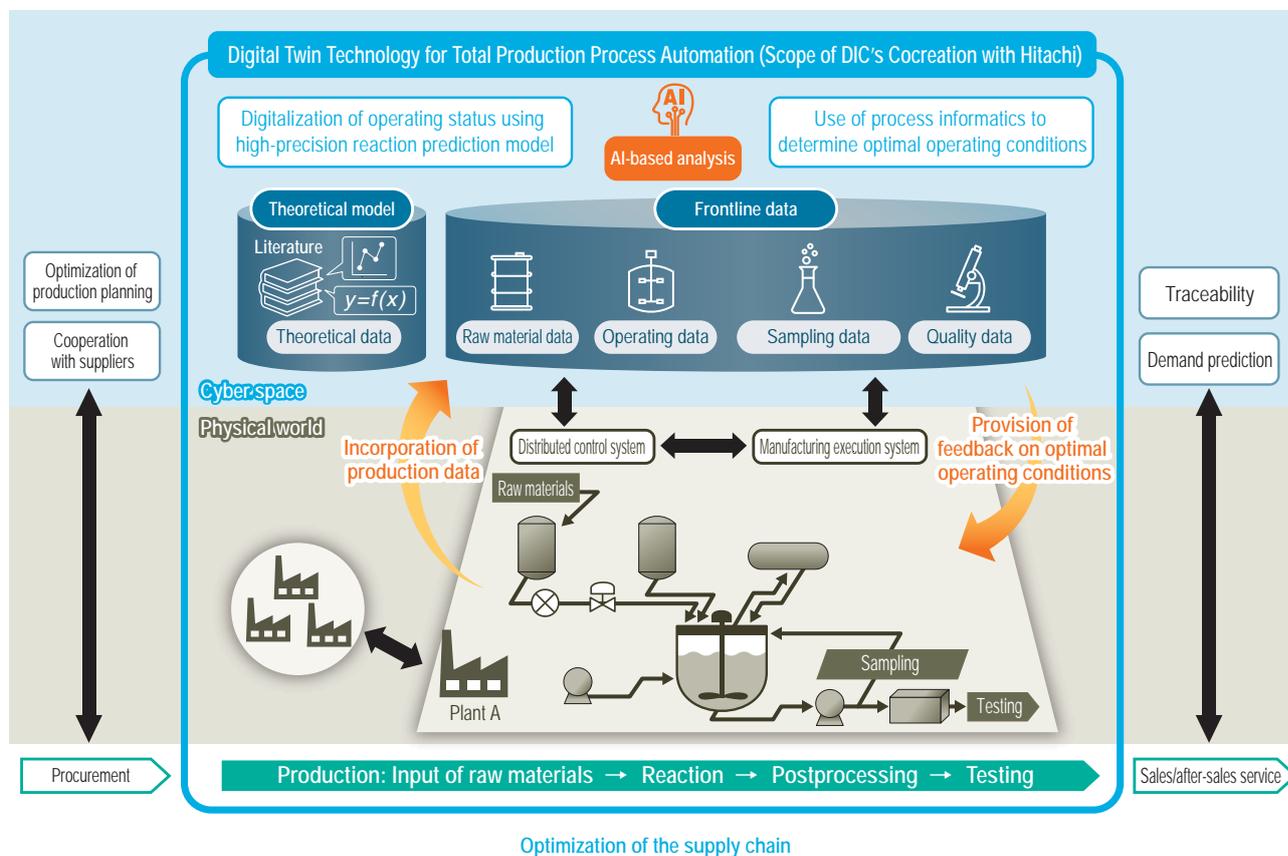
investments, Groupwide CO₂ emissions in fiscal year 2021, at just over 546,304 tonnes, were down 24.4% from approximately 722,955 tonnes in fiscal year 2013. Going forward, growing the Group, including by expanding production volume, while at the same time lowering CO₂ emissions will require more ambitious measures. To this end, in addition to advancing our own environmental investments, we will further expand our use of green power in Japan and actively employ clean energy globally. Revamping production processes will also be crucial to the Group's ability to curb its CO₂ emissions. Together with introducing an internal carbon pricing system, we will formulate and implement concrete, region-specific action plans. Such initiatives will be funded from the ¥70 billion budgeted for infrastructure building.

* For more information, please see "Strategies for Reducing CO₂ Emissions" on page 65.

Building Smart Factories and Applying Cutting-Edge Technologies

As stated in a press release published in Japanese in December 2021, we are currently collaborating with Hitachi, Ltd., to promote the practical application of digital twin technology to automate batch processing in plastics production. This involves using a high-precision reaction prediction model to digitalize operating status in cyber (virtual) space, together with process informatics* to determine optimal operating conditions and provide feedback to the physical (real) world. This will make it possible to, among others, shorten production times, stabilize quality, improve equipment operators' work efficiency and hasten the commercialization of new products, thereby improving productivity and in so doing helping reduce CO₂ emissions. In fiscal year 2022, we will conduct verification testing using a prototype reaction prediction model to determine optimal operating conditions. Ultimately, we aim to realize the practical application of digital technologies that facilitate automation of the entire production process.

* Process informatics applies statistical analysis and other informatics techniques to optimize conditions for production, among others.



A Message from the General Manager of the Technical Management Unit



We are bringing together diverse capabilities and marshaling the diversity of individuals to realize technologies that position us to go on the offense.

Kiyotaka Kawashima

Managing Executive Officer
General Manager, Technical Management Unit

Amid continued uncertainty and confusion, attributable to dramatic changes to living environments caused by COVID-19 and the threat of borderless wars, we are seeing values change dramatically. Against this backdrop, rather than a conventional three-year management plan, the DIC Group recently formulated DIC Vision 2030, a rolling long-term plan. The role of our technical departments in this plan is immense. To ensure the plan's success, we will work to realize technologies that position us to go on the offense, rather than those that are more defensive in nature, as well as to promote technological development that capitalizes on our global presence and maximize individual capabilities.

From Adding Depth to Existing Technologies to Pursuing New Technologies

The DIC Group's ability to add depth to existing basic technologies has led to a wide range of products that contribute to society. Transforming our business portfolio, a key focus of our new long-term management plan, will also require searching for completely new basic technologies, as well as technologies that emphasize sustainability or other new criteria. The Group has thus already begun to allocate significant management and other resources to development that involves not only modifying—i.e., adding depth to—existing technologies but also creating and adopting, that is, searching for, brand new technologies. At the same time, through the marketing efforts of our technical departments, we are also seeking to discover new applications and markets for both existing and new technologies with the aim of helping customers address current issues and issues not yet acknowledged.

Integrating R&D Functions to Create One Global Lab

In fiscal year 2021, the DIC Group welcomed a new member with the acquisition of the Colors & Effects business from BASF, further enhancing its global business structure in the colors, packaging and graphics businesses. DIC and Sun Chemical have long cooperated in the area of R&D, which has led to a number of important achievements. Recognizing that the addition of the Colors & Effects business will create a stronger, three-company R&D configuration to underpin the implementation of the strategies of DIC Vision 2030, the Group is integrating product development, including by promoting joint R&D and the sharing of information, as well as related functions such as patent, analysis, AI and marketing functions.

Creating Work Environments for Technical Personnel that Are Conducive to Job Satisfaction

One of the basic strategies for transforming DIC and the DIC Group enumerated in DIC Vision 2030 is to maximize the value of human capital. No matter how talented our technical people are, unless they feel motivated personally, they—and by extension DIC and the DIC Group—will not be able to contribute to society or make notable achievements. In other words, we need to create a research environment that consistently motivates people, thereby enabling us to marshal the diversity of individuals. What constitutes such a work environment is a question we will continue seeking to answer going forward. We have already begun to implement the following measures:

- Integrate human resources training for DIC and the DIC Group and career paths for individual technical staff;
- Respect autonomy, including by establishing rules for allocating a certain number of work hours for technical staff to conduct their own research and creating a system whereby individuals can propose new research themes anytime and anywhere;
- Actively encourage and support individual external activities such as participation in academic conferences and publication of technical papers); and
- Develop individualized work style care systems that include, among others, counseling and mentoring.

Looking ahead, the DIC Group will continue striving to evolve as an organization that delivers social benefits by reforming work styles for all employees, including technical staff, and improving work environments.

A Message from the General Manager of the R&D Management Unit



Our efforts to expand our technology platform are based on specific aims and targets.

Toshiro Ariga

Executive Officer
General Manager, R&D Management Unit

Our Current Technology Platform

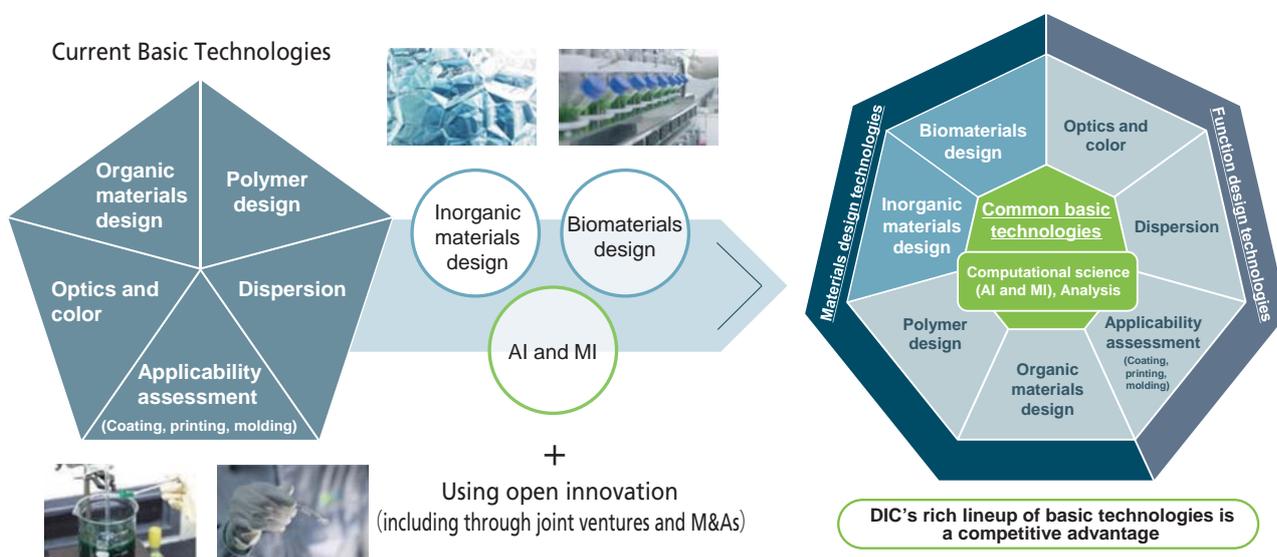
Since its establishment, DIC has sought to simultaneously expand both the operations and technology platform of the DIC Group. Today, our basic technologies are defined as those in the areas of organic molecular design, polymer design, dispersion, optics and color, and applicability assessment.

The Importance of Platform Expansion

To date, the DIC Group has provided distinctive value by adding depth to basic technologies in these five areas and combining them to develop a wide range of products. However, given the diversification of social imperatives and the growing complexity of challenges facing the chemicals industry over the past decade, it became clear that we would find it problematic to address crucial issues going forward with only the technologies we have cultivated in these areas. In light of evolving circumstances, several years ago we began exploring various new technical themes with the objective of securing new basic technologies, as a result of which we sharpened our focus to biotechnology, inorganic materials technologies and computational science, e.g., AI and MI.

What We Hope to Accomplish

To provide new value in response to social imperatives such as the need to achieve carbon neutrality and realize a society that is both recycling-oriented and digital, we recognize that it is essential to add depth to new technologies in the areas of biotechnology, inorganic materials technologies and computational science and transform them into DIC Group basic technologies, thereby further expanding our technology platform. This will make it possible for us to provide, for example, new biomaterials that do not depend on petrochemicals and highly functional materials that could not be achieved using conventional organic raw materials or polymers. In computational science, AI, MI and simulation technologies will enable us to realize advanced materials design and accelerated development. I am confident that our rich lineup of basic technologies will be a major competitive advantage for the DIC Group.



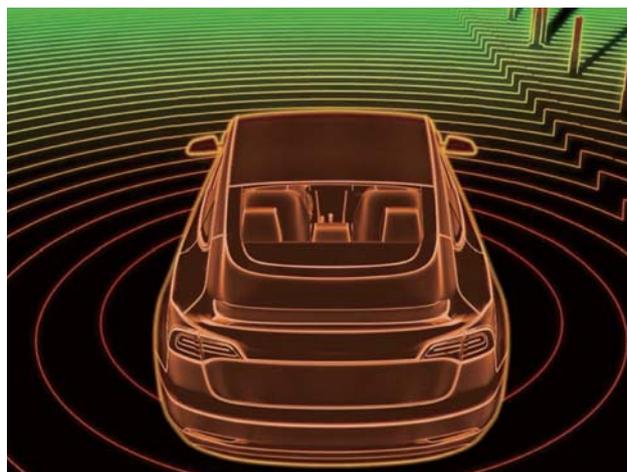
Helping Realize Sustainable Mobility Solutions

The DIC Group is working to provide groundbreaking sustainable products that will contribute to the improvements in safety and energy-saving technologies and visual appeal necessary for next-generation mobility.

Color & Display

Functional black pigments that combine outstanding LiDAR signal response and visual appeal
Spectrasense™ Black EH 8082, *Spectrasense™* Black L 0086
 and *Sicopal®* Black L 0095

SDGs Goals 9 and 17



The DIC Group has pioneered key NIR-management solutions that will help automotive coating systems ensure safe, secure and richly colored vehicles.

Value Creation

Leveraging functional pigments to assist autonomous driving and enhance visual appeal

The benefits and drawbacks of using carbon black in automotive coatings

Automakers the world over are focused on developing next-generation mobility technologies for the smart society of the future that will facilitate autonomous driving, which will make it possible for anyone and everyone to get around safely and securely. Leading the charge is light detection and ranging (LiDAR), which detects the shape and distance of surrounding objects by irradiating them with a near-infrared (NIR) laser and measuring the light reflected back to the system's detector, enabling autonomous driving vehicles to "see" where they are going and preventing them from bumping into or colliding with other vehicles or obstacles. However, conventional automotive coatings contain carbon black, a material consisting of fine carbon particles, which largely absorbs the NIR wavelengths of LiDAR signals and incident sunlight, causing heat build-up and significant reduction of object detection capabilities.

The obvious question is that if LiDAR object detection capabilities are the priority, why not just use something other than carbon black? Unfortunately, it's not that simple. In addition to providing excellent coverage, carbon black increases the durability and conductivity of coatings, making its replacement

with another material difficult. Carbon black also plays an important role in body color, a key consideration for consumers' decision making when purchasing a vehicle. Without using carbon black, it is difficult to produce dark colors, including deep blacks, greens, blues and reds, or neutral colors such as metallic grays. Accordingly, automakers have faced a challenge in that the more they emphasize LiDAR signal response, the less color design freedom they retain.



The NIR wavelengths of LiDAR signals are absorbed by the carbon black pigment of automotive coatings, significantly hindering signal response.

Developing a color formulation approach that produces clean, deep colors without hindering LiDAR detection

In March 2021, Colors & Effects, the pigments business of Germany's BASF, one of the world's leading chemicals manufacturers, succeeded in developing a color formulation approach that produces clean, deep colors without the use of LiDAR signal-absorbing carbon black. (Colors & Effects was acquired by DIC in July 2021.)

The conventional automotive coating process involves three key layers: A primer, which evens out surface irregularities and protects the electrocoat; a color basecoat,

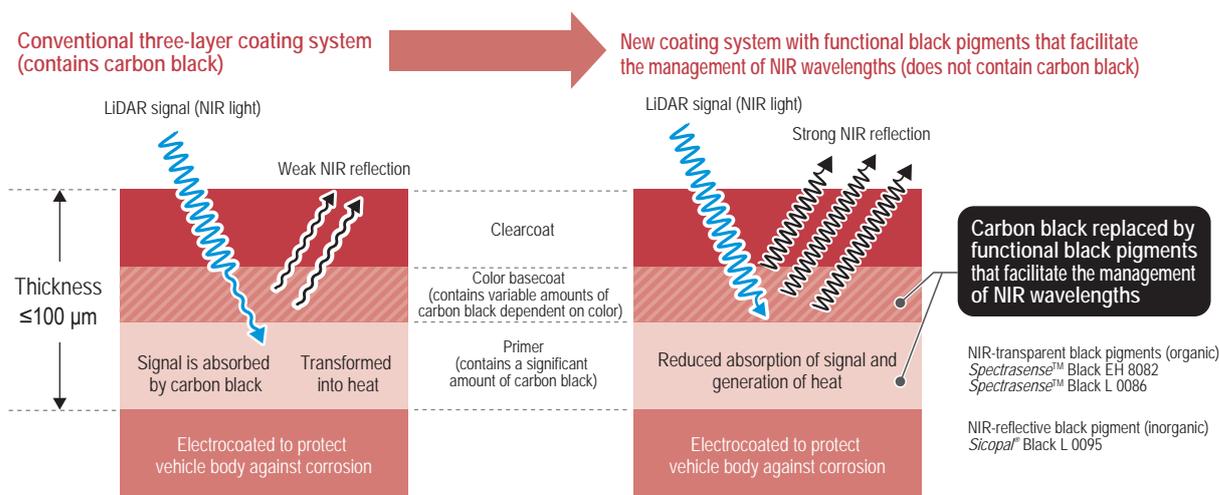
which imparts the main color; and a clearcoat, which seals everything, providing shine and protection against external elements. It is in the primer and the basecoat that carbon black, which absorbs NIR wavelengths in LiDAR signals, is typically used. Similar pigmentation considerations can be used if the paint system omits the conventional primer and instead uses a combination of two modified basecoat layers to fulfill the combined roles of the primer and the basecoat.



Colors & Effects sought to address the problem of carbon black as a pigment in coatings for autonomous driving vehicles by embarking on the development of color formulations that enable the management of NIR wavelengths in automotive coatings by using a primer and a basecoat containing NIR-transparent and NIR-reflective functional black pigments that selectively transmit and reflect back NIR wavelengths while ensuring the high performance required for each coating layer. By using NIR functional pigments as replacement for carbon black—NIR-transparent black pigments from the *Spectrasense™* Black product range (the new *Spectrasense™* Black EH 8082 *Spectrasense™* and Black L 0086) or an NIR-reflective black pigment from the *Sicopal®* Black product range (*Sicopal®* Black L 0095)—formulations were created which

allowed LiDAR signals to penetrate through and reflect back, instead of being absorbed, while at the same time achieving the depth of color needed for high-end vehicles.

This new color formulation approach makes it possible for manufacturers of coatings for autonomous driving vehicles, which will be indispensable to the smart society of the future, to break free from dependence on carbon black and deliver both outstanding sensing performance and visual appeal. Because this approach is suitable not only for automobiles but also for a variety of industrial products where sensors are used, potential applications span multiple scenarios.



A Distinctively DIC Response

Realizing a revolutionary perylene black pigment that improves jetness and enhances neutral colors

An issue that cannot be resolved simply by reflecting NIR

The impetus behind Colors & Effects' efforts to develop a new color formulation approach was a project to develop LiDAR-based positional mapping technologies for use in advanced driver assistance systems (ADAS). A major challenge for developers was of course the presence of carbon black.

The fact that carbon black absorbs and stores NIR light is well known. Colors & Effects had previously developed pigments that reduced the absorption of NIR wavelengths—thus exerting a heat-shielding effect—for coatings used in building materials for roofs and outer walls and enjoyed a significant share of the global market for pigments used

in coatings for energy-efficient building materials. However, simply applying existing technologies would not resolve all the issues for automotive coatings. Automakers and coatings manufacturers alike demanded a coating system that would ensure LiDAR object detection capabilities while at the same time enabling the creation of dark colors with improved jetness, as well as metallic grays and other neutral colors. To this end, it was necessary to develop a new functional black pigment to replace carbon black that was also easy to incorporate into coating systems that take LiDAR transmission, absorption and reflection into account, and was optimized for the composition of automotive coatings.

Helping realize innovative coating systems through the optimal combination of pigments that facilitate the management of NIR wavelengths

Colors & Effects commenced full-scale development in 2018 by thoroughly analyzing and evaluating the impact of carbon black on LiDAR signals, including examining the scattering, absorption and reflection of NIR light and performing colorimetric assays. Narrowing its focus to perylene black, an organic compound that possesses multiple hues, the company developed *Spectrasense™* Black EH 8082, an innovative perylene black pigment that improves transmission of the NIR wavelengths in LiDAR signals and enhances jetness by absorbing visible light better than other NIR management black pigments on the market. By using this new neutral-colored black pigment in combination with other NIR reflective or non-absorbing pigments, formulations were created for the primer and basecoat layers which not only provided excellent LiDAR reflectivity but also allowed desirable colors from the whole color palette to be formulated. Due to the neutral color and high jetness of *Spectrasense™* Black EH 8082, for the first time neutral gray and black colors were achievable simply by use of the black pigment in combination with other reduction pigments. No additional tinting or adjustment is needed unless a color shift is required to achieve the design color.

Completed in March 2021, the new, improved NIR-transparent black pigment, *Spectrasense™* Black EH 8082 immediately earned acclaim from both coatings manufacturers and automakers, for the potential it offers in eliminating dependence on carbon black pigments and opening the way to the realization of a smart society.

DIC's decision to acquire the Colors & Effects business, a business partner of wholly owned U.S. subsidiary Sun Chemical Corporation, was prompted by the German company's advanced pigment development technologies and experience as a key supplier to all the leading global automotive coatings manufacturers, both of which it believes are essential to the realization of the targets it has set, which are outlined under its DIC Vision 2030 long-term management plan. (For more information on DIC Vision 2030, please see page 20.) As this new color formulation approach shows, the acquisition has already proved highly fruitful.

Message

The reaction from automakers and the coatings industry has been tremendous!

Development of a quantitative measuring method through modification of a UV/Vis/NIR spectrophotometer

Colors & Effects had experience dealing with heat-management applications through the development of pigments with heat-shielding functions. Nonetheless, undertaking a project to develop pigments for automotive coatings compatible with autonomous driving systems that would both enhance LiDAR signal responsiveness and improve dark and neutral colors was a major challenge.

In the initial phase of this project, the focus was to understand how LiDAR signals behaved at various angles of incidence when encountering a coating stack comprising three layers formulated with functional pigments. The tools needed to make such measurements were not readily available for experiments under reproducible lab conditions, so assistance was sought from a leading equipment manufacturer. With this company's help, modifications were made to a commercial ultraviolet-visible/NIR (UV/Vis/NIR) spectrophotometer, enabling measurements to be made across a 300–2,500 nm wavelength range while varying the incidence angle of the measured sample. This allowed comparative measurements of coated objects, to determine the degree to which carbon black negatively affects LiDAR signal response at different incidence angles and how much this improves with NIR-transparent black pigments, the outcome of which played a key role in subsequent pigment development efforts.

The difficulty of producing neutral metallic grays

One of the most difficult tasks when using alternative pigments—including existing commercial NIR-transparent black pigments from the *Spectrasense*™ Black range—as replacement for carbon black was to facilitate the production of neutral metallic grays. When combining existing *Spectrasense*™ Black products with neutral pigments such as titanium dioxide, silver mica and aluminum, the color shifts into the green or reddish-blue color space, requiring the addition of other color pigments to counter the undesired undertone.

