

Global "sukima" ideas



# **Nippon Kayaku Group Integrated Report 2024**

Nippon Kayaku Group Corporate Vision

# KAYAKU spirit

**Continuously providing society with the best  
products through ceaseless progress and the  
combined forces of our consciences**

## Basic Policy on Sustainable Management

Under its corporate vision, the **KAYAKU spirit**, the Nippon Kayaku Group will practice sustainable management that responds to the trust placed in it by all of its stakeholders, by ensuring transparency and fairness in management and contributing to the creation of a sustainable environment and society through its business activities.

## Corporate Slogan

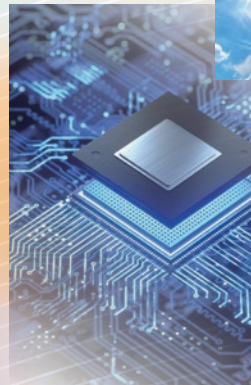
# Global "sukima" ideas

At the Nippon Kayaku Group, we strive to deliver value through the pursuit of originality, rather than relying on scale.

To realize this ambition, each employee must strive to improve his or her capabilities while continuing to create products that deliver added value.

We are developing Nippon Kayaku into a company that the world truly needs, by accumulating unique technology that stands outs in niche markets and elsewhere.





# CONTENTS

## Nippon Kayaku Group Integrated Report 2024

### Disclaimer

This integrated report contains various forward-looking statements about future developments that are based on the Nippon Kayaku Group assumptions and forecasts at present. They are subject to risks and uncertainties which could cause the actual outcome, including the company's financial position, its business development, and/or performance, to differ from those described in this report.

## Introduction

page  
**01**

### About the Nippon Kayaku Group

<b>KAYAKU spirit</b> and Basic Policy on Sustainable Management .....	<b>1</b>
Contents .....	<b>5</b>
Upon Publication of Nippon Kayaku Group Integrated Report 2024, Editorial Policy, Information Disclosed by the Nippon Kayaku Group, External Evaluations and Awards .....	<b>7</b>
At a Glance .....	<b>9</b>
The History of Value Creation .....	<b>13</b>
Global Business Expansion .....	<b>15</b>

## Chapter 1

page  
**17**

### Business Results and Strategy

Message from the President .....	<b>19</b>
----------------------------------	-----------

Nippon Kayaku Group's Value Creation Process .....	<b>27</b>
--	-----------

#### Focus

Six Forms of Capital Serving as the Source of Competitiveness .....	<b>29</b>
---	-----------

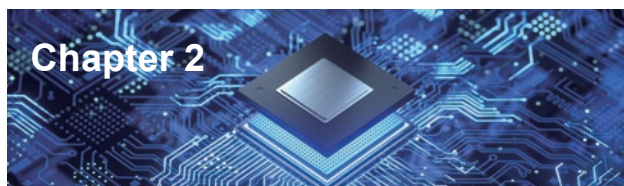
The Comfortable Future Society with Peace of Mind That the Nippon Kayaku Group Hopes to Realize .....	<b>31</b>
---	-----------

Nippon Kayaku Group's Sustainable Management .....	<b>33</b>
--	-----------

Stakeholder Engagement .....	<b>39</b>
------------------------------	-----------

Review of the Medium-term Business Plan and Progress of the <b>KAYAKU Vision 2025</b> .....	<b>41</b>
---	-----------

Message from Chief Financial Officer .....	<b>47</b>
--	-----------



## Chapter 2

page  
**51**

### Businesses

Mobility & Imaging Business Unit .....	53
Feature on Promising Products and Businesses	
Safety Devices for Drones, PARASAFE® .....	56
Fine