To overcome this issue, information available in related literature was combined with internal expertise to develop a method for controlling the crystal structure of the perylene, thereby controlling the pigment color. This enabled the development of a new perylene black that produces neutral colors in pigment reductions and fulfills the NIR transparency requirements for LiDAR-detectable color formulations at all viewing angles. Importantly, the approach was effective not only in the laboratory but also when scaled up to commercial production level. This breakthrough makes it possible to achieve NIR-reflective neutral metallic grays (solid and effect shades) without the need for color correction with another pigments.

Commercialization and production during a global pandemic

Technological development had progressed considerably before COVID-19 spread to Europe and by the time it was declared a pandemic, development was already at the stage where advanced prototypes were being sampled to major customers with whom active nondisclosure agreements were in place. Given the global situation, however, significant challenges remained in finding an effective way to obtain detailed feedback on the testing of the prototypes so that any final adjustments could be made to the pigment prior to commercialization in 2021.

Under normal circumstances, face-to-face meetings with customers, and with pertinent in-house groups, would have taken place. However, given the pandemic all communications had to be conducted via online meetings. In general, limited experience existed in conducting in-depth discussions remotely, but despite some initial frustrations, effective communication was achieved, resulting in successful completion of the project and the subsequent launch in the market in 2021. Everyone involved in the development, commercialization and production of the new pigment, as well as our customers, deserves a big thank you.

Earning the best presentation award at the FOCUS conference

The Detroit Society of Coatings Technology (DSCT) holds an annual Future of Coatings Under Study (FOCUS) conference for the discussion of notable themes and urgent issues. This event is attended by original and contracted coatings manufacturers from around the world, as well as by leading global automakers. More than 250 people took part in the May 2021 conference, which was held remotely to curb the spread of COVID-19. During the conference, Colors & Effects gave a presentation on the reflectivity of coatings and LiDAR detection during which it detailed its success in realizing a method for measuring variable angle intensities of reflected LiDAR radiation and developing a new perylene black pigment with neutral coloristics. The messages delivered in the presentation were well received by the organizing committee and Colors & Effects was pleased to receive the best presentation award.

The extremely positive response to our FOCUS presentation confirms that Colors & Effects' pigments technologies are seen as leaders in the area of pigments for LiDAR-detectable colors. Further R&D will continue in this area with the aim of contributing to increased design freedom.



Global Innovation Manager—
Organic Pigments,
Color Materials,
Sun Chemical Corporation
Dr. Paul Brown

LiDAR Signal Response: Carbon Black vs. Functional Black Pigments



New perylene black Commercial perylene black Carbon black

KEY PERSON from DIC**This new pigment yields a true black and offers great potential.**

When the development personnel first showed me a panel coated with the prototype pigment, I was really excited and recognized that it had the potential to become a massively important new product. We have introduced perylene black to manufacturers of automobile coatings many times in the past, but have not been able to break into the area of color creation for automobiles, which requires the production of clean, deep colors with a coating thickness of only 15 µm. The reaction from customers has always been the same: "It looks black, but it's not a true black."

We have received many favorable and encouraging comments in response to samples of *Spectrasense*[™] Black EH 8082, and the physical characteristics of coatings containing the new pigment have also earned positive reviews. Recently, stricter energy efficiency standards for automobiles have prompted demand for pigments with heat-management capabilities, underscoring our belief in our ability to grow this new business without waiting for the full-scale arrival of autonomous driving. This is a new functional pigment that enables the creation of a true black coating, and I can feel confident in recommending for a wide range of applications.

Manager, Pigment Global Operation Strategy Planning Group, Color Material Products Division, Osaka Branch, DIC Corporation **Shintaro Gomyo**

**KEY PERSON from DIC****The potential for pigments that can replace carbon black is unlimited.**

To improve the safety of autonomous driving vehicles, it is essential to ensure that vehicles are able to detect things around them that they could possibly run into, from the clothes worn by pedestrians to bicycles, walls and construction cones. Many such objects feature colorants containing carbon black. In all of these cases, we need to replace carbon black with functional pigments that do not interfere with an autonomous driving vehicles' ability to detect LiDAR signals. The potential applications for Colors & Effects' functional black pigments really are innumerable. Moreover, carbon black absorbs NIR light in incident sunlight, causing heat build-up, so we also expect heat-management applications for these pigments to expand further.

Technical Industry Manager—Automotive, Sun Chemical Corporation **Andre Bendo**

**KEY PERSON from DIC****This is another great example of how we advance technical and scientific expertise.**

The influence of color pigments on coatings is not restricted solely to the visual regime. Despite the name, they also impact properties apart from color, defined in regions hidden to the human eye. One of these regions is NIR, which is relevant to both solar heat management and LiDAR. Control over the advanced properties of pigments is a key characteristic underscoring our position as one of the largest pigment producers and a global leader at the forefront of technological understanding and research. Our expertise led to the recent development of an outstanding functional black pigment, offering a multitude of possible usages by enabling targeted tuning of the NIR behavior of coatings. The new *Spectrasense*[™] Black EH 8082 pigment is a clear demonstration of our deep knowledge of pigment chemistry and physics, as well as our highly skilled engineering capabilities.

Team Leader, Colorimetry & Pigment Physics, Color Materials, Sun Chemical Corporation **Dr. Max Mussotter**

**KEY PERSON from DIC****Bringing together the know-how, technologies and sales channels of three companies is key to expanding sales of sustainable products.**

With Colors & Effects, the operations of which focus on Europe, becoming a member of the DIC Group, we have implemented a three-pronged global color materials business management framework comprising this company, U.S. subsidiary Sun Chemical and DIC, which oversees Group operations in Asia.

The new functional black pigments featured herein represent a pioneering sensing-related application for pigments that have long been sold for use in heat-management applications. These sustainable products are evidence of Colors & Effects' advanced technologies and marketing capabilities. Looking ahead, we will not only work to expand sales of Colors & Effects' functional color materials through our global sales channels, but also continue to expand our product portfolio of products that contribute to sustainability by leveraging DIC's R&D capabilities to further enhance added value.

Manager, Color & Display Business Planning Department, DIC Corporation **Mineo Yoda**



World's fastest-curing carbon fiber–reinforced prepreg
 DICARBO® LF series

SDGs Goals 7, 9, 13 and 17



The DIC Group has developed a revolutionary method for producing CFRP—essential to lowering the weight and increasing the durability of vehicles—that **significantly reduces CO₂ emissions and energy consumption** attributable to production.

Value Creation

Contributing to improved fuel efficiency for vehicles, among others, by improving productivity for CFRP

Production processes that hinder the broad adoption of CFRP, a superior composite material

As its name indicates, carbon fiber–reinforced plastic (CFRP) is a fiber-reinforced composite material containing carbon fibers reinforced with resin. To use reinforced concrete as a metaphor, carbon fiber corresponds to rebar, while resin corresponds to concrete. CFRP's principal properties include its outstanding strength and lightness. Originally used in golf clubs and fishing rods, CFRP today is finding increased application in aircraft, automobiles, buildings, bridges, satellites and wind power generating equipment. In the mobility field, in particular, with fuel efficiency a key theme as the world seeks to decarbonize, CFRP is seeing further growth in demand as a functional material that helps reduce vehicle weight.

One production process for CFRP uses prepreg sheet, a carbon fiber–reinforced sheet-form intermediate material made by spreading bundles of carbon fibers (tows) to create flat sheets and impregnating the sheets with resin (figure 1). The sheets are then layered into a heated mold cavity, compression molded and cured. A major drawback is that conventional prepreg sheet—made with epoxy resin—must be refrigerated or frozen for storage and thawed for use, as a result of which this has traditionally been a costly, complex and low-productivity process (figure 2).

Figure 1: Carbon Fiber–Reinforced Prepreg Sheet

An intermediate material made by spreading carbon fiber tows to create flat sheets and impregnating the sheets with resin

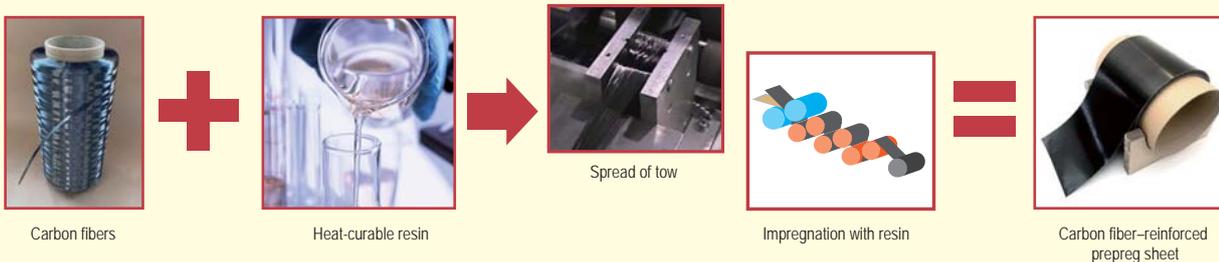


Figure 2: Production of CFRP Using Conventional Prepregs



Realizing a fast-curing carbon fiber–reinforced prepreg that greatly improves productivity

With the aim of improving the productivity and cost of CFRP production, in fiscal year 2018 DIC commenced full-scale development of a fast-curing resin for prepreg, leveraging its polymer design technologies, and launched a research project aimed at commercializing fast-curing prepreg sheets made with this resin in partnership with the Industrial Technology Center of Fukui Prefecture, which owns a high-speed tow spreading technology, and Fukui-based comprehensive fibers manufacturer Seiren Co., Ltd., which boasts high-precision impregnation technologies that capitalize on its resin film-forming and coating capabilities. This project was chosen as a major research project by Japan's New Energy and Industrial Development Organization (NEDO) under its Strategic Innovation Program for Energy Conservation Technologies as a practical application development project aiming at commercialization for automotive applications within three years.

The three project partners proceeded with R&D in their respective areas of specialty and cooperated closely to integrate new technologies. In summer 2021, they succeeded in the practical development of a fast-curing prepreg sheet that boasts the world's fastest curing time and can be stored at room temperature (around 23°C). By shortening the minimum curing time to between 1/3 and 1/5 that of conventional prepreg sheet—i.e., to approximately 30 seconds—and eliminating the need to refrigerate or freeze for storage and then subsequently thaw for use, productivity is improved by up to five times. Production costs are also lowered because there is no need to install and maintain refrigerated or frozen storage facilities (figure 3).

Figure 3: Fast-Curing Carbon Fiber–Reinforced Prepreg = Significant Improvement in Productivity



A Distinctively DIC Response

Developing a radical curing resin that delivers both high-speed curing and normal temperature stability

Many challenges were faced, including the need to control viscosity, achieve thin sheets and ensure suitability to each process

DIC's role in the joint project centered on developing a new resin that cured quickly and could be stored easily. While the Company has extensive experience in the area of molding resins, a number of breakthroughs were necessary to realize a resin conducive to spreading and loosening carbon fiber bundles into single tapes that are then arranged evenly into thin sheets.

DIC's technical staff began by selecting several fast-curing candidate resins it saw as having the potential to boost productivity, but found determining a design and formulation that allowed changes in curing status depending on the process extremely challenging. They realized that what they needed to develop was a resin that reaches a semi-cured state during the process of impregnating each ultrafine carbon fiber and then fully cures at a high speed when heated. In other words, a resin that would reach optimum viscosity during each process, i.e., coating, impregnation, winding, storage and

compression molding. Design and formulation was further complicated by the need to ensure the resin could be stored at room temperature, rather than requiring refrigeration or freezing.

To address these issues, technical staff analyzed changes in physical properties caused by viscosity and resin temperature required at each stage and pressed ahead with polymer design while conducting repeated simulations. At the same time, DIC's Sakai Plant, where the Company conducts resin development, produced multiple prototype resins in a process of trial-and-error to realize the precise resin characteristics as designed. These prototypes were taken to the Industrial Technology Center of Fukui Prefecture, which was in charge of developing tow spreading equipment, and Seiren, which was responsible for resin coating and impregnation equipment, where repeated additional refinements and adjustments were made.

The debut of **DICARBO® LF**, a carbon fiber–reinforced prepreg that boasts the world’s fastest curing time and can be stored at room temperature

Through repeated trial production and constant modification, the project partners succeeded in gradually improving resin characteristics. They also incorporated an original idea into the impregnating process that greatly enhanced prepreg production. In spring 2021, with the NEDO program’s development deadline looming, the partners completed fast-curing carbon fiber–reinforced prepreg **DICARBO® LF**, which not only boasts the world’s fastest curing time but can also be stored at room temperature and is compatible with a wide range of molding methods. The three entities subsequently developed a mass production process for this innovative product, announced simultaneously in July 2021, after which they began providing samples produced using a demonstration plant operated by Seiren. DIC displayed **DICARBO® LF** at the Society for the Advancement of Material and Process Engineering (SAMPE)’s Japan Exhibition 2021 in December 2021. The product was well received across a broad range of industries

and the department in charge was busy for weeks responding to inquiries. Nonetheless, DIC does not see this as the end of the project, believing it has a mission to promote **DICARBO® LF** as a replacement for conventional carbon fiber–reinforced prepreps and to encourage its adoption to facilitate the development of exciting new CFRP products. The Company is confident that the increasing use of **DICARBO® LF** will further advance the popularity of CFRP and in so doing help lower the weight, improve the fuel economy and reduce the energy consumption of finished products in diverse fields.



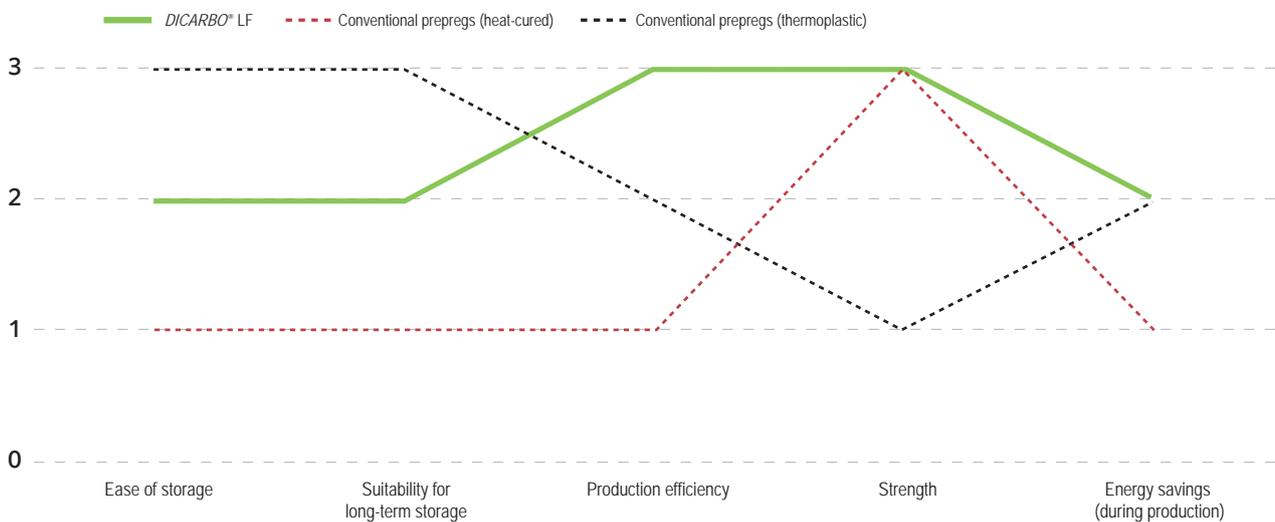
Demonstration plant at Seiren

Suitable for Diverse Molding Methods and a Wide Range of Products

Outer surface of **DICARBO® LF** (before curing)



Performance Comparison of **DICARBO® LF** and Other Carbon Fiber–Reinforced Prepreps



KEY PERSON from DIC

Six years its proposal, we were able to overcome the biggest obstacle and achieve commercialization.

We put together an in-house proposal for entering the highly promising carbon fiber-reinforced prepreg market as part of a new product planning effort and commenced development. We soon realized that the road to commercialization would be a long one if DIC was to go it alone. We approached the Industrial Technology Center of Fukui Prefecture in 2016 and Seiren in 2017 to undertake a joint project with the aim of accelerating development. Even with two partners, however, the way forward was anything but flat. There even came a point when, staring at the mountain of prototype resins that had come to nothing, I felt pretty bleak about the future of the project. For that reason, I was truly pleased when the work of so many colleagues to make improvements enabled us to begin providing samples in 2021.

Currently, we are working hard to realize the official launch of *DICARBO*® LF, sharing information on challenges faced by customers in multiple industries. I am confident that we will soon be able to show CFRP automotive parts and other products made with *DICARBO*® LF at exhibitions and elsewhere.



Manager, A-1 Project, Automotive Business Unit, Sakai Plant, DIC Corporation **Tomoaki Shinchi**

KEY PERSON from DIC

We are striving to encourage the widespread adoption of CFRP by focusing on reducing energy consumption attributable to production.

The response to our news releases, as well as to our participation in exhibitions and digital marketing efforts, has been immense from both the domestic and overseas markets. In addition to mobility, we are promoting sales to sports equipment, electronics and electrical appliances, civil engineering and multiple other industries. DIC is a latecomer to the market for carbon fiber-reinforced prepreg, so it is not easy for us to encourage companies to switch from conventional products to *DICARBO*® LF, but our customers have generally been interested in saving energy so this is the angle we have used to propose this product.

DICARBO® LF is also a strategic choice for customers who are considering using carbon fiber-reinforced prepreg to develop new CFRP products and we will provide whatever support we can by leveraging the technologies and personal connections we have cultivated in the development of this innovative product. We are determined to clear the obstacles ahead to realize the official launch of *DICARBO*® LF and look forward to the day when it becomes the dominant next-generation carbon fiber-reinforced prepreg.



Manager, A-1 Project, Automotive Business Unit, New Business Development Headquarters, DIC Corporation **Naoko Nakajima**

Stakeholder Perspective



I look forward to this achievement leading to the realization of new molded products made with CFRP.

When DIC approached us, we had been working to develop carbon fiber-reinforced prepreg sheets that leverage our tow spreading technologies for many years but had not done anything in the area of resin development. For this reason, we were pleased with DIC's proposal for producing these sheets with a novel resin and that the joint project would also involve a company based in Fukui Prefecture.

In terms of the resin's behavior, obtaining stable, high-quality prepreg sheets was a challenge, but the researchers involved in the project were tenacious and positive and succeeded in achieving commercialization. On behalf of the Industrial Technology Center of Fukui Prefecture, I am delighted at this achievement. We are confident that this will lead to the realization of a wide range of new molded products made with CFRP.



General Manager,
New Industrial Creation R&D Department,
Industrial Technology Center of Fukui Prefecture
Kazumasa Kawabe

Contributing to the Realization of a Circular Economy

I Social Imperatives and a Circular Economy

Population expansion and economic growth, together with an improvement in living standards are, heightening issues such as resource depletion and marine plastics. As a result, awareness of the importance of realizing a circular economy is rising, as is the need to establish business models that do not depend on the consumption of resources.

Since the Basic Act on Establishing a Sound Material-Cycle Society came into force in 2000, Japan has taken decisive steps to decrease the volume of waste disposed of and increase the waste recycling rate. In particular, the Act emphasizes minimizing environmental impact by curbing waste generated, as well as by promoting the recycling of underground resources in discarded waste, thereby lowering consumption of such resources.

Worldwide, awareness of the need to reconsider the excesses of capitalism and reevaluate modern society's mass production, mass consumption paradigm has increased rapidly in recent years. This has heightened the urgency of shifting to a new system whereby waste is eliminated and resources are circulated.

In response, in 2019 Japan formulated the Resource Circulation Strategy for Plastics and announced milestone targets for 2030. Under this strategy, specific efforts from April 2022 will focus on the use of plastic materials. To date, a wide range of entities have enforced the Act on Promotion of Resource Circulation for Plastics at all stages, from product design through to disposal, to promote the recycling of plastics.

In 2020, the European Commission announced the European Green Deal, an European Union-wide economic growth agenda. The concurrently formulated Circular Economy Action Plan—a major building block of the deal, for which a new package of measures was recently introduced—seeks to realize an EU that is more competitive, as well as cleaner, and to advance job creation. This has accelerated efforts to reduce resource consumption and promote decarbonized businesses and spurred efforts by individual EU member countries to put forward related legislation.

Against this backdrop, the DIC Group, a leading global presence in the food packaging market, views advancing efforts to respond to a circular economy as one of its key sustainability strategies, as set forth in the new DIC Vision 2030 long-term management plan. Looking ahead, the Group will step up efforts to develop and implement concrete plans for implementing this strategy.

I Grasping and Reducing Environmental Impact from the Perspective of Product Life Cycles

Effective resource recycling demands an approach that takes into account the entire life cycle of products. For the DIC Group, this means understanding the environmental implications not only of its own business activities but also that of all parties across the supply chain, including suppliers, customers, consumers and recycling companies. Accordingly, the Group is working to grasp the impact of its products from the perspective of product life cycle, advancing initiatives with a focus on the "5Rs" (Reuse, Reduce, Recycle, Redesign and Reduce CO₂*), as well as acting to curtail waste discharged from production facilities and offices, and guarantee environment-friendly procurement practices, with the objective of reducing total environmental impact.

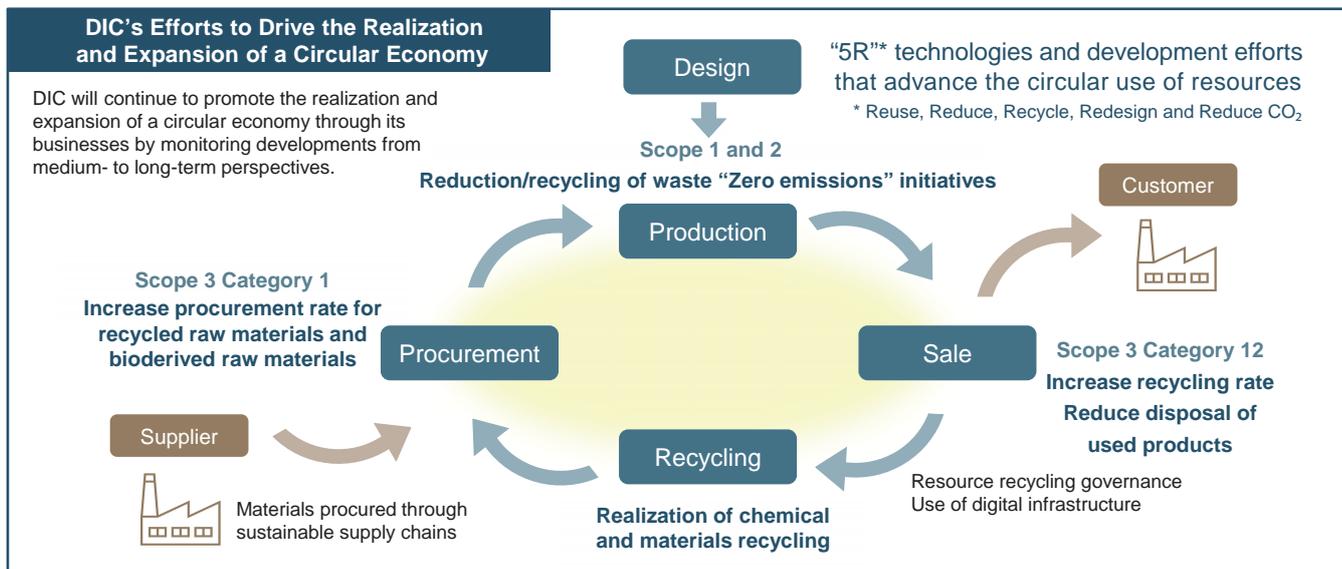
* Group company Sun Chemical defines the fifth "R" as "Renew." The DIC Group as a whole uses the broader "Reduce CO₂."

I Designing Products with Consideration for a Circular Economy

Economic rationality is indispensable to the effective promotion of resource recycling. Rather than treating end-of-life products as waste, it is crucial to take various steps to ensure they are recognized once again as having value. For this reason, manufacturers must endeavor to provide recyclable products at the lowest possible cost, while buyers must be willing to pay a fair price. The DIC Group is incorporating the 5Rs from the product design stage by expanding use of biomass, prolonging useful product life, shifting to mono-materials and emphasizing recyclability. By partnering with customers and recycling companies, the Group is also striving to ensure economically rational product life cycles, including by improving the quality of recycled resources and minimizing costs associated with reuse and recycling, and to build business models with a low environmental impact.

I Collaboration with Stakeholders

Working with partners is essential to reduce the environmental impact of DIC Group products. At the procurement stage, cooperating with suppliers makes it possible to reduce CO₂ emissions and consumption of terrestrial resources, as well as to source low environmental impact raw materials. When products and services are used, it is important to discuss needs with customers and encourage them to choose products that are both economical and have a low environmental impact. To this end, it is necessary to convey information on products in an easy-to-understand manner and join forces with customers to analyze and improve the environmental impact of their operations. It is also critical to encourage national and industry associations to create standards and incentives that take into account the need to lower environmental impact. By thus collaborating with stakeholders, the DIC Group strives to reduce both its own and society's impact on the environment.



The DIC Group's Obligations

<p>Reduce industrial waste (For more information, please see page 66.)</p>	<p>Reduce industrial waste and advance the recycling and reuse of materials by promoting "zero emissions" initiatives</p> <p>The DIC Group in Japan grasps processes for managing industrial waste, from generation to discharge by production facilities, intermediate treatment and final disposal as landfill, and sets targets for volume discharged and resource recycling rate. Viewing the reduction of industrial waste disposed of as landfill as a key challenge, domestic Group companies work actively to recycle cinders, dust and sludge, among others, into roadbed materials and raw materials for cement, use thermal recycling to recover waste heat and minimize production losses by increasing throughput yields.</p> <p>Overseas, DIC Group companies strive to ensure the disposal of industrial waste in a manner that complies with national and regional legal and regulatory requirements, as well as to minimize industrial waste through the voluntary recycling and reuse of materials. Going forward, the Group will also seek to implement common global initiatives.</p>
<p>Manage water resources (For more information, please see page 66.)</p>	<p>Promote the conservation and effective use of water resources</p> <p>With population and economic growth bolstering living standards around the world, global demand for water is expected to rise further going forward, as a result of which areas experiencing water shortages are likely to expand. The DIC Group sees water as essential to its manufacturing processes, that is, to heating and cooling, washing, chemical removal and wastewater drainage facilities. Accordingly, the Group recognizes the management of water resources to be a crucial social imperative and promotes various initiatives designed to ensure efficient water use and appropriate treatment of wastewater, as well as to assess water risks at its production sites around the world, thereby reducing its environmental impact.</p>
<p>Promote initiatives across the value chain</p>	<p> 海洋プラスチック問題対応協議会</p> <p>Japan Initiative for Marine Environment (JaIME) was established in September 2018 with the support of five chemical industry associations and comprises 50 of Japan's principal chemicals manufacturers and associations. JaIME recognizes that marine plastics is an issue that the chemicals industry should take the lead in addressing in accordance with the spirit of Responsible Care. The DIC Group participates and makes proposals regarding a variety of JaIME initiatives, including arranging and disseminating information, addressing trends in the domestic market, engaging in outreach to Asia and accumulating scientific knowledge.</p> <hr/> <p> Japan Clean Ocean Material Alliance</p> <p>In line with the CLOMA Vision, which calls for the building of a platform for accelerating innovation aimed at resolving the issue of marine plastics, the Japan Clean Ocean Material Alliance (CLOMA) is fostering the development of "Japan model" technologies that will decrease such plastics through business matching, as well as supporting the propagation of such technologies in Southeast Asia. The DIC Group has achieved noteworthy results through business matching, collaborating with a customer to commercialize a chemical recycling technology for polystyrene.</p> <hr/> <p> Circular Economy for Flexible Packaging</p> <p>Circular Economy for Flexible Packaging (CEFLEX) is a collaborative European consortium of companies, associations and organizations representing the entire flexible packaging value chain. CEFLEX seeks to create a collection, sorting and reprocessing infrastructure for post-consumer flexible packaging by 2025 with the aim of building a circular economy for this sector. Through the participation of Group company Sun Chemical, the DIC Group will work to ensure a grasp of information and trends pertaining to European collection and sorting systems and regulations, increasingly a subject of debate, with the goal of contributing to the realization of a circular economy.</p>

Work Style Reforms: Activities of the WSR 2020 Committee



Message from the Executive Vice President

With efforts to respond to the protracted COVID-19 pandemic, as well as to measures aimed at tackling climate change by realizing carbon neutrality and at ensuring the achievement of the SDGs, increasingly required at the national, regional and corporate levels, the roles that companies are expected to play are undergoing major changes.

With the aim of addressing such key social imperatives, the DIC Group has announced a redefined vision statement—“We improve the human condition by safely delivering color and comfort for sustainable prosperity—*Color & Comfort*”—and a new long-term management plan, DIC Vision 2030.

To fulfill the promise of our redefined vision statement, it is crucial that the employees responsible for driving the Group forward share our vision for the future and work as one to help us evolve as a corporate group that contributes to the realization of a healthy global environment and a sustainable society. To this end, it is essential that we maximize the added value the Group provides by ensuring each and every employee enjoys job satisfaction and is able to reach their full potential. These are the objectives of the Work Style Revolution (WSR) 2020 Committee.

With the aim of achieving the goals of DIC Vision 2030, the Group will further strengthen necessary investments in its human capital, that is, each and every one of its employees, which it recognizes as its most important resource.

Toshifumi Tamaki Executive Vice President,
Chairman, WSR 2020 Committee

| WSR 2020

Fiscal year 2020 marked a major turning point in the DIC Group's exploration of potential new work styles. Positioning the year as the inaugural year of reforms, the Group launched WSR 2020 as a project targeting the development of unique new work styles to enhance job satisfaction and productivity. Specific initiatives include not only revising existing systems and creating new systems and infrastructures but also working to enhance the awareness and conduct of individual frontline employees.

With the aim of fostering diverse employees who are both motivated and productive, the WSR 2020 project was structured around three central themes: Job satisfaction improvement reforms, workplace reforms and process reforms. These three themes and related initiatives are described below.

| Job Satisfaction Improvement Reforms

The ideal DIC Group workplace is one that embodies The DIC Way by encouraging enthusiasm about taking on various challenges, evaluating performance fairly and recognizing personal value. The Group is promoting various reforms to improve job satisfaction in line with key themes: Create work environments that empower employees to reach their full potential, appropriately evaluate employees for taking on challenges and for achievements, and create a system that rewards them to the maximum degree possible; and support career development for individual employees based on a performance-oriented approach. Human capital management, as outlined in DIC Vision 2030, emphasizes the fact that a company's key players are its employees. DIC will continue to roll out measures that support the activities of each of its key players and inspire job satisfaction.

Reforms to Improve Job Satisfaction (Beginning in Fiscal Year 2022)

Theme	Outline	Details
Diversity	Pursue diversity by employing a broad spectrum of individuals without regard to such considerations as age, nationality or gender, maintaining awareness of the importance of inclusion and mutual respect.	In addition to ongoing initiatives to promote career opportunities for women and the hiring of foreign nationals, in fiscal year 2022 DIC will begin implementing initiatives aimed at uncovering individual strengths and talents, foster a corporate culture that emphasizes mutual respect and enhance teamwork.
Inner branding	Nurture a sense of unity and bolster job satisfaction by communicating information on distinctively DIC employee conduct that complies with The DIC Way in an easy-to-understand manner.	Through the dissemination of more in-depth everyday information on, for example, employee activities and internal systems, DIC is working to raise awareness of what makes DIC unique and to evoke a shared sense of being part of the DIC family that motivates employees to act on their own initiative.

Theme	Outline	Details
Communication	Focus on communication between superiors and subordinates, demonstrating that empathy can lead to compromise and how effective methods of communicating can enhance job satisfaction.	Provide training and coaching on one-on-one communication.
Career support	Provide employees with opportunities to design their own careers, thereby boosting both professional skills and job satisfaction.	Introduce "self-career dock" training and make use of external career counselors.
Annual surveys to gauge sense of belonging	Enhance the visibility of and quantify employees' enthusiasm for their work and use this information to promote various internal organizational development efforts.	Conduct an employee engagement survey, analyze results and implement measures to lift employee enthusiasm.
New qualification-based remuneration and evaluation systems (to commence in fiscal year 2022)	Ensure the availability of multiple career paths that accommodate a wide range of duties and roles, thereby creating qualification-based systems that are similar to a job-oriented system.	

VOICE We work to communicate the attractiveness of DIC to improve employee motivation.

As part of our inner branding initiative, we are disseminating information internally under the heading "DIC Value: Better Understanding the Company's Personnel and Employee Welfare Systems." DIC has earned positive evaluations for its human resources and sustainability frameworks from a variety of assessment organizations. However, looking internally there were fears that DIC's appeal was not being communicated adequately. Our goal is thus to provide a range of useful information to employees that will further enhance their appreciation of and affection for the Company. The topic that has received the greatest response to date was a special feature on childcare leave programs for male employees. In addition to introducing leave programs, we included actual comments from employees who have made use of these programs and their partners, which I think employees empathized with.

I look forward to being able to foster a sense of unity by showcasing different themes that underscore DIC's positive features and incorporate actual comments from employees through published articles and online events. I am proud to work for DIC and will continue to provide information aimed at increasing job satisfaction for all of my colleagues.



HR Group, General Affairs and HR Department **Kaori Kanbayashi**

Workplace Reforms

To accommodate the rapidly expanding use of telework arrangements as a result of COVID-19, the DIC Group has taken steps to build an infrastructure, including networks and security devices, to ensure safety and productivity. The Group will continue working to reinforce this infrastructure to help individuals and departments/divisions and to improve employees' practical skills in leveraging digital technologies.

Reforms to Enhance Workplaces (Beginning in Fiscal Year 2022)

Theme	Outline	Details
Office remodeling	Promote an open plan layout at corporate headquarters and the establishment of satellite offices.	Support work styles that enable employees to choose the location, functions and environment that best suit their particular work. Regarding the open plan layout at corporate headquarters, design zone-specific facilities and environments appropriate for a central office and pursue the creation of a central office that is both functional and attractive and that employees will choose as appropriate for in-office work.
Casual dress code	Foster a corporate culture that emphasizes mutual respect and acceptance of diversity by promoting a casual dress code at corporate headquarters, branches and sales offices.	Introduce Casual DIC, a framework that allows each individual to freely choose their work attire within certain parameters and with consideration for time, place and occasion.
Improvement of practical skills in leveraging digital technologies	Further enhance productivity through the use of digital technologies and data.	Develop rank- and role-specific training programs to raise employees' minimal digital skills level. Appoint a DX leader in each business area to promote departmental and Companywide DX initiatives and strengthen the digital capabilities of human resources.

VOICE We are working to create better work environments for employees.

Owing to the pandemic, DIC's corporate headquarters and branch offices shifted to the sort of hybrid work style incorporating remote and on-site work that has become common everywhere. This change provided an opportunity to take a close look at various aspects of Group workplaces, which we had never done before, and rethink the functions that are really needed in today's offices. We asked ourselves what sort of workplace would truly be conducive to our new work style and help bolster productivity.

What was particularly difficult was that the answer to these questions was not simply an extension of efforts we had made to date. We had to start again with a blank slate. So while there were a lot of challenges, at the same time it was an interesting and rewarding experience.

Thanks to the cooperation of colleagues, we are now working to realize offices that make employees want to work on-site. I hope everyone is looking forward to the new offices.



HR Group, General Affairs and HR Department **Masatoshi Tsumanami**

| Process Reforms

Alongside efforts to bolster job satisfaction and create workplaces that empower employees to fully demonstrate their capabilities, the DIC Group is advancing a project that involves a thoroughgoing review and simplification of existing work styles and rules to ensure that individual and cross-departmental operations are seamless and automated. The Group is also promoting the standardization of business processes and data, creating a cycle that permanently improves the productivity of individuals, departments/divisions and the Group as a whole. Additionally, efforts are also being aligned with ongoing digitalization measures to maximize the performance of the entire DIC Group.

Theme	Outline	Details
Digital business infrastructure	Build a global digital infrastructure and continuously update business processes and rules.	Realize standardized, automated and seamless operations by simplifying and promoting consistent business processes and rules across all departments.
Stronger competitive foundation	Improve efficiency through the digitalization of operations and promote the optimization of the entire value chain.	Advance digital marketing, smart production facilities and supply management from the perspective of total, rather than department-specific, optimization.
Efficiency of daily operations	Streamline time-consuming daily tasks.	Review approval procedures and approaches to conducting meetings. Improve efficiency and lessen workload by simplifying approval procedures, and by ensuring a quantitative grasp of and setting new rules for meetings conducted.

VOICE Going beyond individual work efficiency, we are working to achieve optimization for the entire Group.

In January 2022, DIC launched the CONNECTUS Project with the aim of building a global digital infrastructure and developing new business processes. The name of this project is meant to encapsulate DIC's commitment, operating in an unpredictable era and a rapidly evolving environment, to adapting flexibly to change by having the optimal combination of human resources with digital capabilities in the right places, thereby ensuring it remains innovative, agile and effective. Until now, I have emphasized improving the efficiency of my own work, viewing digitalization as merely the automation of manual tasks. However, as the person in charge of purchasing under this project I have had to broaden my focus to include asking questions such as "Is this task necessary in the first place?", "What is the relevance of this particular business process?" or "Can we do this the same way overseas?"

Going forward, we will continue working to achieve dramatic improvements in the productivity of individual employees, departments/divisions, companies and the DIC Group as a whole. We will do this by promoting reforms from the perspective of overall optimization, rather than simply seeking to digitalize existing practices and business processes.



CONNECTUS Project, Information Systems Department **Miyuki Tajima**

In fiscal year 2022, the WSR 2020 project was given committee status and renamed the WSR 2020 Committee, to ensure reforms in these three categories are implemented successfully across the entire Group. The committee not only gauges the effectiveness of measures but also discusses the existence of other related issues that need to be addressed or measures that should be implemented, and includes DIC's President and CEO Kaoru Ino, as well as designated executive officers, to ensure initiatives aim to improve job satisfaction and productivity Groupwide.

A Message from the Head of the ESG Unit



We involve all employees in the promotion of sustainability initiatives.

Kuniko Torayama

Executive Officer
Head of ESG Unit, In Charge of Diversity

Beginning in fiscal year 2022, the DIC Group has positioned the promotion of sustainability as a core management strategy, reiterating its commitment to stepping up the implementation of sustainable prosperity initiatives in DIC Vision 2030. This plan sets forth two central goals: “Establish a business portfolio that contributes to sustainability for society” and “Help achieve sustainability for the global environment and for society.” The Group has identified and will concentrate its allocation of management resources in five priority business in which it will leverage its competitive strengths to help realize a society that is green, digital and QOL-oriented. In addition, DIC Vision 2030 also calls for DIC to mature as a unique global company that is trusted by society by reinforcing management of its human capital to boost the value thereof, recognizing its employees as its most important resource. I look forward to the ESG Unit, of which I am in charge, working with the Corporate Strategy Unit to drive sustainability strategies forward in tandem with business strategies. The scale of sustainability initiatives is much greater than in the past, as is enthusiasm for their implementation. We will continue seeking to improve the effectiveness of our efforts by taking on board key social imperatives and involving all DIC Group employees.

Advancing Diversity

The basic policy of DIC Vision 2030 is “Safely delivering Color & Comfort for sustainable prosperity to enhance shareholder value and long-term corporate value.” One result of this new policy is that employees have become more aware of the pursuit of social value as an issue that affects them and have come to have clear expectations regarding the outcome of sincere efforts. Accordingly, with a keen awareness of diversity, at corporate headquarters we are enhancing human capital by supporting employee growth, as well as shifting to work styles that are more flexible and suited to individual needs. Measures such as these, spearheaded by the Work Style Revolution (WSR) 2020 Committee, will also help drive further innovation, which will in turn enable us to contribute to the resolution of social imperatives, thereby creating a continuous cycle of positive outcomes.

The Growing Importance of Sustainability Strategies

As already mentioned, one of the two central goals of DIC Vision 2030 is to help achieve sustainability for the global environment and for society. One way we are attempting to achieve this goal is by working to increase the percentage of products in our portfolio that qualify as sustainable to 60% by fiscal year 2030. (For more information, please see page 19.) In fiscal year 2020, sustainable products accounted for 40% of our portfolio, so our target is still a ways off. By steadily implementing plans formulated in collaboration with employees at our bases in the Americas and Europe, as well as in Asia, we will continue striving to achieve our 60% target and to support a sustainable society.

Regarding the urgent challenge of addressing climate change, we have set an ambitious target for reducing CO₂ emissions by 50% from the fiscal year 2013 level by fiscal year 2030. We are promoting various related initiatives, including shifting to green power and reviewing production processes, recognizing that achieving a 50% reduction will require ingenuity and leveraging our position as a manufacturer of fine chemicals. In addition, we are promoting efforts to help realize a circular economy. We acknowledge that there are significant differences in efforts being pursued between Europe, which is engaged in a variety of cutting-edge initiatives, and other regions. We believe that social infrastructure is essential to the achievement of the targets that we have set. DIC Group companies around the world will continue to learn from the examples set by regions pursuing advanced initiatives to steadily expand our efforts.

In December 2021, we held a presentation to introduce Group ESG initiatives. This reaffirmed our awareness of the value of opportunities to communicate directly with stakeholders to, for example, introduce environment-friendly products developed and provided by the DIC Group. Going forward, we will step up efforts to disseminate information and communicate effectively with both internal and external audiences, including through regular related briefings.

Overview of Materiality

With the aim of ensuring it achieves the targets of its DIC Vision 2030 long-term management plan, which kicks off in fiscal year 2022, the DIC Group has once again identified material issues, that is, issues with the potential to significantly affect its performance.

Abstracting Material Issues and Identifying Priority Materiality Themes

The DIC Group conducted its first materiality assessment in fiscal year 2019. In fiscal year 2021, the Group once again abstracted material issues, referencing GRI's G4 Sustainability Reporting Guidelines—considered the global standard—and items weighed by ESG assessment organizations, and also considering issues delineated in DIC Vision 2030 and The DIC Way, as well as social imperatives. Based on the results of this process, which also involves discussions with objective outside experts, and extensive deliberations by the Sustainability Working Group, which is responsible for the implementation of concrete strategies, and the Sustainability Committee, which functions as an advisory body regarding sustainable management, the Group identified eight material issues.

	Material issues	Principal related initiatives
Material issues (issues with the potential to significantly affect the DIC Group's performance)		
1	Transformation to a business portfolio that contributes to sustainable prosperity for society	Shift to a business portfolio focused on five priority business areas that deliver social value (set forth in DIC Vision 2030) through the promotion of efforts to reinforce management of human capital, establishment of a more global management configuration, and promotion of IT and DX—identified as material issues—and by enhancing the technology platform and making strategic investments.
2	Contribution to the realization of a carbon-neutral society	Work to reduce CO ₂ emissions in Scope 1, 2 and 3 (purchase of raw materials, etc.) and to lower carbon footprint; use the DIC Sustainability Index to promote CO ₂ emissions reductions in the market and provide products and services that contribute to decarbonization.
3	Creation of new businesses with the potential to become mainstays	Identify areas at the intersection of ESH-related issues/social changes and the DIC Group's core competencies and foster new businesses with the potential to become mainstays by enhancing the technology platform and making strategic investments.
4	Promotion of efforts to maximize the value of human capital	Build a strategic human resources portfolio that maximizes the value of human capital through medium- to long-term efforts to foster human resources, ensure mobility, and improve engagement and organizational cohesiveness, as well as ongoing, basic efforts to promote diversity and inclusion, and bolster job satisfaction.
5	Establishment of a more global management configuration	Advance global management governance, efforts to foster and strengthen management personnel, and create a global enterprise resource planning (ERP) system.
6	Promotion of DX	Promote transformation of the corporate culture and organization by leveraging digital technologies and data to innovate business processes, work styles and business models.
7	Response to a circular economy	Foster products that contribute to the 5Rs, help reduce CO ₂ emissions in categories 1 and 12 of Scope 3, and advance chemical and material recycling, thereby contributing to the realization of a circular economy.
8	Promotion of efforts to ensure the stable procurement of raw materials	Promote awareness of the current status of various raw materials of concern (i.e., subject to country risk or various supply failure risks, or for which there are issues regarding sustainability, including environmental soundness).
Cornerstones of business continuity		
1	Compliance	
2	Security and disaster prevention, occupational safety and health	
3	Quality management	
4	Respect for human rights	

DIC Group Management Issues Recognized in the Identification of Priority Materiality Themes

The DIC Group has recognized each of the following as management issues with the potential to impact management that will require continuous efforts to strengthen/address through its business activities: Product stewardship,* reduction of environmental impact (emissions into air and water), ability to optimize capital efficiency, strengthening of partnerships, communication with customers and markets, business continuity (business continuity planning (BCP)), political and geopolitical change (country risk), information security, intellectual property strategies, contribution to local communities, response to tax-related risks, response to pandemics, response to currency fluctuations, and realization of colorful and comfortable lifestyles.

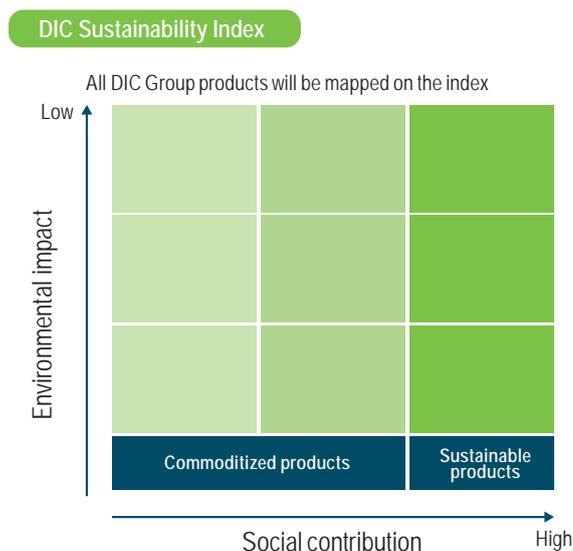
* The DIC Group identified product stewardship as a material issue in its fiscal year 2019 materiality assessment. However, thanks to the Group's steady progress in the implementation of the Global Chemical Information Project (GCIP) and the full-scale deployment of the DIC Sustainability Index, it is not among material issues identified in fiscal year 2021.

For each material issue identified in fiscal year 2021, the DIC Group has set key performance indicators (KPIs) and reported the progress of related initiatives. The Group will continue working to address material issues from a long-term perspective, positioning it to drive the expansion of its businesses, with the aim of achieving the targets of DIC Vision 2030 and ensuring sustainable growth further into the future.

DIC Sustainability Index

Promoting Steady Business Portfolio Transformation

The DIC Sustainability Index is a tool designed to make its product mix more resilient. From the perspective of building a sustainable society, DIC will clarify the sustainability of its inks, pigments and other products by quantifying social contribution issues (horizontal axis) and environmental impact (vertical axis). Mapping all DIC Group products on the index will make it possible to formulate appropriate measures for the transformation of its business portfolio and at a certain stage elucidate the results thereof. The index will further underpin the Group's efforts to help realize a sustainable society by ensuring it meets the DIC Vision 2030 target of increasing the portion of net sales accounted for by sustainable products to 60%, thereby ensuring its resilience to various changes in the external environment.



Comprehensive Efforts to Address the Critical Issue of Climate Change

While a broad range of products have enhanced the convenience and affluence of modern lives, it is also true that the production thereof negatively impacts the global environment. A particularly pressing concern is climate change. It has become increasingly obvious that the earth will not be sustainable unless decisive steps are taken to achieve ambitious targets. In the DIC Group's case, these are a 50% reduction of Scope 1 and 2 CO₂ emissions from the fiscal year 2013 level by fiscal year 2030 and the achievement of carbon neutrality—net zero CO₂ emissions—by fiscal year 2050.

The DIC Sustainability Index expresses the greenhouse gases generated in the manufacturing process as emissions per unit of production, measured as emissions of CO₂ per tonne in kilograms. One trend that became apparent through mapping is that emissions per unit of production are generally higher for items that require a significant amount of energy during production, such as pigments, than for those that use relatively little energy during production, such as inks. This process also revealed that there can be significant differences in results for products depending on production facility. For a particular type of pigment, for example, the difference from one plant to another was as much as 1.5 times. So, even if a product is manufactured using the same process—in other words, the same amount of energy—as at another production facility, emissions per unit of production can be lowered by increasing the use of energy with lower greenhouse gas emissions, such as renewable energy. Taking into account various issues, including the availability of energy with low greenhouse gas emissions, regional differences in access to such energy, and the relocation and consolidation of production facilities, the DIC Group set ambitious reduction targets and will promote comprehensive efforts to ensure their achievement.

Focus on Products that Demonstrate Unique Competitive Strengths

How much does a product contribute to society? The horizontal axis of the DIC Sustainability Index makes it possible to judge a product's contribution to society by determining whether it is a distinctively DIC offering or demonstrates the Group's competitive strengths. The DIC Group believes that all of the products it provides around the world contribute to society in some way. In some instances, however, the availability of other similar products inevitably limits the value—including the degree of its social contribution and the stability and sustainability of supplies—delivered by the Group's offerings. As a manufacturer of fine chemicals, the Group believes that it can contribute to a more sustainable society by focusing on products that demonstrate its unique competitive strengths and by further enhancing such strengths, and has thus related targets under DIC Vision 2030.

Modern life presents a number of complex dilemmas. Climate change is an existential threat that requires urgent action, but in our effort to curb climate change we cannot suspend activities essential to human health and global civilization. The DIC Group believes that it is best positioned to demonstrate its competitive strengths in areas that will make society more green, digital and QOL-oriented—in other words, areas that help address climate change, make technological progress more accessible, and support health and safety. These are the areas in which the Group can truly leverage its unique capabilities and make important contributions to the resolution of social imperatives.

The DIC Group's sustainable products contribute to society in multiple, overlapping ways, but in a general sense they enhance QOL. These include products that improve the heat shielding and insulating performance of structures will increase accessibility to healthy living environments while at the same time helping reduce greenhouse gas emissions and products that help ensure safety and availability of water—for example, PPS compounds used in public water supply pipes, unsaturated polyester resin used in the repair and maintenance of underground pipes, and hollow-fiber membranes used to filter water and extend the life of industrial equipment—support daily life. Going forward, the Group will continue working to provide distinctively DIC products that are both sustainable and contribute to the realization of a sustainable society.

Corporate Governance

Basic Approach to Corporate Governance

The DIC Group defines corporate governance as a mechanism 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 with its shareholders, customers and other stakeholders and enhancing corporate value, the Group also promotes ongoing measures to reinforce its management system and ensure effective monitoring thereof.

Policy on Corporate Governance

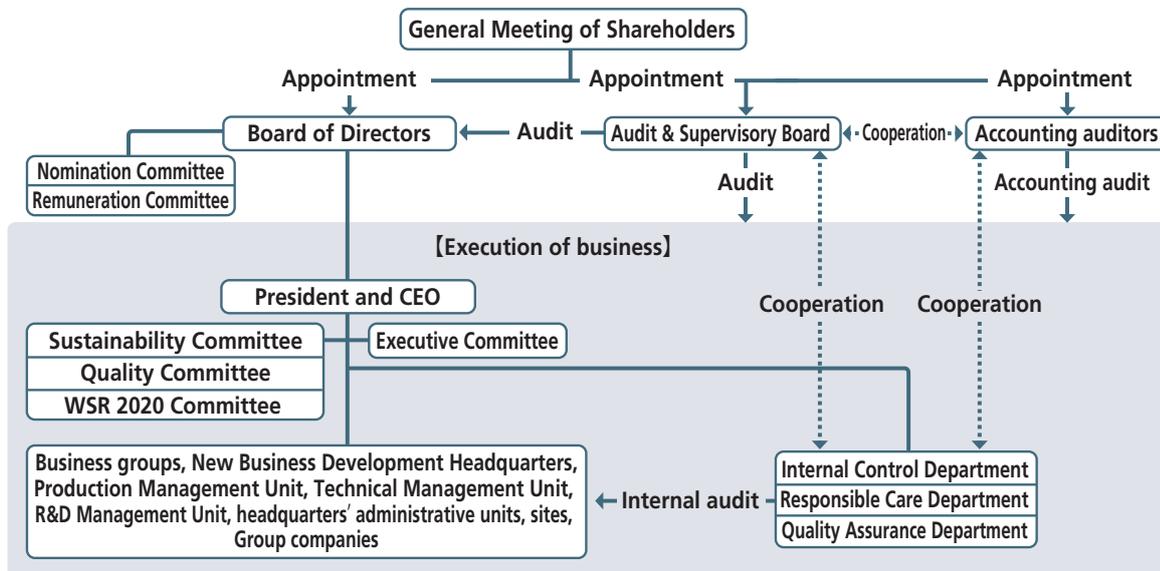
DIC has prepared a Policy on Corporate Governance, which it has published on its global website.

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

Corporate Governance System

As a company with internal auditors, DIC has a Board of Directors and an Audit & Supervisory Board. The Company has also instituted an executive officer system and has established a Nomination Committee, Remuneration Committee, Executive Committee, Sustainability Committee, Quality Committee and Work Style Revolution (WSR) 2020 Committee.

Corporate Governance System



1 Board of Directors

From the perspective of making business decisions in a timely manner and reinforcing corporate governance, the Board of Directors consists of nine directors, three of whom are outside directors (one of whom is female). The Board typically meets once monthly to make decisions on matters stated in the regulations for meetings of the Board of Directors, as well as to receive status reports on the execution of business activities and supervise the execution of business.

2 Nomination Committee

To ensure objectivity in the nomination of directors, Audit & Supervisory Board members and executive officers, the Company has established the Nomination Committee, which provides recommendations to the Board of Directors regarding the appointment and dismissal of directors, Audit & Supervisory Board members and executive officers. The committee meets as necessary. At present, three of the committee's five members are independent outside directors, while the position of committee chairman is also filled by an independent outside director.

3 Remuneration Committee

To ensure objectivity in the determination of remuneration for directors, Audit & Supervisory Board members and executive officers, the Company has established the Remuneration Committee, which has been entrusted with responsibility for determining remuneration for directors and executive officers, among others. The committee meets as necessary. At present, three of the committee's five members are independent outside directors, while the position of committee chairman is also filled by an independent outside director.

4 Executive Committee

The Executive Committee was established as a body to advise on important matters related to the execution of business activities. In principle, the committee meets twice monthly. The committee consists of executive officers and others designated by the Board of Directors from among the president and CEO, the executive vice president, the heads of the units, and the general managers of the management units and product divisions. As part of the auditing process, one Audit & Supervisory Board member also attends committee meetings. Details of deliberations at meetings and the results thereof 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. The committee consists of executive officers and others designated by the Board of Directors from among the president and CEO, the executive vice president, the heads of the units, the general managers of the management units and product divisions, and the managing directors of regional headquarters. As part of the auditing process, one Audit & Supervisory Board member also attends committee meetings. Details of deliberations at meetings and the results thereof are reported to the Board of Directors.

6 Quality Committee

The Quality Committee reports on the status of DIC Group quality management and the progress of related initiatives, as well as deliberates Group quality policies, important measures and key issues. In principle, the committee meets once quarterly to report on the status and progress of quality management. The committee consists of executive officers and others designated by the Board of Directors from among the president and CEO, the executive vice president, the heads of the units, and the general managers of the management units and product divisions. As part of the auditing process, one Audit & Supervisory Board member also attends committee meetings. Details of deliberations at meetings and the results thereof are reported to the Board of Directors.

7 WSR 2020 Committee

The WSR 2020 Committee was established as a body to deliberate work style reform-related measures and investment plans, among others, with the aim of enhancing Group employee job satisfaction and productivity. In principle, the committee meets once quarterly. The committee consists of executive officers and others designated by the Board of Directors from among the president and CEO, the executive vice president, the heads of the units, and the general managers of the management units and product divisions. Details of deliberations at meetings regarding matters of particular importance and the results thereof are reported to the Board of Directors.

8 Audit & Supervisory Board

The Audit & Supervisory Board comprises four members, including two outside 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, Executive Committee and 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, the Company has established an Audit & Supervisory Board Members' Office, to which it assigns dedicated personnel to assist the Audit & Supervisory Board members in their duties.

The Company's three full-time Audit & Supervisory Board members have extensive experience in and knowledge of finance and accounting, which they are able to leverage in the performance of their duties. Full-time Audit & Supervisory Board member Hiroyuki Ninomiya oversaw corporate accounts at the Company for many years and was general manager of the Accounting Department and Head of the Finance and Accounting Unit. Outside Audit & Supervisory Board member Michiko Chiba is qualified as a certified public accountant and has engaged in the audit of companies for many years. In addition to providing expertise in corporate law, outside Audit & Supervisory Board member Keita Nagura provides tax accounting services pursuant to Article 51 of the Certified Public Tax Accountant Act.

9 Internal Auditing Department

The internal auditing department is charged with internal auditing, which includes monitoring the effectiveness of internal controls. In the Asia-Pacific region, the PRC, and the Americas and Europe, internal auditing is the responsibility of local auditing teams.

10 Accounting Auditors

The Company has engaged Deloitte Touche Tohmatsu LLC as its independent auditors. The Company 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.

Rationale Behind Current Corporate Governance System

The Company has instituted an executive officer system, a move aimed at separating decision making and implementation and thereby accelerating business execution and clarifying responsibilities. The Company has appointed three highly independent outside individuals to its Board of Directors and taken other steps to reinforce its monitoring of management's business execution. The Company also has a Nomination Committee and a Remuneration Committee, each of which includes three independent 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, conducts audits in liaison with the accounting auditors and the internal auditing department. This structure ensures the effective functioning of the Company's corporate governance system.

| System of Internal Controls

1 Status of the System of Internal Controls and the Establishment and Operation of a Framework for Risk Management

In striving to conduct its operations in accordance with The DIC Way, the DIC Group has prepared and operates a system of internal controls based on the Companies Act of Japan to ensure the appropriateness of its operations.

2 Basic Policy Toward Eliminating Demands by Antisocial Elements

This basic policy, which is 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 demands 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 legal counsel and the police to ensure the Company's responses are resolute. The Company 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

The Company currently has three outside directors and two outside Audit & Supervisory Board members. In addition to attending meetings of the Board of Directors, the three 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 the Company's corporate management. The two Audit & Supervisory Board members—one a certified public accountant and the other an attorney—advise management of the DIC Group from an expert, multifaceted and independent perspective, thereby helping to reinforce the auditing function.

2 Independence Standards for Outside Directors and Outside Audit & Supervisory Board Members

The Company has established standards for evaluating the independence of individuals to the position of outside director and outside Audit & Supervisory Board member. The Company's outside directors and outside Audit & Supervisory Board members are individuals who, based on these standards, are unlikely to have conflicts of interest with ordinary shareholders and who comply with criteria for the independence of directors and Audit & Supervisory Board members set by the Tokyo Stock Exchange.

3 Support System for the Outside Directors and Outside Audit & Supervisory Board Members

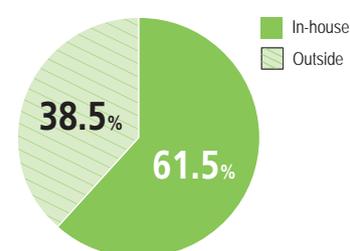
Prior to meetings of the Board of Directors, relevant materials are distributed to all directors, full-time Audit & Supervisory Board members, outside directors and outside Audit & Supervisory Board members. The officer in charge provides explanations of matters to be discussed to outside directors, while the full-time Audit & Supervisory Board members provide explanations as necessary to outside Audit & Supervisory Board members.

| Other Initiatives to Enhance the Corporate Governance System

1 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 and the need to manage its businesses in a manner that takes diversity into account, the Company also strives to ensure diversity in the Board's composition, including by appointing female directors. Two members of the Board of Directors—one outside director and one outside Audit & Supervisory Board member—are women.

Composition of the Board of Directors



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

	In-house	Outside	Total	Percentage of outside members
Directors	6	3	9	33.3%
Audit & Supervisory Board members	2	2	4	50.0%
Total	8	5	13	38.5%

Skills Matrix for Directors and Audit & Supervisory Board Members

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 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. The table to the right is a skills matrix summarizing the knowledge, experience and capabilities of current directors and Audit & Supervisory Board members.

Name	Position	Expertise/Experience									
		Corporate management	Finance/asset building	Legal affairs/risk management	International experience	Sustainability	IT/DX	Personnel/labor	Marketing/sales/purchasing	Technology/R&D	Production/quality
Masayuki Saito	Chairman of the Board of Directors	●	●		●		●	●			
Kaoru Ino	Representative Director President and CEO	●	●	●	●				●		
Toshifumi Tamaki	Representative Director Executive Vice President	●					●	●		●	●
Yoshihisa Kawamura	Director	●			●	●			●		
Takeshi Asai	Director Managing Executive Officer	●	●		●	●					
Shuji Furuta	Director Managing Executive Officer	●	●	●	●						
Kazuo Tsukahara	Outside Director	●		●	●			●			●
Yoshiaki Tamura	Outside Director	●			●	●			●	●	
Kuniko Shoji	Outside Director	●			●	●			●	●	
Hiroyuki Ninomiya	Audit & Supervisory Board Member (Full-time)		●	●	●		●				
Akihiro Ikushima	Audit & Supervisory Board Member (Full-time)			●		●		●	●		
Michiko Chiba	Audit & Supervisory Board Member (Independent)		●	●		●					●
Keita Nagura	Audit & Supervisory Board Member (Independent)		●	●		●		●			

2 Remuneration for Directors and Audit & Supervisory Board Members

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 achievement of individual targets; and stock compensation, which is linked to the medium- to long-term achievement of performance targets. Directors who serve concurrently as executive officers are eligible for bonuses and stock compensation, while other directors and outside directors are eligible for basic remuneration only. Remuneration for Audit & Supervisory Board members is determined in accordance with internal rules established by the Audit & Supervisory Board, with consideration given to ensuring a balance with remuneration for directors and prevailing market rates.

3 Evaluating the Effectiveness of the Board of Directors

The Company analyzes and evaluates the effectiveness of the Board of Directors annually via a self-evaluation conducted by directors and Audit & Supervisory Board members. In fiscal year 2021, all directors and Audit & Supervisory Board members were surveyed regarding self-evaluations, Board administration and other issues, and interviewed on an individual basis, with responses analyzed and evaluated by the Board of Directors.

Owing to the aforementioned efforts, it was confirmed that free and lively discussions had been held, led by outside directors and Audit & Supervisory Board members, and that appropriate deliberations had been conducted by the Board of Directors. In addition, regarding issues identified in the evaluation conducted in fiscal year 2020, it was judged that discussions pertaining to the formulation of the Company's DIC Vision 2030 long-term management plan had been enhanced through improvements such as the creation of multiple opportunities for explanation and deliberation. Accordingly, the effectiveness of the Board of Directors was confirmed.

In fiscal year 2022, the Company will seek to further bolster the Board of Directors' effectiveness by reviewing the progress of priority measures set forth in DIC Vision 2030, as well as by taking steps to strengthen the Board's supervision of internal controls and the risk management system on a global basis, as part of its ongoing effort to promote improvement.

I 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.



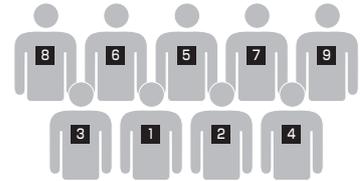
Directors, Audit & Supervisory Board Members and Executive Officers

(As of May 2022)

Directors



- 1 Masayuki Saito**
Chairman of the Board of Directors
- 3 Toshifumi Tamaki**
Representative Director
- 5 Takeshi Asai**
Director
- 7 Kazuo Tsukahara**
Director*
- 9 Kuniko Shoji**
Director*
- 2 Kaoru Ino**
Representative Director
- 4 Yoshihisa Kawamura**
Director
- 6 Shuji Furuta**
Director
- 8 Yoshiaki Tamura**
Director*



* Outside

Audit & Supervisory Board Members



- 1 Hiroyuki Ninomiya**
Full-Time Audit & Supervisory Board Member
- 2 Akihiro Ikushima**
Full-Time Audit & Supervisory Board Member
- 3 Michiko Chiba**
Audit & Supervisory Board Member*
- 4 Keita Nagura**
Audit & Supervisory Board Member*

* Outside



Outside Director Profiles

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Kazuo Tsukahara</p> <p>April 2008 Director and Managing Executive Officer, IHI Corporation
 April 2012 Representative Director and Executive Vice President, IHI Corporation
 June 2014 Advisor, IHI Corporation</p> <p>Yoshiaki Tamura</p> <p>January 2007 Executive Officer, Asahi Glass Co., Ltd. (currently AGC Inc.)
 March 2013 Representative Director and Executive Vice President, AGC Inc.
 March 2017 Executive Fellow, AGC Inc.</p> | <p>Kuniko Shoji</p> <p>June 2004 Executive Officer, Terumo Corporation
 June 2010 Director and Senior Executive Officer, Terumo Corporation
 June 2017 Advisor, Terumo Corporation</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Outside Audit & Supervisory Board Member Profiles

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Michiko Chiba</p> <p>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</p> | <p>Keita Nagura</p> <p>April 1998 Registered as an attorney (Osaka Bar Association); Joined Yodoyabashi Godo Law Office (currently Yodoyabashi & Yamagami Legal Professional Corporation)
 February 2002 Changed registration as an attorney to the Dai-ichi Tokyo Bar Association</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Value Creation Essentials
Value Creation Strategies
Value Creation Cornerstones
Data

Executive Officers



Kaoru Ino
President and CEO



Toshifumi Tamaki
Executive Vice President
Assistant to President and CEO



Naoyoshi Furuta
Managing Executive Officer
General Manager, Production
Management Unit



Masaya Nakafuji
Managing Executive Officer
Head of General Affairs and Legal Unit
In Charge of Osaka Branch and Nagoya
Branch



Kazuo Hatakenaka
Managing Executive Officer
Chairman, DIC (China) Co., Ltd.
Chairman, DIC (Shanghai) Co., Ltd.



Kiyotaka Kawashima
Managing Executive Officer
General Manager, Technical Management
Unit



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



Kiyofumi Takano
Managing Executive Officer
General Manager, New Business
Development Headquarters



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



Myron Petruch
Managing Executive Officer
President and CEO,
Sun Chemical Corporation



Takeshi Asai
Managing Executive Officer
Head of Corporate Strategy Unit
In Charge of Kawamura
Memorial DIC Museum of Art
Vice Chairman of the Board,
Sun Chemical Corporation



Shuji Furuta
Managing Executive Officer
CFO
Head of Finance and Accounting Unit



Takashi Ikeda
Managing Executive Officer
President, Functional Products
Business Group General Manager,
Composite Material Products Div.



Taihei Mukose
Executive Officer
Head of SCM Unit



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



Koji Asada
Executive Officer
Head of IT Strategy Unit
General Manager, DX Promotion Dept.



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



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



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



Yuji Kikuchi
Executive Officer
General Manager, Performance
Material Products Div.



Tomoyuki Tanaka
Executive Officer
General Manager, Corporate Planning
Dept.



Kuniko Torayama
Executive Officer
Head of ESG Unit
In Charge of Diversity

A Message from an Outside Director



I look forward to DIC employees emphasizing pride, as well as kindness and contentment, to take the Color & Comfort concept to a new level.

Yoshiaki Tamura

Outside Director

March 2013 Representative Director and Executive Vice President, AGC Inc.

March 2017 Executive Fellow, AGC Inc.

A Corporate Culture Rooted in Kindness and Contentment

When I took up the position of outside director in 2018, I was immediately struck by the basic atmosphere of kindness and contentment. Everyone seemed to be animated and to really enjoy what they were doing. I was wondering how a company with a history stretching back more than 100 years had succeeded in creating such a modern corporate culture. I concluded that the answer can be found in the Color & Comfort management vision. A vibrant, worry-free life is something people aspire to no matter where in the world they live. DIC is a company that seeks to provide Color & Comfort, so it makes sense that these concepts are reflected in its own corporate culture. More recently, I have been impressed by how quickly DIC moved to make necessary adjustments to cope with the COVID-19 pandemic.

Emphasizing Pride to Advance to the Next Level

In fiscal year 2021, DIC took the Color & Comfort concept to a new level by seeking to link it to the resolution of social imperatives, looking at whether we couldn't step up efforts to take on the challenge of entering new markets to better respond to ESH-related issues. In addition to recognizing the importance of each and every employee setting ambitious targets and having the fortitude and ability to translate ideas into action to ensure their achievement, the Company also understands the importance of being able to analyze what is lacking, seek assistance from a superior—whether by increasing personnel or budget—to course correct.

Personally, I have always believed in the importance of fun, trust and pride. DIC already has a strong philosophy of fun and trust. Going forward, I would like to see a greater emphasis on pride. By that I mean that I would like to see employees approach their work with pride in their abilities, a desire to show that they can handle whatever is thrown their way and the confidence that they will emerge on top. To this end, it is important for superiors to convey their expectations to their subordinates and clearly define duties, as well as to actively encourage communication.

The Key to the Future

In fiscal year 2021, the Colors & Effects business, formerly the global pigments business of Germany's BASF, and Italian adhesives and polymers manufacturer SAPICI S.p.A. joined the DIC Group. It is my hope that while maintaining its excellent corporate culture DIC will also continue to display leadership in guiding these new members of the team to achieve robust results. Developing a scenario for the Group's global strategies and accelerating the implementation of those strategies is crucial. Much like putting together an intricate jigsaw puzzle, such a scenario will encourage employees to approach their own roles with renewed enthusiasm, which in turn will inspire the active exchange of opinions among the Group's diverse human resources, a process of action and reaction that will yield innovative ideas. Pressing ahead with such efforts is the key to the future and will surely open exciting new doors for the DIC Group to evolve as a unique global company that is trusted by society. I pledge to continue leveraging my own capabilities to support everyone.

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.

Basic Sustainability Policy (Partially revised in March 2019)

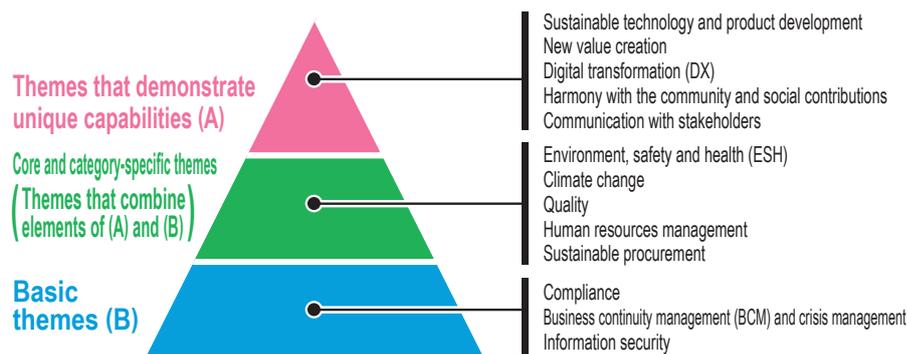
The DIC Group is dedicated to conducting its business while retaining a strong commitment to five key concepts: preserving safety and health, managing risks, ensuring fair business practices and respect for diversity and human rights, maintaining harmony with the environment and advancing its protection, 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

The DIC Group's sustainability framework comprises 13 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 a medium-term (fiscal years 2022–2025) policy and creates an annual activity plan for each of its key sustainability 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 business groups, product divisions, sites, and overseas and domestic DIC Group companies are charged with pursuing effective sustainability programs by formulating their own 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 promoting sustainability initiatives that align with 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. In addition to reporting periodically on the progress of initiatives implemented in line with the Group's sustainability themes, the committee is tasked with formulating sustainability themes and activity plans, reinforcing sustainability initiatives and deliberating on critical related matters. Effective from January 2020, the committee is chaired by the president.

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/>



Compliance

Toward Fair and Transparent Corporate Activities

WEB <https://www.dic-global.com/en/csr/philosophy/compliance.html>

SDGs Goal 16



QR 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

Initiatives to Promote Compliance

The DIC Group promotes compliance through the following initiatives:

① Legal training focused on improving compliance awareness is provided for employees at point of hire, when promoted and before transfer overseas. In addition, to promote awareness of the DIC Group Code of Business Conduct, e-learning related to the code, as well as to compliance, is provided in Japan, at DIC Asia Pacific and DIC (China), and in the Americas and Europe. In fiscal year 2021, legal training could not be implemented for Group employees because of COVID-19, but training regarding corporate governance and other themes was implemented in Japan for DIC executives and the presidents of domestic Group companies, among others.

② Compliance officers are appointed at all regional headquarters—DIC in Japan, Sun Chemical (the Americas and Europe), DIC (China) (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 2021, 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 also encompasses external hotlines that can handle reports of compliance-related 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.

Business Continuity Management (BCM) and Crisis Management

Reducing Business Risks and Preventing the Recurrence of Incidents

WEB <https://www.dic-global.com/en/csr/philosophy/bcm.html>

QR code



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 business continuity (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.

BCM in Fiscal Year 2021

While fiscal year 2021 was the second consecutive year in which the DIC Group did not suffer significant damage from natural disasters, decisive steps were once again required to curb the spread of COVID-19 and the Group continued working to implement effective measures in response to evolving circumstances.

Responding effectively to accidents and disasters depends on employees having a correct understanding of BCM and of how to properly execute DIC's BCPs. This in turn requires education and training. In an average year, training includes conducting workshops and map-based simulation exercises—originally developed for senior management—for headquarters task force members under the supervision and guidance of experts, as well as BCP-focused joint production division-site exercises.

In fiscal year 2021, DIC fully deployed the DIC BC Portal, a dedicated portal system to allow the sharing of information among the headquarters task force, production divisions and sites in the event of an accident or disaster. The year's headquarters task force training was based on a scenario assuming the widespread use of telework arrangements, making it necessary for the task force to operate exclusively via online meetings, and involved linking the task force with multiple production facilities, branches and other sites and using the Group's web conferencing system in tandem with the DIC BC Portal to ensure the smooth online sharing of information in the event of a disaster.

Improving the Effectiveness of BCPs and Preventing Them from Becoming Mere Formalities

The DIC Group works to refine the format of its BCPs to prevent them from becoming mere formalities. In fiscal year 2021, the Group adjusted its BCP format, taking into account the future evolution of Group companies, to comply with the requirements of ISO 22301, the ISO's standard for business continuity management systems. With the aim of bringing its BCPs closer in line with the ISO standard, the Group incorporated measures to counter issues that obstruct business continuity.

The DIC Group also conducts annual status update meetings attended by relevant executives to verify that the content of individual product division BCPs to ensure they remain relevant. The fiscal year 2021 status update meeting included examining measures for countering issues that obstruct business continuity and confirming updates.

Responding to New Infectious Diseases

DIC has prepared a headquarters task force manual and product division BCPs for responding to infectious diseases to guarantee it is fully prepared to respond to pandemics when they occur. However, because these assumed outbreaks of new strains of influenza they proved inadequate in dealing with COVID-19. Accordingly, the headquarters task force manual was revised significantly, as was the format for BCPs, to include general and universal measures designed to cope with new infectious diseases other than influenza.

Information Security

Initiatives to Ensure Information Security

WEB <https://www.dic-global.com/en/csr/philosophy/security.html>

QR code



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. To ensure swift responses to increasingly diverse cyber threats, the Group currently plans to deploy measures implemented in Japan to reinforce information security by enhancing its intranet security infrastructure and updating endpoint security systems in key overseas markets (the Asia-Pacific region, the PRC, Taiwan and the ROK.)

Regulations and Guidelines

In line with its Basic Policy on Information Security, the DIC Group updates its confidential information management regulations, which stipulate the scope of management, and related standards, rules and responsibilities, as well as its information management guidelines, which outline implementation procedures, on a regular basis and as required to ensure its ability to address new security risks in a timely manner.

The Group also creates new and revises existing rules as appropriate in response to the increasing prevalence of digital technologies and the shift to cloud-based computing. In fiscal year 2021, in response to widespread moves to discontinue the practice of sending password-protected encrypted attachments in an email and then sending a password to unzip the file in a second email (dubbed "PPAP*"), a security measure previously popular with Japanese companies, the Group revised related measures and corresponding guidelines. Enforcement of the new measures and guidelines commenced in January 2022.

* PPAP is an acronym for "Password-protected file," "Password," "Angoka" ("encryption" in Japanese) and Protocol." Japanese companies have been encouraged to discontinue the practice for security reasons.

Management Framework

The Information Security Committee, which is led by the head of the IT Strategy Unit, meets regularly (twice annually) as part of a system to facilitate the timely update of rules and guidelines to accommodate new technologies and risks, and to ensure changes are communicated effectively across the DIC Group. The committee formulates annual targets and initiatives for strengthening information security with the approval of the Sustainability Committee and manages the progress of related efforts.

The Group is currently exploring the idea of establishing a system for ensuring information security for the entire global DIC Group, including Sun Chemical.

Infrastructure

Against a backdrop of increasingly active and sophisticated cyber attacks, including ransomware and targeted threats, the DIC Group is working to respond to rapid changes in working environments attributable to work style reforms, including the expansion of remote work and the increased use of cloud-based services. In fiscal year 2021, the Group contracted a third-party organization to conduct a risk assessment to evaluate the effectiveness and comprehensiveness of its information security measures from a multifaceted perspective. Based on the results of this assessment, the Group will formulate a road map for information security with the aim of responding flexibly and appropriately to emerging cyber risks, thereby permanently reducing risks to its businesses and management.

Employee Education and Training

The DIC Group offers an information security e-learning program to employees in Japan, the Asia-Pacific region, and the Americas and Europe, in which more than 90% of eligible employees take part. The Group also provides training dealing with targeted email attacks to increase employees' awareness of security. In response to the post-pandemic "new normal," the Group is currently formulating guidelines that accommodate new work styles, notably telework, which it will work to disseminate to employees worldwide.

Environment, Safety and Health (ESH)

Toward the Achievement of a Sustainable Society

WEB <https://www.dic-global.com/en/csr/environment/>

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



QR code



Policies, Targets and Framework

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. 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. The Group's framework for promoting Responsible Care includes the Sustainability Committee, which approves Groupwide sustainability targets and policies, as well as formulates and evaluates medium-term sustainability policies and annual sustainability initiatives. The PDCA cycle is used 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 to improve safety and environmental performance.

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.

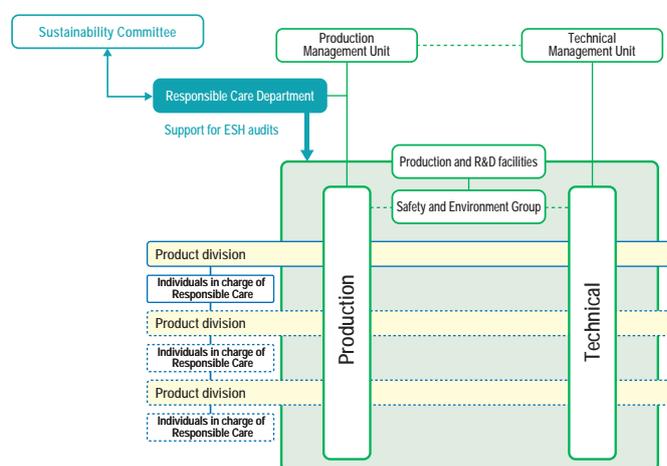
Environment, Safety and Health Policy

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.

Framework for Promoting Responsible Care

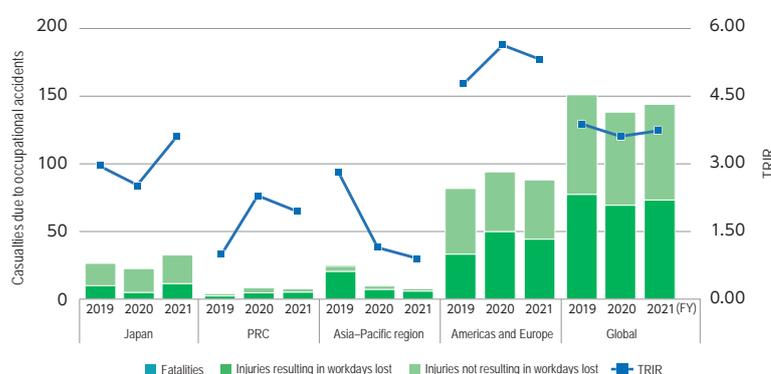


Occupational Safety and Health/Disaster Prevention

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 Group 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. With the goal of fostering skilled safety personnel, the Group periodically provides Kiken Yochi Training (KYT) ("hazard prediction training") and e-learning-based training based on *Principles of Safe Conduct* in multiple languages around the world. Through these efforts, 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.

TRIR and Casualties Due to Occupational Accidents (FY2019–2021)



Environmental Protection

The DIC Group regards global environmental issues as being of primary importance and continues to promote initiatives aimed at reducing its environmental footprint with the aim of contributing to the realization of a sustainable society.

Environmental protection is among the most important of corporate sustainability activities. The DIC Group's efforts focus on a number of areas, including preventing environmental pollution, climate change (for more information, please see page 68), managing industrial waste (responding to a circular economy), managing water resources and biodiversity.

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 promotes systematic efforts to prevent environmental pollution.

1 Reducing Emissions of VOCs

The DIC Group in Japan succeeded in achieving its voluntary target for reducing emissions of volatile organic chemicals (VOCs) into the air for fiscal year 2010—30% from the fiscal year 2000 level—in fiscal year 2007. Domestic Group companies continue to pursue steady annual reduction through facility improvements and emissions management.

In fiscal year 2021, DIC Group companies in Japan reported total emissions of VOCs of 239 tonnes, a decrease of 27% from fiscal year 2020. The principal factor behind this result was the divestiture of Group company DIC Kako, Inc., a significant emitter of VOCs, as a result of which it was excluded from the scope of calculation. Overseas, Group companies in Greater China and the Asia-Pacific region continued to carefully monitor 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.

2 Reducing SOx, NOx and COD

Taking fiscal year 1990 as the base year, the DIC Group in Japan has worked to reduce SOx and NOx—key causes of acid rain—from boilers. The Group has also worked to reduce chemical oxygen demand (COD), an indicator of environmental impact, in wastewater. Principal initiatives include switching from diesel to natural gas, and from 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 the installment of environment-friendly closed-loop recycling and wastewater treatment systems.

3 Other Initiatives Aimed at Reducing Environmental Impact

In accordance with pertinent laws and regulations, the DIC Group monitors emissions of dioxins from facilities in Japan that produce these byproducts, ensures the appropriate management of equipment containing polychlorinated biphenyls (PCBs) and waste, responds to potential risks associated with asbestos, and implements soil and groundwater surveys and countermeasures as necessary and assesses related risks.

Managing Industrial Waste

In seeking to promote the realization of a circular economy (for more information, please see page 47), the DIC Group is stepping up efforts to encourage the reuse, reduction and recycling of industrial waste and minimizing production losses by increasing throughput yields. The Group also works to fully grasp and manage industrial waste from generation at production facility through to discharge, intermediate treatment and final disposal as landfill and to reduce its disposal of industrial waste as landfill by increasing its recycling rate through the expansion of material and chemical recycling, and the recovery of waste heat from incineration. To ensure strict compliance, the Group has implemented a comprehensive waste management system compatible with Japan's Electronic Manifest (e-Manifest) system, thereby ensuring traceability.

TOPIC

DIC Graphics (Thailand)'s Amata Plant Receives Gold Level in AFS' 2021 Best Waste Management Awards

On January 31, 2022, DIC Graphics (Thailand) Co., Ltd.'s Amata Plant received a Gold Level award in the 2021 Best Waste Management Awards, which are presented by Amata Facility Services Company (AFS), Thailand's largest industrial estate development and management company.

The Best Waste Management Awards are given to companies with operations at its Amata City industrial estates that exhibit excellence in the reduction of waste disposed of as landfill and handling of other waste, in line with the "3Rs" of waste management, namely, reduce, reuse and recycle. Through this awards program, AFS aims to raise awareness of the importance of effectively managing industrial waste across all of its estates. "DIC Graphics (Thailand)'s Amata Plant first participated in this program in 2019," explains the company's Chief Operating Officer Chaiyasit Adcharyaporn. "In 2020, we were unable to take part as responding to COVID-19 took precedence. In the year ahead, we will further strengthen waste management efforts with the aim of achieving zero disposal of waste as landfill and earning a Platinum Level award in 2022."

In 2021, 78 participating production facilities were assessed and recognized in the Best Waste Management Awards program's Silver, Gold and Platinum Level categories.



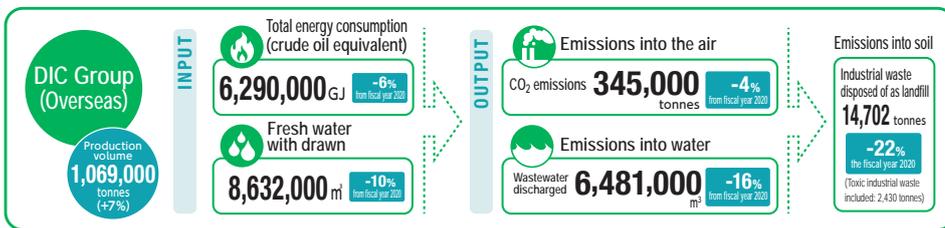
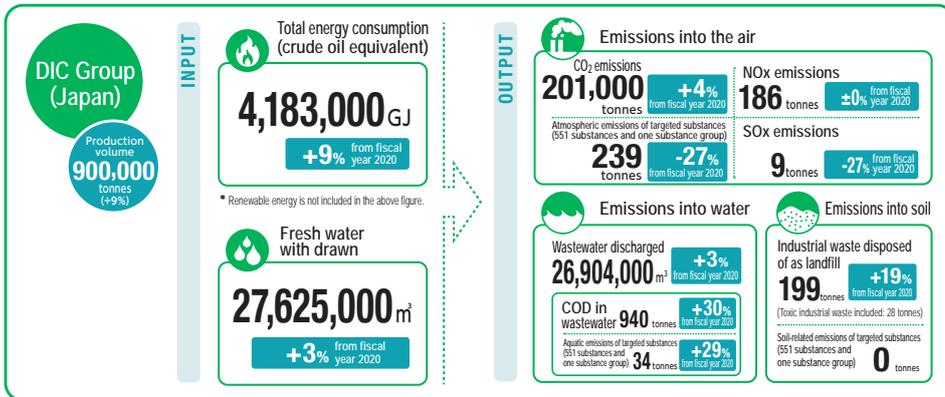
Kanitta Mahasamut, ESH supervisor (left) and Siwapol Yangthong, factory manager (center), of DIC Graphics (Thailand)'s Amata Plant



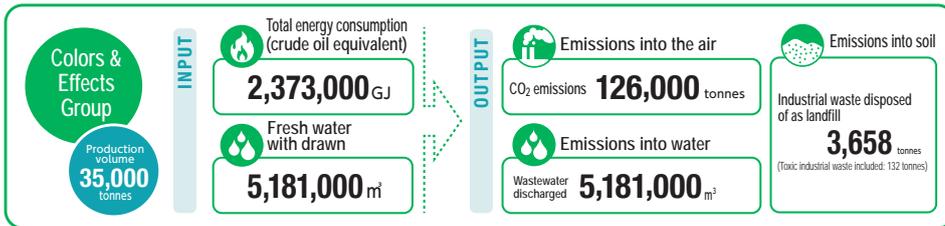
Managing Water Resources

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 voluntary internal standards that exceed official standards in the countries and territories in which it has operations—into rivers and other fresh water bodies. In addition to evaluating water risks at each of its production sites around the world and implementing countermeasures, the Group works to protect and ensure the effective use of water resources. In fiscal year 2021, fresh water withdrawn by the global DIC Group amounted to 36,257,000 m³, while wastewater discharged by the global DIC Group totaled 32,574,000 m³, both essentially level with fiscal year 2020.

Economic development has driven up demand for water, leading to a gradual increase in transitional risks related to, among others, the depletion of regional water resources and the deterioration of water quality, as well as sudden risks, including risks of droughts and floods. These are key components of overall water risk. The DIC Group uses the Aqueduct Water Risk Atlas water risk assessment tool to assess regional water risks caused by external factors and has adopted a proprietary method to evaluate water risks arising from site operations. In fiscal year 2021, the Group designated four Group sites that account for the highest percent of projected impact as priority sites, implementing and confirming the effectiveness of a variety of countermeasures under the auspices of a third-party organization. The Group also aims to complete its implementation of countermeasures at such sites by fiscal year 2024.



Reference: Environmental Impact of Colors & Effects Group Environmental Initiatives (July–December 2021)



*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 the Japan Chemical Industry Association (JCIA).

Safety in Logistics

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

Having positioned the reduction of CO₂ 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 relative initiatives on an ongoing basis. 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. In fiscal year 2021, the Company began using larger trucks and took decisive steps to improve loading efficiency, as a result of which it achieved declines in energy consumption and CO₂ emissions attributable to logistics of 4% and 1%, respectively.

DIC also continues to support the White Logistics Movement, an initiative put forward by three government ministries—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 working environments in the logistics industry. By implementing measures in line with its own declaration of voluntary action, the Company also works to strengthen cooperation with logistics partners and transport companies to ensure business continuity. In fiscal year 2021, the Company succeeded in reducing the work associated with pallet transshipment in some areas at production facilities using returnable pallets. The use of returnable pallets has contributed to a decrease in CO₂ emissions resulting from the disposal of one-way pallets. DIC Group companies overseas also continue to actively advance the use of returnable pallets and other initiatives to lower the environmental impact of their logistics activities.

Ensuring the Safety of Chemical Substances

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

In the PRC, the DIC Group responded to the revised China REACH legislation. In light of developments surrounding the ROK's Occupational Safety and Health Act and Taiwan's Toxic and Chemical Substances of Concern Control Act (TCSCCA), related departments in Japan and overseas collaborated to gather information and formulate countermeasures in a timely manner. On the systems front, the Group continued to promote a project aimed at realizing a new comprehensive global chemical substance information management system, dubbed Chemicals Information CIGNAS (Global Network Access System). This system integrates (Chemical Substance Information Comprehensive Management System) CIRIUS and the Weracs, currently in use, to facilitate the swift provision of consistent, accurate information to customers across the Group and improve the ability of Group companies in the PRC and the Asia-Pacific region to ensure legal and regulatory compliance. DIC launched CIGNAS in Japan during the period and aims to achieve full global deployment by fiscal year 2024.

Management Systems

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

Management Systems Certified Under ISO Standards

1 Certification Under ISO 14001

As of December 31, 2021, DIC Group companies responsible for 80% of the Group's production volume had acquired certification under ISO 14001, the International Organization for Standardization's standard for environmental management systems.

2 Certification Under OHSAS 18001 and/or ISO 45001

The DIC Group's principal sites around the world have acquired certification under OHSAS 18001, the internationally accepted standard for occupational health and safety management systems and/or ISO 45001, the International Organization for Standardization's standard for occupational health and safety management systems. In the Asia-Pacific region, for example, the Group has 17 companies in 10 countries and territories. In addition to diverse customs and languages, a key challenge from an operational perspective is differences in awareness regarding occupational health and safety. For this reason, it was crucial to establish common safety standards and work to ensure their effective implementation regionwide. As of December 31, 2021, 19 DIC Group sites in the Asia-Pacific region had earned certification under OHSAS 18001 and/or ISO 45001, giving the Group in the region a certification rate of 98%.

ESH Audits

The DIC Group regularly conducts ESH audits to ensure the effectiveness of Responsible Care initiatives at Group companies, plants and R&D facilities. Because these audits assess a variety of factors, they are carried out by teams composed of Responsible Care Department specialists, the executive officer responsible for production, production and R&D site administrators, and labor union-endorsed union members. Audits also look at the implementation of safety initiatives and the progress of remedial measures undertaken in response to issues cited in the previous year's audit. DIC's president also takes part, underscoring senior management's active engagement in efforts to ensure ESH-related concerns are addressed. In fiscal year 2021, however, auditing teams were limited to Responsible Care Department specialists and site administrators as a result of COVID-19. Overseas, regional headquarters' ESH officers conduct audits together with Responsible Care Department specialists and local site administrators to ascertain the progress of initiatives with the aim of enhancing Responsible Care at individual sites.

Outline of ESH Audits Implemented in Fiscal Year 2021



Audits Conducted at Subsidiaries' Sites in Fiscal Year 2021



Climate Change Preventing Global Warming

[WEB https://www.dic-global.com/en/csr/environment/co2/](https://www.dic-global.com/en/csr/environment/co2/)

SDGs Goals 7 and 13



QR code



Efforts to Prevent Global Warming

Recognizing climate change as a critical social imperative, the DIC Group is working to reduce emissions of CO₂ from its sites with the aim of achieving carbon neutrality. In May 2019, the Group declared its support for the TCFD,* pledging to disclose climate-related information in line with TCFD recommendations.

*The TCFD was established under the auspices of the Financial Stability Board and announced in June 2017 with the objective of mitigating climate change-related instability and risk in financial markets, which has the potential to affect performance over the long term.

Framework for Promotion

In fiscal year 2021, DIC established the Climate Change Subcommittee, which is responsible for discussing and debating responses to climate change-related issues, within the Sustainability Committee's Sustainability Strategy Working Group. With a membership that spans multiple areas, from production and purchasing to corporate planning, the Climate Change Subcommittee considers a variety of themes, including climate change targets and initiatives, and makes proposals to be deliberated and determined by the Sustainability Committee, which answers directly to the president and CEO.

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. An Energy-Saving Working Group has also been set up at each site that comprises members chosen by the site itself, to foster the exchange of information and research pertaining to new items, as well as 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 CO₂ emissions. Overseas, DIC Group companies promote a wide range of independent energy-saving initiatives that align with related Group policies. The Production Management Unit provides support on multiple fronts, including the deployment of management systems and the training of employees.

Disclosures in Line with TCFD Recommendations

With the aim of helping institutional investors grasp climate-related risks and opportunities and make investment decisions, the Task Force on Climate-related Financial Disclosures (TCFD) has structured its recommendations around four thematic areas that represent core elements of how organizations operate—governance, strategy, risk management, and metrics and targets.

1 Governance

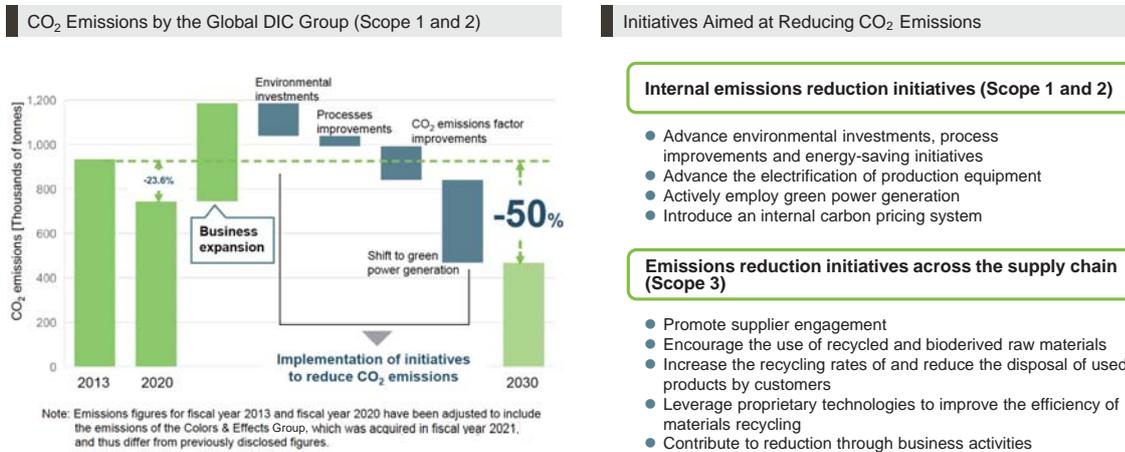
The DIC Group recognizes climate change as a key management challenge. Important matters, including the setting of medium- and long-term targets for the reduction of CO₂ emissions, are deliberated and determined by the Sustainability Committee, which meets four times annually and answers directly to 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 by the Board of Directors.

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. Based on scenario analysis conducted in fiscal year 2020, 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.

Strategies for Reducing CO₂ Emissions

As a company with a CO₂ emissions reduction target, the DIC Group will promote a variety of related initiatives as outlined below.



Initiatives for Fiscal Years 2020–2022

- Introduce internal carbon pricing.
- Promote full-scale collaboration with FP Corporation (FPCO) in the practical implementation of a closed-loop recycling system for polystyrene, used in plastic containers for food products, among others.
- Establish the Climate Change Subcommittee, implement various measures and announce new targets for achieving carbon neutrality by fiscal year 2050.
- Raise funds by issuing sustainability-linked bonds (SLBs).
- Build net zero energy business (ZEBs).
- Embark on efforts to reduce the carbon footprint of products.

3 Risk Management

Processes Used to Identify and Assess Climate Change-Related Risks

DIC recognizes risks related to its response to climate change—a key component of its framework of sustainability themes, the foundation of its sustainability activities—and works to evaluate, address and manage them effectively. While up to fiscal year 2021, the Company positioned climate change—related risk as a component of ESH, beginning in fiscal year 2022 it will treat climate change as an independent theme. The Sustainability Working Group, a subsection of the Sustainability Committee, is charged with identifying and debating priority risks. Risks designated as priorities are submitted for consideration to the Sustainability Committee.

4 Metrics and Targets

In light of accelerated global efforts to decarbonize, the DIC Group has set new targets for the reduction of its CO₂ emissions and pledged to step up related efforts. DIC now aims to achieve carbon neutrality—net zero CO₂ emissions—by fiscal year 2050 and will seek to reduce CO₂ emissions by 50% from the fiscal year 2013 level by fiscal year 2030. The Group will continue to disclose the results of its various initiatives and obtain third-party verification of its CO₂ emissions data.

* Targets are for Scope 1 and 2 emissions.

Principal Initiatives in Fiscal Year 2021

1 Energy Consumption and CO₂ Emissions (Scope 1 and 2) by the Global DIC Group

Energy consumption by the global DIC Group in fiscal year 2021 edged up 0.9% from fiscal year 2020 and 16.1% from the fiscal year 2013 base year. CO₂ emissions by the global DIC Group amounted to 546,304 tonnes, down 1.1% from fiscal year 2020 and 24.4% from fiscal year 2013, while CO₂ emissions per unit of production (Scope 1 and 2), at 246.8 kg/tonne, were down 9.2% from fiscal year 2020 and 24.5% from the base year.

2 Grasping CO₂ Emissions Across the Supply Chain (Scope 3)

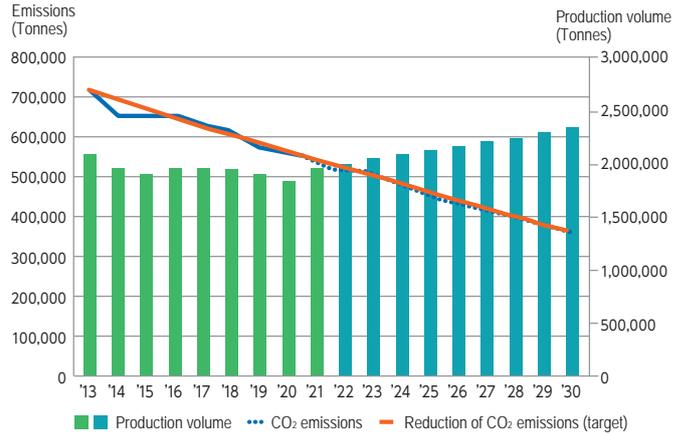
The DIC Group recognizes the importance of reducing emissions of greenhouse gases across its supply chain and works to ensure a grasp of emissions in all categories of Scope 3. The Group has also revised its calculation for emissions in category 1 (Purchased goods and services) with the aim of refining data reported in this category.

3 Adoption of Renewable Energy by the DIC Group 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 2021, the global DIC Group used a total of 796,291 GJ of renewable energy, an increase of 1.9% from 781,542 GJ in fiscal year 2020. The use of renewable energy accounted for a reduction in the Group's global CO₂ emissions of 50,579 tonnes.

Global CO₂ Emissions (Scope 1 and 2): Results, Forecasts and Target for Fiscal Year 2030



Greenhouse Gas Emissions in Fiscal Year 2021

Category Number	Category	Emissions
1	Purchased goods and services	4,455,628
2	Capital goods	75,419
3	Fuel- and energy-related activities (not included in Scope 1 or 2)	98,408
4	Upstream transportation and distribution	84,569
5	Waste generated in operations	56,707
6	Business travel	1,461
7	Employee commuting	5,848
12	End-of-life treatment of sold product	1,205,246

Quality

Enhancing Product Quality and Customer Satisfaction

WEB <https://www.dic-global.com/en/csr/quality/>

QR code



To better leverage its agility and comprehensive capabilities, DIC previously employed a matrix-like quality management configuration with product divisions on the vertical axis and the Technical Management Unit and Production Management Unit on the horizontal axis. In fiscal year 2021, the Company launched a new configuration in which the product division quality assurance groups have been absorbed into the Production Management Unit. This realignment also involved creating the position of deputy general manager in charge of quality control within the Production Management Unit and integrating the quality assurance groups, previously divided among the product divisions. The goals here were to ensure the independence of the framework for promoting quality assurance to ensure customers' quality requirements; clarify the roles of quality control and quality assurance, ensuring that each fulfills its proper function while monitoring the other; and position the Quality Assurance Department and the newly inaugurated Quality Control Department, using their respective reporting lines, to identify issues facing sites and product divisions and devise the most effective measures in response.

DIC also established a new Quality Committee to enable the president to be directly involved in quality management. (For more information, please see page 56.) In principle, the Quality Committee meets once each quarter to formulate DIC Group quality policies and important quality management measures. At committee meetings, the product division general managers and unit heads are responsible for reporting on the status and progress of quality management measures and summarizing related activities. An especially regrettable incident in the period under review involved the temporary suspension of ISO 9001 certification and the cancellation of Underwriters Laboratories' certification for a certain product, which the Company sought to address as a Companywide issue by formulating priority strategies.*

In fiscal year 2021, the Quality Assurance Department implemented ISO 9001 Top Management Training for technical and sales department leaders, who have many opportunities to communicate with customers. Additionally, an e-learning program on quality compliance was conducted for domestic DIC Group employees, with 100% of eligible employees taking part, to raise awareness of the causes of compliance violations and prevent recurrence. Going forward, the Group will expand training designed to give employees a greater sense of ownership over their own work.

* For more information, please see page 124 of the complete version of DIC Report 2022.



1. Efforts to Strengthen Management of Human Capital

1 Building a Strategic Human Resources Portfolio that Maximizes the Value of Human Capital

In line with The DIC Way, which represents its fundamental management policy, DIC in Japan works with regional headquarters overseeing operations in Greater China, the Asia-Pacific region, and the Americas, Europe and Africa to promote the effective management of human resources. The DIC Vision 2030 long-term management plan, announced in February 2022, recognizes human resources as capital that is crucial to the execution of management strategies. In this plan, the Company identifies three strategic priorities for building a strategic human resources portfolio that maximizes the value of human capital—"Foster human resources," "Ensure mobility (hiring, retention and succession)" and "Improve engagement and organizational cohesiveness"—and calls for the building of a personnel management platform that underpins these priorities through framework creation, risk management and efforts to enhance its corporate culture.

DIC Vision 2030: Three Strategic Priorities and a Personnel Management Platform



2 WSR 2020

In fiscal year 2021, Work Style Revolution (WSR) 2020, which was launched in the previous fiscal year as a limited-time project to develop new work styles with the aim of boosting employee job satisfaction and productivity, was transformed into an all executive-led committee in which all employees will participate. The rapid advance of digitalization, together with the advent of COVID-19 and projections for the post-pandemic "new normal," have highlighted the need to revamp work styles to ensure job satisfaction and productivity, a task to which DIC executives have committed themselves. With the shift to committee status, the project's existing working groups have been realigned to create the Job Satisfaction Improvement Reform, Workplace Reform and Process Reform working groups, a framework under which executives will work as one to promote decisive measures.

3 Basic Personnel Statistics (DIC)

		Fiscal year 2019	Fiscal year 2020	Fiscal year 2021
Number of employees	Male	2,640	2,669	2,659
	Female	681	691	686
	Overall	3,321	3,360	3,345
Average age	Male	42.6	42.7	42.9
	Female	42.1	42.5	42.8
	Overall	42.5	42.7	42.8
Average years of employment	Male	18.3	18.3	18.2
	Female	19.8	20.1	20.2
	Overall	18.6	18.6	18.6
New graduates hired	Male	44	56	40
	Female	22	22	18
	Overall	66	78	58
Retention rate (after three years)	Male	97.2%	92.3%	93.0%
	Female	76.9%	100%	90.0%
	Overall	91.8%	94.0%	92.1%
Mid-career hires (percentage of total new hires)	Male	71	52	64
	Female	10	3	7
	Overall	44.9%	41.4%	54.2%
Separations (voluntary) (number of individuals)	Male	45	33	54
	Female	16	16	12
	Overall	61	49	66
Separation rate (voluntary)	Male	1.7%	1.2%	2.0%
	Female	2.3%	2.3%	1.8%
	Overall	1.8%	1.5%	2.0%

Note: The number of employees refers to individuals registered as employees of DIC Corporation and thus differs from the figure in the Annual Securities Report.

2. Three Priority Strategies

1 Foster Human Resources

One of the basic strategies outlined in the DIC Vision 2030 long-term management plan for realizing its redefined vision statement is to establish a more robust global management configuration. Guided by this strategy, the Company will work to firmly establish its next management selection process, as well as actively consider various new systems and procedures, with the aim of enhancing its management configuration. These include creating a global talent management committee and establishing selection and monitoring processes for high-potential employees.

To respond flexibly to dramatic changes in business conditions and continuously create new value, it is crucial to offer working environments that ensure all employees maintain a high level of expertise and empower them to reach their full potential. To realize such environments, in fiscal year 2020 DIC formulated basic policies for fostering human resources. In fiscal year 2021, the Company explored and implemented specific programs based on these policies and this configuration.

2 Ensure Mobility

With the objective of diversifying its Group human resources portfolio and managing it effectively and in accordance with its business needs, DIC recognizes the need to create a human resources system that bolsters mobility within the Group, enabling employees to fully exercise their abilities beyond national, regional and departmental boundaries. To this end, DIC has identified three key courses of action: Actively recruit individuals from different industries and people with digital capabilities, expand available career paths and promote succession planning.

3 Improve Engagement and Organizational Cohesiveness

In fiscal year 2021, DIC conducted a survey of domestic Group companies as part of the WSR 2020 project's efforts to improve engagement and organizational cohesiveness. Based on the results, the Company explored a variety of responses designed to foster a sense of solidarity and advance innovation, resolving to implement the formalization of a system of one-on-one meetings to improve engagement, as well as to introduce a system whereby points are added to the evaluations of people taking on challenges in their work.

3. Personnel and Global Human Resources Systems

Promote Personnel System Reforms to Facilitate Autonomous, Multitrack Career Building

In January 2022, DIC revised its personnel system for both management-level and regular employees with the objective of enhancing organizational capabilities to support the advance of qualitative reforms in existing core businesses and the successful commercialization of new businesses. In revising these systems, the Company identified seven key policies for improving organizational capabilities that are designed to improve added value and productivity, encourage a performance- and challenge-oriented focus, and support career building, in line with which it dramatically revamped its qualification-based remuneration and evaluation systems. Going forward, DIC will continue working to ensure the proper administration of these systems, as well as to cultivate a corporate culture that further encourages employees to take on challenges and seeks to realize growth for the Company through the growth of its people.

Create a Global Human Resources System and a Standardized Group Framework

With the rapid expansion of its global operations, DIC recognizes that securing and fostering human resources around the world and ensuring the right people are in the right places across the DIC Group are essential to bolstering the value of Group human capital and effectively carrying out management strategies, and has sought to integrate global human resources management. To this end, the Company has promoted the adoption of harmonized personnel systems and management approaches. In January 2018, DIC and DIC Graphics unified qualification standards for their approximately 1,300 management-level—i.e., manager and above—employees, replacing traditional ability-based standards with role-based standards.

4. Diversity and Inclusion

Promoting Diversity, a Source of DIC's Competitiveness, and Inclusion, Essential to Making Diversity a Competitive Advantage

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. Specifically, through the WSR 2020 Committee the Group is promoting measures to encourage communication and providing career support, thereby fostering a sense of unity through empathy and trust and creating workplaces that enhance job satisfaction for all employees.

1 Hiring Foreign Nationals

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, as well as Japanese and foreign nationals who are completing undergraduate studies at overseas universities or have extensive specialized experience and expertise. At present, 43 foreign nationals are employed in various capacities at DIC. To support the careers of employees who are foreign nationals, DIC translates key in-house materials into English. The Company also holds networking conferences to foster ties among non-Japanese employees and provide information on the personnel system, employment conditions and efforts to improve workplace environments.



My goal after graduation was to find a job in finance and accounting at a global company. I found DIC attractive because of its extensive network of overseas bases and its significant global market share in a number of specific areas and decided to accept their offer. Since joining the Company, I have gained diverse experience and met colleagues with various backgrounds from Japan and overseas thanks to assignments not only in finance but also in other departments. All of this has enabled me to learn and grow every day. Additionally, various measures in recent years, including the promotion of flextime and telework, the introduction of an in-house job challenge system, and the creation of networking opportunities for non-Japanese employees, have made for increasingly comfortable work environments for foreign nationals, as well as for female employees striving to balance the demands of their career and childcare. The revision of the personnel system has also made it possible for young employees and employees returning from childcare leave to take examinations for promotion early. These efforts have definitely improved employees' job satisfaction and intensified their desire to take on new challenges, as well as provided greater opportunities for them to exercise their abilities.

P-1 Project, Next-Generation Packaging Business Unit, New Business Development Headquarters, DIC Corporation **Xin Zhou**

2 DIC Recognized as Nadeshiko Brand for Fiscal Year 2021, Earning Selection for the Fourth Consecutive Year

In recognition of its superb achievement in expanding career opportunities for women, DIC was selected as a Nadeshiko Brand for fiscal year 2021, the fourth time it was honored under this program, which is sponsored by Japan's Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange. A total of 50 companies were selected for this honor in fiscal year 2021, including four from the chemicals sector.



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 is an internship program, organized in collaboration with special needs schools, that is designed to transition into full-time employment. In fiscal year 2021, both regular hiring in April as well as needs-based hiring at individual sites met with success. As of December 31, 2021, individuals with disabilities accounted for 2.6% of DIC's total labor force, noticeably above Japan's legally mandated quota of 2.3%.

5. 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 UN's 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 2021

A total of 58 DIC Group companies in Japan and overseas implement voluntary human rights and labor practices inspections. In fiscal year 2021, initiatives focused on promoting awareness of the DIC Group Human Rights Policy across the Group. Having analyzed and verified the results of voluntary inspections conducted to date, the Group implemented supplementary surveys in priority areas while at the same time conducting surveys and providing guidance as necessary regarding making improvements and promoting efforts to raise awareness. In fiscal The DIC Group also conducted human rights due diligence at three Group companies in Malaysia. This confirmed the absence of issues and enabled the Group to provide guidance on points to consider in order to curb the manifestation of risks.

6. Work-Life Balance/Safety and Health

1 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, the Japanese government has launched a drive to promote work style reform, with the goal of helping individuals balance the demands of their careers

and childcare or nursing care, increasing productivity and ensuring effective corporate health management. Since before such developments, DIC has promoted initiatives meant to enable all employees to achieve both active and satisfying careers and a fulfilling life outside of work, in line with its belief that positive workplaces lead to higher productivity.

* 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 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.

② Significantly Expanding 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.

③ Introducing a Leave to Accompany Spouse Overseas System

To ensure its ability to secure and retain talented human resources and enhance employees' work-life balance, in January 2019 DIC introduced a system allowing employees to take leave to accompany spouses on overseas work assignments. This system helps employees balance their careers and private lives without having to leave their jobs.

2 Employee Safety

Measures to Prevent the Spread of COVID-19

Between February 2020, when COVID-19 first emerged, and December 31, 2021, a total of 31 internal notifications were sent under the heading "Measures to Prevent the Spread of COVID-19." Efforts ranged from promoting internal initiatives to prevent infection to detailed instructions regarding individual employee behavior.

3 Corporate Health Management

Corporate Health Management Initiatives

In line with its Health Management Declaration, the DIC Group works actively to support the physical and mental health of its employees, as well as to create a work environment conducive to job satisfaction. Looking ahead, the Group will continue to promote imaginative and original health management measures, recognizing that the health of its employees is essential to the realization of sustainable growth.

Kurumin Mark Certification



TOPIC

DIC Earns White 500 Certification for the Fifth Consecutive Year

DIC earned certification in the large enterprise category of the 2022 Health & Productivity Outstanding Entities Recognition Program (dubbed the "White 500"), which is organized by the Ministry of Economy, Trade and Industry and Nippon Kenko Kaigi.*1 This is the fifth 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.

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 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 promotion of efforts to help ensure the physical and mental health of employees, quality of initiatives, and evaluation and improvement.

DIC will continue to implement measures designed to promote physical and mental health as 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.



Sustainable Procurement

Promoting Socially Responsible Procurement Across the Supply Chain

WEB <https://www.dic-global.com/en/csr/stakeholder/partner.html>

SDGs Goal 12



Encouraging 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 Group established the DIC Group Universal Purchasing Policy, based on which it later formulated purchasing management regulations and clarified issues it expects suppliers to address. Using the *DIC Group Sustainable Procurement Guidebook*, revised in February 2020, the Group promotes sustainable procurement across its supply chain by ensuring that all suppliers implement improvements and initiatives as necessary. Group companies in Japan, the Americas and Europe, Greater China and the Asia-Pacific region collaborate to ensure sustainable procurement on a global basis.

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:

- 1 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.
- 2 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.
- 3 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.
- 4 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

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, including consideration for human rights and work environments, acquisition of certification under ISO 14001, implementation of green procurement and promotion of sustainable procurement to secondary suppliers.

Analyzing the Results of Questionnaires

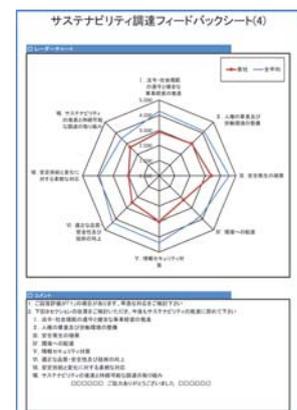
Between June 2020 and February 2022, the DIC Group used version 3 of the *DIC Group Sustainable Procurement Guidebook*, which was published in February 2020, to conduct assessments for 348 suppliers, accounting for more than 70% of its procurement spending. In addition to analyzing and assessing questionnaire responses, the Group provided feedback and where necessary requested corrective measures, using written comments or remote interviews because of COVID-19.

Note: Between November 2013 and December 2019, assessments were conducted using version 1 and then version 2 of this guidebook for a cumulative total of 764 companies.

Responsible Procurement of Minerals

The DIC Group has formulated a Basic Approach to the Responsible Procurement of Minerals, recognizing the importance of procuring these critical resources in a responsible manner and engaging with suppliers to address this challenge across its supply chain.

Basic Approach to the Responsible Procurement of Minerals **WEB** <https://www.dic-global.com/en/csr/stakeholder/conflict.html>



Feedback sheet

New Value Creation

Cultivating Next-Generation Businesses

WEB <https://www.dic-global.com/en/csr/stakeholder/customer.html>

SDGs Goals 8, 9 and 11



Creating New Value

The DIC Group's redefined vision statement, introduced in its new long-term management plan, expresses the Company's goals of delivering greater value through broader innovation, improving the human condition and promoting stability for a brighter future. Seeing its mission as being to achieve sustainable growth for itself and society, the Group is pursuing various initiatives aimed at helping realize carbon neutrality, in line with its basic policy of providing greater social benefits that enhance shareholder value and build long-term corporate value.

Seeking to fulfill its mission, the DIC Group set a target in its DIC Vision 2030 long-term management plan of increasing sales of sustainable products to 60% of its net sales by expanding businesses in growth markets and creating new businesses to promote portfolio transformation. Through the initiatives set forth in the plan, the Group pledges to contribute to the creation of a society that is increasingly green, digital and QOL-oriented.

1 Verification Testing of Material Recycling Process for Waste Flexible Packaging Film that Uses Deinking Technology

With finding solutions to the issue of waste plastics and marine plastic an increasingly urgent social imperative, efforts to find sustainable ways to use plastics are progressing rapidly around the world. In Japan, a new Plastic Resource Recycling Promotion Law came into force on April 1, 2022, a development that is expected to further accelerate the drive to realize sustainable plastics.

Recognizing the reduction of waste plastic and marine plastics as a challenge that, as a manufacturer of fine chemicals, it has a responsibility to address, DIC has identified the areas in which it can best contribute as inks, adhesives and films in its sustainability strategies. In one initiative currently under way, DIC is collaborating with a major bread manufacturer and a recycling firm in the development of a materials recycling process for waste flexible packaging film that uses deinking technology for which verification testing has recently begun. Because of inks used on waste flexible packaging film, the color and physical properties of film recycled using materials recycling processes has traditionally limited its uses. The use of deinking technology in this new process yields significant improvements in both color and physical properties, greatly expanding potential uses for the resulting recycled film. Looking ahead, the DIC Group expects the broad practical application of this new process will play a major role in increasing the recycling of waste flexible packaging film.

2 Algae-Derived DHA Oils

Algae, which absorbs CO₂ and produce useful substances through photosynthesis, is attracting more and more attention against a backdrop of evolving requirements for companies to ensure sustainability, notably the need to achieve carbon neutrality and reduce consumption of petroleum-derived resources. The DIC Group recently signed a sales agency contract with Fermentalg S.A., a leader in the development of microalgae-derived food ingredients based in Libourne, France, and in July 2021 began marketing Fermentalg's *DHA ORIGINS*[™]-510 series of highly concentrated docosahexaenoic acid (DHA) oils, which are derived from a proprietary microalgae strain (*Schizochytrium sp.*), for use in dietary supplements.

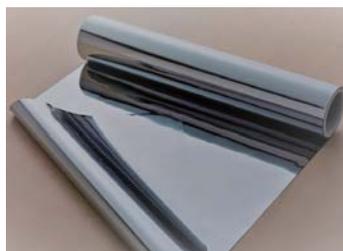
DHA is a type of omega-3 fatty acid only very small amounts of which are produced in the human body, meaning it must be acquired from food. The health benefits of DHA are recognized around the world and backed by significant evidence. Unlike DHA from fish, Fermentalg's microalgae-derived DHA is extracted directly from cultured algae, responding to concerns regarding marine pollution and the depletion of fishery resources. It also has scarcely any perceptible odor and contains absolutely no animal products, making it suitable for vegetarian and vegan diets. Free from allergens and genetically modified organisms (GMOs), and extracted without the use of organic solvents, these oils also deliver safety and peace of mind. In addition, they comply with both the European Union's Novel Food safety standards and the U.S. Food and Drug Administration's Generally Recognized as Safe (GRAS) standards.

Grown in a clean environment using Fermentalg's outstanding technology for cultivating *Schizochytrium sp.* in fermentation tanks, eliminating the influence of climate and the risk of contamination, *DHA ORIGINS*[™]-510 products realize highly concentrated (51%) DHA without any artificial concentration processes. The DIC Group will continue to reinforce its algae cultivation technologies as part of its commitment to contributing to the realization of a sustainable society and an improved QOL for people everywhere.

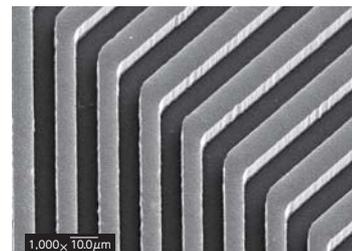
3 New Seed Film for Fabricating Wiring on High-Frequency PWBs for High-Speed Data Transmission

With the progress of digitalization and the rising need for high-speed, large-capacity communication infrastructure, copper wiring technologies that minimize transmission loss in high-frequency bands are taking on increased importance. DIC and Taiyo Ink Mfg. Co., Ltd., collaborated to develop a new seed film for fabricating wiring on high-frequency printed wiring boards (PWBs) that enables the formation of extremely smooth diagonal and vertical wiring.

This new film was developed by DIC and Taiyo Ink as a new application for DIC's metallic nanoparticles in the fabrication of flexible PWBs. The metallic nanoparticle-coated film is used as a conductive seed layer in the formation of copper wiring using a semi-additive process. This ensures the copper wiring adheres extremely evenly and that the pattern can be etched without thinning. This leaves a finely patterned, extremely smooth surface, greatly reducing transmission loss in high-frequency bands. DIC looks forward to providing an increasing variety of high-performance films that contribute to the realization of a high-speed, high-capacity communications infrastructure.



New seed film for fabricating wiring on high-frequency PWBs



Copper wiring formed from the new seed film (thickness: 8 μm)
Diagonal wiring L/S: 10/10 μm, vertical wiring L/S: 8/8 μm

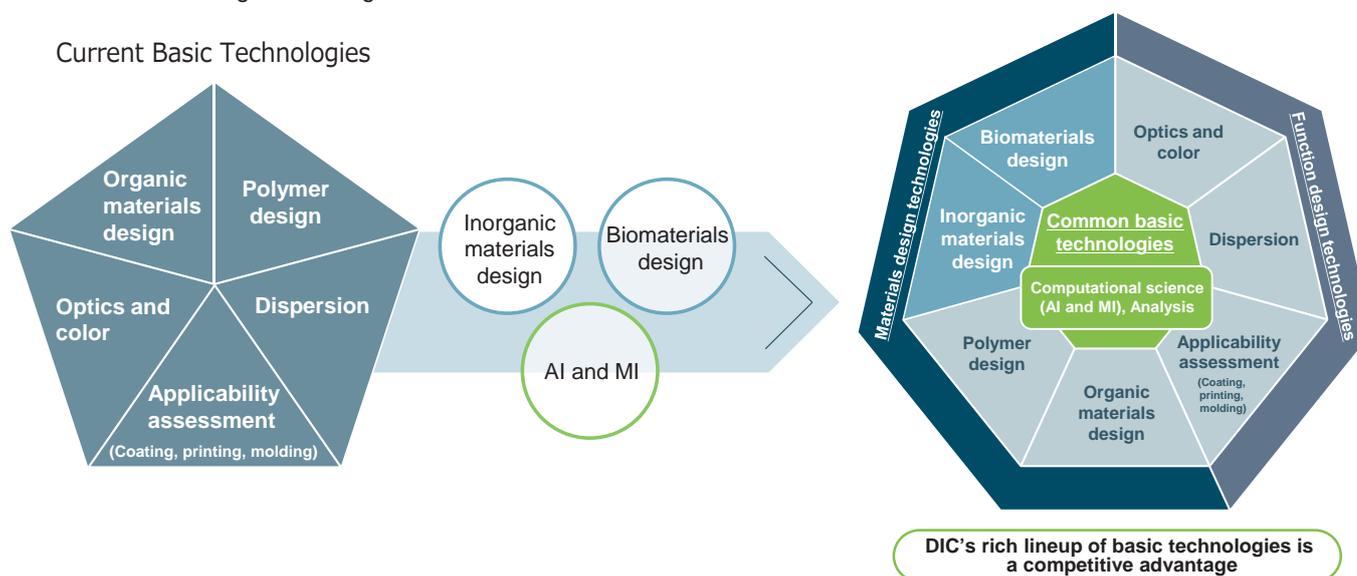


Achieving Sustainable Growth

With the aim of realizing its redefined Color & Comfort brand statement, the DIC Group is leveraging its basic technologies, including those in the areas of optics and color, organic materials design, polymer design and dispersion, and 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, including through collaboration with academic institutions, and corporate venture capital (CVC) to drive sustainable growth.

Enhancing the Technology Platform

Accelerating portfolio transformation, by combining basic technologies—including recently added inorganic materials design and biomaterials design technologies—with AI and MI



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 Co., Ltd., 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. In fiscal year 2021, DIC established the Data Science Center with the aim of facilitating the strategic introduction of AI and MI into R&D themes and reinforcing the training of AI specialists, thereby increasing the efficiency of R&D.

VOICE We developed an easy-to-remove adhesive tape that aligns with the 3Rs.

In recent years, we have seen increasing demand for DIC to provide solutions that will contribute to the achievement of the SDGs, a critical global challenge. My group developed an easy-to-remove adhesive tape that delivers the outstanding adhesion required in manufacturing and can be removed easily simply by stretching. In addition to ensuring highly reliable adhesion without peeling off when in use, this tape's easy removability helps improve the materials recycling rate for devices in which it is used, aligning with the original 3Rs—Reduce, Reuse and Recycle—for customers and society in general. Adoption by television and mobile device manufacturers continues to increase and we plan to expand our focus to include other markets going forward.



Processing Technical Group 2, Processing Technical Division, DIC Corporation

Daisuke Watanabe

Digital Transformation (DX)

Driving Business Model and Portfolio Transformation

WEB https://www.dic-global.com/en/csr/philosophy/digital_transformation.html

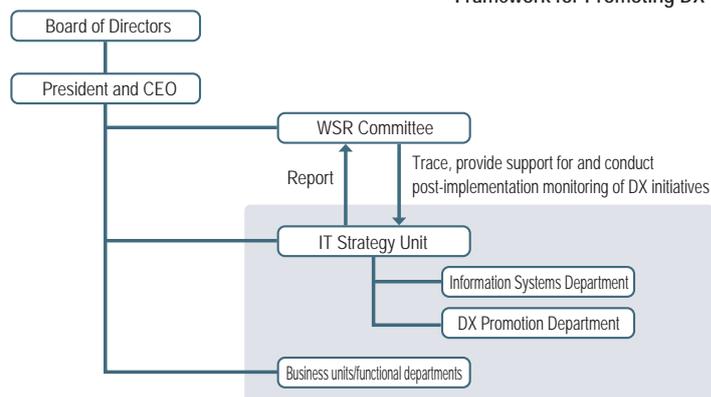


To accelerate its implementation of the growth strategies set forth in its DIC Vision 2030 long-term management plan, the DIC Group promotes DX with the objective of providing new value and reinforcing its corporate structure through the use of digital technologies and data. In addition to advancing initiatives in three key areas, namely, market, production and technology, and supply chain management (SCM), the Group is working to build a next-generation digital integrated platform, as well as to secure and train human resources, with the goal of realizing the infrastructure necessary to advance DX.

Framework for Promotion

In fiscal year 2022, DIC created the IT Strategy Unit. This new unit oversees the Information Systems Department and the DX Promotion Department and will leverage data and digital technologies, eliminating boundaries between IT and DX, to promote process optimization, work style reforms and the innovation of business models on a global scale over the short term, as well as the medium to long term. Looking ahead, the Company expects to see an increase in the promotion of independent DX initiatives by individual business units and functional departments. Accordingly, the Work Style Revolution (WSR) 2020 Committee, established in fiscal year 2022, will trace, provide support for and conduct post-implementation monitoring of such initiatives to ensure optimization from a Companywide perspective.

Framework for Promoting DX



Market

The DIC Group is leveraging DX to enhance brand strength through the creation of high-level customer experiences and achieve business model transformation. The Group recognizes the importance of digital media as a channel for communication with customers. In fiscal year 2021, the Group significantly expanded product-related content on its global website and held online exhibitions with the goal of helping customers resolve issues in specific business areas. In fiscal year 2022, the Group will broaden and refine its approach, stepping up the pace in expanding the global website's product-related content and holding online exhibitions in additional business areas and webinars.

Production and Technology

The DIC Group is deploying digital technologies widely at production sites with the aim of realizing smart factories that reduce workloads and ensure safe, stable operations. In fiscal year 2021, DIC developed and began using Prism, an AI-based system for production sites with the purpose of handing down the skills and knowledge of experts at production sites, and began work on the practical application of digital twins technology to automate entire resin production processes. On the technology side, the Group sought to expedite the transformation of its business portfolio, as outlined in DIC Vision 2030, by shifting the focus of efforts to computational science, which uses AI and ML.* In fiscal year 2021, the Group established the Data Science Center, which houses AI specialists, through which it is working to halve the development stage for new products and double the number of development themes in play.

* ML applies statistical analysis and other informatics techniques to search large amounts of data for new materials.

SCM

In addition to improving the visibility of the flows of goods and information through its supply chain, the DIC Group is standardizing and integrating business processes and key performance indicators (KPIs) to promote supply chain reforms designed to improve efficiency and management on a global basis. To this end, the Group is leveraging digital technologies to realize real-time platform linkage between sales and production data and statistical demand forecasting, an initiative it expects to begin rolling out gradually in fiscal year 2022.

Core Business Systems

The DIC Group plans to update core business systems in fiscal year 2024. Seeing this as an opportunity, the Group will respond to changes in its operating environment, business structural reforms and advances in digital technologies to build a global digital platform that will be capable of evolving even 10 years down the road, as well as an operating configuration for this platform. As part of this initiative, the Group will also establish a next-generation digital integration platform that will facilitate flexible and rapid system linkage with external parties, as well as data analysis from multiple perspectives.

Securing and Fostering Human Resources

DIC is also placing a priority on fostering the human resources necessary to advance various efforts. In fiscal year 2020, the Company began offering training for future data scientists and other individuals whose jobs will require the use of data. In fiscal year 2022, the Company began offering tailored "DX leader" training, which emphasizes the use of digital technologies to drive business and operational reforms, to selected candidates from business units and functional departments. The Group will also actively recruit human resources from outside the Company, mainly in such areas as agile development, for positions that cannot be filled by internal human resources.

Harmony with the Community and Social Contributions

Adding Color & Comfort to Lifestyles

WEB <https://www.dic-global.com/en/csr/society/>

SDGs Goals 3 and 4



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 DIC 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 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 years 2018 and 2019, the Group also conducted visiting science labs for elementary school children as part of the Tohoku University Graduate School of Engineering's Science Campus project. The labs were well received by both participating children and their parents.

In fiscal years 2020 and 2021, the DIC Group made the decision to postpone visiting science labs to help prevent the spread of COVID-19. The Group looks forward to restarting this initiative once the pandemic has subsided.



Visiting science lab

Initiatives Led by the Central Research Laboratories

DIC's Central Research Laboratories provides support for education through a variety of initiatives. In fiscal year 2021, these initiatives included backing the 15th Annual Meeting on Scientific Research by High Schools, a program sponsored by Chiba University's Section of Collaboration with High Schools that features research presentations by high schools across the country. Five researchers from the Central Research Laboratories attended this event, listening to a total of 290 presentations, taking part in Q&A sessions and otherwise encouraging the research efforts of participating high school students, who aspire to a career in the sciences.

In addition, the Central Research Laboratories offers programs that leverage DIC's unique capabilities. Particularly notable are lectures for high schools that have earned Super Science High School* designation, including Seishin Gakuen High School in Ibaraki Prefecture and Sakura Senior High School and Funabashi High School in Chiba Prefecture, as well as fashion design workshops for students from Sakura Higashi High School in Chiba Prefecture. In fiscal year 2021, only the design workshops at Sakura Higashi High School were held because of concerns regarding COVID-19, but the Central Research Laboratories continued to assist Super Science High School-designated schools through participation by executive-level employees in the steering committees of Sakura Senior High School and Funabashi High School.

*"Super Science High School" is a designation awarded by Japan's Ministry of Education, Culture, Sports, Science and Technology to 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

The Kashima Plant, in Ibaraki Prefecture, has accepted trainees in cooperation with Ibaraki Hasaki High School's internship program—dubbed the Hako Dual System—since 2008. In fiscal year 2021, three students from the school's industrial chemistry and information science programs participated in lectures on product knowledge, safety and compliance, and in practical training at the plant, over a period of three months.

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. The museum's extensive collection spans numerous genres, encompassing an oil portrait by Rembrandt, a rarity in Japan, as well as works by 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, the museum stages special exhibitions multiple times a year to promote a deeper understanding of the works in its collection.

Another appealing aspect of the museum is its location on a lushly forested 10-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.

In fiscal year 2022, the museum will celebrate its 33rd anniversary. Two special exhibitions are planned. "Color Fields" introduces approximately 40 "Color Field" paintings from the acclaimed collection of Canada's Audrey and David Mirvish. This is Japan's first-ever exhibition of the most important works in this style of abstract art, which features large canvases dominated by broad expanses of color. "Affections: Objects of Man Ray" will feature around 50 objects produced by Man Ray over his lifetime together with related paintings, photographs, films and other items by the artist.

In fiscal year 2021, the museum was able to restart regularly scheduled guided tours, which it had paused temporarily, after taking extensive steps to prevent the spread of COVID-19. The museum also continued to offer its "mite!" interactive art-viewing experience online. Looking ahead, the Kawamura Memorial DIC Museum of Art will continue to plan and stage exhibitions centered around works from its collection. The museum will also promote social contribution activities and enhance its digital presence with a view to encouraging communication with the community.



Matching Gift Program

DIC has a matching gift program in Japan whereby it matches the total amount collected through an annual year-end fundraising drive spearheaded by its employees' union. Funds raised through the 2021 drive and matching gift program were donated to 19 children's homes and facilities providing support for disabled individuals.

Communication with Stakeholders

Promoting Disclosure and Communication

WEB <https://www.dic-global.com/en/csr/stakeholder/>

SDGs Goal 17



QR code



The DIC Group places a priority on communication with its stakeholders worldwide, as outlined in Article 8 of its Policy on Corporate Governance.

Article 8 (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.

	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	<ul style="list-style-type: none"> Websites Product pamphlets Digital marketing Corporate profile DVDs DIC Report Corporate PR film News releases Television advertisements 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> DIC Group Sustainable Procurement Guidelines DIC Group Green Procurement Guidelines Supplier sustainable procurement questionnaires Feedback sheets Conflict Minerals Reporting Template DIC Report 	<ul style="list-style-type: none"> Websites Site reports Corporate profile DVDs DIC Report News releases Television advertisements 	<ul style="list-style-type: none"> Better Tomorrows (digital 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 	<ul style="list-style-type: none"> Press conferences Interviews with journalists DIC Report News releases Television advertisements
Opportunities for communication	<ul style="list-style-type: none"> Sales activities Participation in exhibitions Lectures on the SDGs for customers 	<ul style="list-style-type: none"> Annual General meeting of shareholders Results presentations IR conferences IR meetings DIC IR Day Individual investor briefings ESG presentations 	<ul style="list-style-type: none"> On-site inquiries 	<ul style="list-style-type: none"> Production facility tours Participation in projects involving collaboration among industrial concerns, government bodies and academic institutions Participation in community events Environmental monitoring Plant Ban Odori 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Newspapers Economic publications Industry publications

Ties with Customers



Sustainable Material Expo



CITE Japan

Ties with Society



DIC's global website



DIC Report

Ties with the Media

Press conferences held in fiscal year 2021

83

Interviews with journalists in fiscal year 2021

69

Ties with Shareholders and Investors



ESG presentation



Ties with Employees



Financial results presentation for employees by president and CEO Kaoru Ino (left) and CFO Shuji Furuta (right)



Value Creation Essentials

Value Creation Strategies

Value Creation Cornerstones

Data

Financial Report for Fiscal Year 2021

Analysis of Results of Operations

Overview of Operating Results

(Billions of yen)

	FY2020	FY2021	Change (%)	Change (%) [Local currency basis]
Net sales	701.2	855.4	22.0%	18.2%
Operating income	39.7	42.9	8.1%	7.1%
Ordinary income	36.5	43.8	20.0%	—
Net income attributable to owners of the parent	13.2	4.4	-67.0%	—
EBITDA*	55.6	69.0	24.1%	—
¥/US\$1.00 (Average rate)	106.37	109.75	3.2%	—
¥/EUR1.00 (Average rate)	121.43	129.73	6.8%	—

* EBITDA = Net income attributable to owners of the parent + Total income taxes + (Interest expenses – Interest income) + Depreciation and amortization

In the fiscal year ended December 31, 2021, consolidated net sales advanced 22.0%, to ¥855.4 billion. If the results of the C&E pigments business (formerly BASF SE's Colors & Effects business), included in the scope of consolidation since July 2021, were discounted, the increase would have been 15.3%. With progress in the drive to vaccinate people against COVID-19 and the effectiveness of vaccinations, the effect of the pandemic on economic activity eased, particularly in developed countries and territories. Against a backdrop of buoyant digital-related demand worldwide, shipments remained robust, including those of high-value-added products such as materials for use in semiconductor devices and in electrical and electronics equipment. Shipments of materials for use in daily necessities such as food packaging stayed firm, while those of pigments for cosmetics showed signs of recovering. While certain products and regions continued to feel the brunt of falling automobile production, a result of semiconductor device shortages, shipments of materials for automotive applications were steady overall.

Operating income, at ¥42.9 billion, was up 8.1%. If the impact of the C&E pigments business was excluded, the gain would have been 31.6%. This was despite the impact of elevated raw materials costs, a consequence of rising crude oil prices, among others, and higher logistics costs, attributable to supply chain stagnation, throughout the period, and was due to solid shipments in all segments, particularly of high-value-added products, and ongoing efforts to reduce the influence of escalating costs by adjusting sales prices. Nonetheless, operating income growth was hindered by flagging sales in the C&E pigments business—reflecting shipment delays attributable to the fact that it took some time to build a logistics configuration following the integration of the new business—as well as by an increase in operating costs to resolve this business' logistics-related issues, among others.

Ordinary income rose 20.0%, to ¥43.8 billion, owing to expanded equity in earnings of affiliates and foreign exchange gains.

Net income attributable to owners of the parent tumbled 67.0%, to ¥4.4 billion. The principal factor behind this steep decrease was the reversal of deferred tax assets in the United States and the recording of an equivalent amount as income taxes—deferred, as detailed in the press release titled “Notice Regarding Revision of Consolidated Operating Results Forecasts for Fiscal Year 2021 and Reversal of Deferred Tax Assets,” published on February 7, 2022.

Earnings before interest, taxes, depreciation and amortization (EBITDA) reached ¥69.0 billion, up 24.1%.

Segment Results

(Billions of yen)

	Net sales				Operating income (loss)			
	FY2020	FY2021	Change (%)	Change (%) [Local currency basis]	FY2020	FY2021	Change (%)	Change (%) [Local currency basis]
Packaging & Graphic	388.4	439.8	13.2%	9.8%	21.8	21.6	-0.7%	-0.2%
Color & Display	105.8	167.2	58.0%	51.7%	8.4	4.0	-53.2%	-49.3%
Functional Products	236.0	283.3	20.1%	17.1%	17.1	26.2	53.2%	49.4%
Others, Corporate and eliminations	(29.0)	(34.9)	—	—	(7.6)	(8.9)	—	—
Total	701.2	855.4	22.0%	18.2%	39.7	42.9	8.1%	7.1%

Packaging & Graphic

	FY2020	FY2021	Change (%)	Change (%) [Local currency basis]
Net sales	¥388.4 billion	¥439.8 billion	13.2%	9.8%
Operating income	¥21.8 billion	¥21.6 billion	-0.7%	-0.2%

Segment sales rose 13.2%, to ¥439.8 billion. In materials for food packaging, sales of packaging inks were bolstered by the continued expansion of shipments in the Americas and Europe, and signs of a recovery in demand in Japan. Sales of publication inks, which center on inks for commercial printing and news inks were also up—despite a decline in demand for the former in Japan, notably for printing pamphlets and event-related printed materials—thanks to higher sales in Asia, bolstered by persistently robust market conditions, and in the Americas and Europe, backed by firm demand. Sales of jet inks for digital printing increased sharply, buttressed by brisk sales throughout the year for industrial applications, including outdoor signage (billboards and posters) and banners, and for commercial printing, as well as by the positive impact of the June 2020 acquisition of a business engaged in the production of jet inks for digital printing on textiles.

Segment operating income edged down 0.7%, to ¥21.6 billion. Notwithstanding ongoing efforts to counter the heightened influence of escalating raw materials costs—a result of rising raw materials prices—worldwide, operating income was down in Japan and Asia, as a consequence of which the overall result remained essentially level with the previous fiscal year.

Color & Display

	FY2020	FY2021	Change (%)	Change (%) [Local currency basis]
Net sales	¥105.8 billion	¥167.2 billion	58.0%	51.7%
Operating income	¥8.4 billion	¥4.0 billion	-53.2%	-49.3%

Segment sales climbed 58.0%, to ¥167.2 billion. If the impact of the C&E pigments business was excluded, the increase would have been 13.9%. Among existing businesses, sales of color materials rose, as shipments of pigments for cosmetics continued showing signs of recovering. In display materials, sales of pigments for color filters were up, with shipments remaining high, supported by steady demand for use in liquid crystal displays (LCDs), although sales of thin-film transistor liquid crystals (TFT LCs) decreased, owing to intensified competition with manufacturers in the People's Republic of China (PRC). In pigments for specialty applications, sales of effect pigments remained on an uptrend, bolstered by higher demand in Europe for autoclaved aerated concrete for construction-related applications. In addition to amplified results in these existing businesses, segment sales were boosted by the inclusion of the results of the C&E pigments business. Sales in the C&E pigments business flagged, reflecting shipment delays attributable to a tight supply-demand situation in the area of maritime shipping arising from a global container shortage, as well as to the fact that it took some time to build a logistics configuration following the integration of this new business.

Segment operating income fell 53.2%, to ¥4.0 billion. If the impact of the C&E pigments business was disregarded, this would have been a gain of 56.8%. Despite a recovery in shipments of pigments for cosmetics and persistently firm shipments of high-value-added products such as pigments for color filters and effect pigments, numerous factors, including sluggish sales in the C&E pigments business, an increase in operating costs to resolve this business' logistics-related issues and one-time costs associated with the integration of this business, combined to push operating income down.

Functional Products

	FY2020	FY2021	Change (%)	Change (%) [Local currency basis]
Net sales	¥236.0 billion	¥283.3 billion	20.1%	17.1%
Operating income	¥17.1 billion	¥26.2 billion	53.2%	49.4%

Segment sales advanced 20.1%, to ¥283.3 billion. Shipments of epoxy resins, the principal application for which is semiconductor devices, were brisk overall for use as sealing materials in electronics equipment. Shipments of industrial-use tapes, used primarily in smartphones and other mobile devices, were firm. Sales of all environment-friendly resins* increased, led by robust shipments of products for a wide range of applications, including electrical and electronics equipment, and building materials, although shipments of certain materials for use in automobiles in Asia flagged. Sales of polyphenylene sulfide (PPS) compounds—uses for which continue to multiply, underpinned by the trend toward lighter and more electrified vehicles—were up in all regions, as orders remained solid, particularly in Japan, although concerns remained over the impact of a shortage of semiconductor devices in the automobile industry.

Segment operating income leapt 53.2%, to ¥26.2 billion. This sharp gain was despite elevated raw materials costs and reflected continued brisk shipments of epoxy resins and other high-value-added products and efforts to adjust sales prices.

* DIC uses the term "environment-friendly resins" to describe strategic resins designed to improve both environmental performance and functionality. These include waterborne, ultraviolet (UV)-curable, polyester, acrylic and polyurethane resins.

Consolidated Financial Statements

Consolidated Balance Sheet As of December 31, 2020 and 2021

(Millions of yen)

	2020	2021
Assets		
Current assets		
Cash and deposits	44,885	38,253
Notes and accounts receivable—trade	197,595	237,916
Merchandise and finished goods	78,273	132,773
Work in process	9,065	9,651
Raw materials and supplies	55,058	91,199
Other	24,294	36,282
Allowance for doubtful accounts	(9,171)	(3,959)
Total current assets	399,997	542,114
Non-current assets		
Property, plant and equipment		
Buildings and structures	262,318	288,987
Accumulated depreciation	(175,432)	(185,949)
Buildings and structures, net	86,885	103,039
Machinery, equipment and vehicles	404,451	461,394
Accumulated depreciation	(337,065)	(351,875)
Machinery, equipment and vehicles, net	67,386	109,519
Tools, furniture and fixtures	65,312	74,041
Accumulated depreciation	(54,844)	(59,111)
Tools, furniture and fixtures, net	10,468	14,930
Land	51,362	64,219
Construction in progress	11,977	15,978
Total property, plant and equipment	228,078	307,684
Intangible assets		
Goodwill	819	20,182
Software	2,963	4,002
Customer-related assets	2,853	3,107
Other	4,877	25,022
Total intangible assets	11,512	52,313
Investments and other assets		
Investment securities	57,201	59,289
Deferred tax assets	32,407	17,320
Net defined benefit asset	63,784	69,715
Other	25,705	23,201
Allowance for doubtful accounts	(734)	(156)
Total investments and other assets	178,363	169,370
Total non-current assets	417,953	529,367
Total assets	817,950	1,071,481

Consolidated Balance Sheet As of December 31, 2020 and 2021

(Millions of yen)

	2020	2021
Liabilities		
Current liabilities		
Notes and accounts payable—trade	95,263	145,816
Short-term loans payable	10,275	10,437
Current portion of long-term loans payable	27,096	37,131
Current portion of bonds payable	—	20,000
Lease obligations	1,061	1,092
Income taxes payable	4,985	5,640
Provision for bonuses	5,480	6,125
Other	53,022	79,334
Total current liabilities	197,181	305,575
Non-current liabilities		
Bonds payable	100,000	140,000
Long-term loans payable	123,766	171,443
Lease obligations	4,543	4,112
Deferred tax liabilities	12,525	10,725
Net defined benefit liability	17,071	35,989
Asset retirement obligations	1,691	7,689
Other	9,809	14,940
Total non-current liabilities	269,405	384,897
Total liabilities	466,586	690,473
Net Assets		
Shareholders' equity		
Capital stock	96,557	96,557
Capital surplus	94,468	94,468
Retained earnings	219,778	214,665
Treasury shares	(1,800)	(1,780)
Total shareholders' equity	409,003	403,910
Accumulated other comprehensive income		
Valuation difference on available-for-sale securities	2,903	5,449
Deferred gains or losses on hedges	2,468	92
Foreign currency translation adjustment	(82,321)	(55,456)
Remeasurements of defined benefit plans	(13,562)	(8,067)
Total accumulated other comprehensive income	(90,511)	(57,983)
Non-controlling interests	32,873	35,081
Total net assets	351,364	381,008
Total liabilities and net assets	817,950	1,071,481

Value Creation Essentials

Value Creation Strategies

Value Creation Cornerstones

Data

Consolidated Statement of Income Years ended December 31, 2020 and 2021

(Millions of yen)

	2020	2021
Net sales	701,223	855,379
Cost of sales	544,430	678,061
Gross profit	156,793	177,318
Selling, general and administrative expenses		
Freightage and packing expenses	12,914	15,870
Employees' salaries and allowances	42,776	48,950
Provision of allowance for doubtful accounts	866	287
Provision for bonuses	2,242	2,431
Retirement benefit expenses	(257)	(552)
Research and development costs	12,029	13,503
Other	46,560	53,935
Total selling, general and administrative expenses	117,130	134,425
Operating income	39,663	42,893
Non-operating income		
Interest income	1,263	1,223
Dividends income	416	401
Foreign exchange gains	—	250
Equity in earnings of affiliates	771	2,943
Other	2,066	2,017
Total non-operating income	4,516	6,835
Non-operating expenses		
Interest expenses	2,225	2,176
Foreign exchange losses	1,384	—
Other	4,117	3,794
Total non-operating expenses	7,726	5,970
Ordinary income	36,452	43,758
Extraordinary income		
Gain on sales of subsidiaries' and affiliates' securities	—	769
Gain on sales of non-current assets	5,226	482
Gain on bargain purchase	1,295	—
Insurance income	531	—
Total extraordinary income	7,052	1,251
Extraordinary losses		
Acquisition-related expenses	4,563	6,911
Loss on disposal of non-current assets	2,903	3,139
Impairment losses	1,251	1,563
Severance costs	924	522
Loss on disaster	—	463
Provision for environmental measures	—	300
Loss on business liquidation	8,762	—
Total extraordinary losses	18,403	12,897
Income before income taxes and non-controlling interests	25,102	32,112
Income taxes—current	10,336	13,609
Income taxes—deferred	(1,651)	12,041
Total income taxes	8,685	25,650
Net income	16,417	6,462
Net income attributable to non-controlling interests	3,184	2,097
Net income attributable to owners of the parent	13,233	4,365

Consolidated Statement of Comprehensive Income Years ended December 31, 2020 and 2021

(Millions of yen)

	2020	2021
Net income	16,417	6,462
Other comprehensive income		
Valuation difference on available-for-sale securities	1,175	2,549
Deferred gains or losses on hedges	1,785	(2,376)
Foreign currency translation adjustment	(9,827)	27,010
Remeasurements of defined benefit plans, net of tax	10,689	5,616
Share of other comprehensive income of associates accounted for using equity method	158	1,334
Total other comprehensive income	3,980	34,134
Comprehensive income	20,396	40,596
Comprehensive income attributable to		
Comprehensive income attributable to owners of the parent	17,368	36,894
Comprehensive income attributable to non-controlling interests	3,028	3,702

Consolidated Statement of Changes in Net Assets Years ended December 31, 2020 and 2021

Fiscal year ended December 31, 2020

(Millions of yen)

	Shareholders' equity				
	Capital stock	Capital surplus	Retained earnings	Treasury shares	Total shareholders' equity
Balance at January 1, 2020	96,557	94,456	218,209	(1,823)	407,398
Change in FY2020					
Dividends from surplus			(8,531)		(8,531)
Net income attributable to owners of the parent			13,233		13,233
Purchase of treasury shares				(5)	(5)
Disposal of treasury shares				28	28
Change of scope of equity method			(3,133)		(3,133)
Change in ownership interest of parent due to transactions with non-controlling interests		12			12
Net changes of items other than shareholders' equity					
Total change in FY2020	—	12	1,569	23	1,605
Balance at December 31, 2020	96,557	94,468	219,778	(1,800)	409,003

(Millions of yen)

	Accumulated other comprehensive income					Non-controlling interests	Total net assets
	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		
Balance at January 1, 2020	1,676	683	(72,671)	(24,346)	(94,658)	30,757	343,497
Change in FY2020							
Dividends from surplus							(8,531)
Net income attributable to owners of the parent							13,233
Purchase of treasury shares							(5)
Disposal of treasury shares							28
Change of scope of equity method							(3,133)
Change in ownership interest of parent due to transactions with non-controlling interests							12
Net changes of items other than shareholders' equity	1,227	1,785	(9,650)	10,784	4,147	2,116	6,262
Total change in FY2020	1,227	1,785	(9,650)	10,784	4,147	2,116	7,868
Balance at December 31, 2020	2,903	2,468	(82,321)	(13,562)	(90,511)	32,873	351,364

Fiscal year ended December 31, 2021

(Millions of yen)

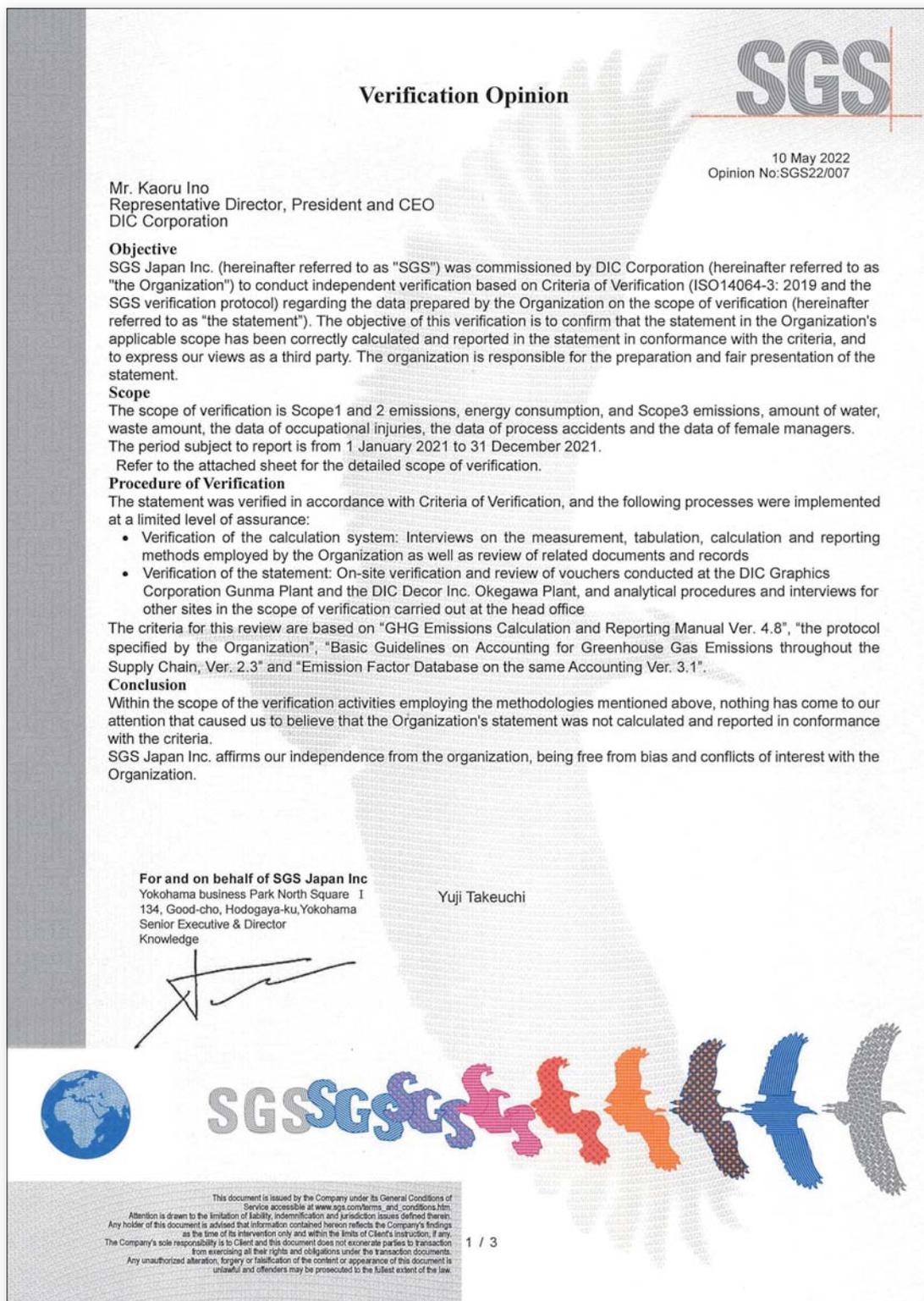
	Shareholders' equity				
	Capital stock	Capital surplus	Retained earnings	Treasury shares	Total shareholders' equity
Balance at January 1, 2021	96,557	94,468	219,778	(1,800)	409,003
Change in FY2021					
Dividends from surplus			(9,479)		(9,479)
Net income attributable to owners of the parent			4,365		4,365
Purchase of treasury shares				(9)	(9)
Disposal of treasury shares				29	29
Net changes of items other than shareholders' equity					
Total change in FY2021	—	—	(5,114)	20	(5,094)
Balance at December 31, 2021	96,557	94,468	214,665	(1,780)	403,910

(Millions of yen)

	Accumulated other comprehensive income					Non-controlling interests	Total net assets
	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		
Balance at January 1, 2021	2,903	2,468	(82,321)	(13,562)	(90,511)	32,873	351,364
Change in FY2021							
Dividends from surplus							(9,479)
Net income attributable to owners of the parent							4,365
Purchase of treasury shares							(9)
Disposal of treasury shares							29
Net changes of items other than shareholders' equity	2,546	(2,377)	26,865	5,494	32,528	2,208	34,736
Total change in FY2021	2,546	(2,377)	26,865	5,494	32,528	2,208	29,643
Balance at December 31, 2021	5,449	92	(55,456)	(8,067)	(57,983)	35,081	381,008

	2020	2021
Net cash provided by (used in) operating activities		
Income before income taxes and non-controlling interests	25,102	32,112
Depreciation and amortization	32,581	37,394
Amortization of goodwill	143	656
Loss (gain) on bargain purchase	(1,295)	—
Increase (decrease) in allowance for doubtful accounts	(548)	(1,386)
Increase (decrease) in provision for bonuses	(124)	632
Interest and dividends income	(1,679)	(1,624)
Equity in (earnings) losses of affiliates	(771)	(2,943)
Interest expenses	2,225	2,176
Loss (gain) on sales and retirement of non-current assets	(2,324)	2,657
Impairment losses	1,251	1,563
Loss on business liquidation	8,762	—
Loss (gain) on sales of subsidiaries' and affiliates' securities	—	(769)
Decrease (increase) in notes and accounts receivable—trade	10,781	(15,963)
Decrease (increase) in inventories	10,158	(34,348)
Increase (decrease) in notes and accounts payable—trade	(12,453)	34,261
Other, net	(10,847)	2,676
Subtotal	60,963	57,093
Interest and dividends income received	3,249	3,358
Interest expenses paid	(2,385)	(1,963)
Income taxes paid	(7,366)	(13,676)
Net cash provided by (used in) operating activities	54,462	44,812
Net cash provided by (used in) investing activities		
Payments into time deposits	(8,024)	(402)
Proceeds from withdrawal of time deposits	4,589	3,433
Purchase of property, plant and equipment	(32,719)	(35,935)
Proceeds from sales of property, plant and equipment	5,895	909
Purchase of intangible assets	(1,280)	(2,706)
Purchase of shares and investments in capital of subsidiaries resulting in change in scope of consolidation	(2,817)	(124,095)
Proceeds from sales of shares and investments in capital of subsidiaries resulting in change in scope of consolidation	890	—
Payments for sales of shares and investments in capital of subsidiaries resulting in change in scope of consolidation	(16)	—
Proceeds from sales of subsidiaries' and affiliates' securities	226	11,618
Purchase of investment securities	(51)	(142)
Proceeds from sales and redemption of investment securities	352	1,589
Proceeds from sales of businesses	—	95
Payments for transfer of businesses	(78)	—
Other, net	(3)	(1,975)
Net cash provided by (used in) investing activities	(33,037)	(147,612)
Net cash provided by (used in) financing activities		
Net increase (decrease) in short-term loans payable	(8,866)	(650)
Proceeds from long-term loans payable	42,105	89,070
Repayment of long-term loans payable	(35,325)	(36,277)
Proceeds from issuance of bonds	20,000	60,000
Cash dividends paid	(8,531)	(9,479)
Cash dividends paid to non-controlling interests	(782)	(1,475)
Net decrease (increase) in treasury shares	23	20
Purchase of shares and investments in capital of subsidiaries not resulting in change in scope of consolidation	(114)	—
Other, net	(2,173)	(1,660)
Net cash provided by (used in) financing activities	6,338	99,549
Effect of exchange rate change on cash and cash equivalents	(3,100)	(531)
Net increase (decrease) in cash and cash equivalents	24,663	(3,782)
Cash and cash equivalents at beginning of the period	16,690	41,354
Cash and cash equivalents at end of the period	41,354	37,572

Third-Party Verification



The image shows a 'Verification Opinion' report from SGS. The report is dated 10 May 2022 and has an opinion number of SGS22/007. It is addressed to Mr. Kaoru Ino, Representative Director, President and CEO of DIC Corporation. The objective is to verify the data prepared by the Organization (DIC Corporation) regarding greenhouse gas emissions, energy consumption, and other metrics. The scope includes Scope 1 and 2 emissions, energy consumption, and Scope 3 emissions, among others. The procedure of verification involved interviews, document reviews, and on-site verification at various plants. The conclusion states that the Organization's statement was not calculated and reported in conformance with the criteria. The report is signed by Yuji Takeuchi, Senior Executive & Director of Knowledge at SGS Japan Inc. The report also features the SGS logo, a globe, and a row of colorful birds.

SGS

Verification Opinion

10 May 2022
Opinion No:SGS22/007

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: 2019 and the SGS verification protocol) regarding the data prepared by the Organization on the scope of verification (hereinafter referred to as "the statement"). The objective of this verification is to confirm that the statement in the Organization's applicable scope has been correctly calculated and reported in the statement in conformance with the criteria, and to express our views as a third party. The organization is responsible for the preparation and fair presentation of the statement.

Scope
The scope of verification is Scope1 and 2 emissions, energy consumption, and Scope3 emissions, amount of water, waste amount, the data of occupational injuries, the data of process accidents and the data of female managers. The period subject to report is from 1 January 2021 to 31 December 2021.
Refer to the attached sheet for the detailed scope of verification.

Procedure of Verification
The statement 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 statement: On-site verification and review of vouchers conducted at the DIC Graphics Corporation Gunma Plant and the DIC Decor Inc. Okegawa 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. 4.8", "the protocol specified by the Organization", "Basic Guidelines on Accounting for Greenhouse Gas Emissions throughout the Supply Chain, Ver. 2.3" and "Emission Factor Database on the same Accounting Ver. 3.1".

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 statement 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
Yokohama business Park North Square I
134, Good-cho, Hodogaya-ku, Yokohama
Senior Executive & Director
Knowledge

Yuji Takeuchi

SGS

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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).

(Contact)

DIC Corporation

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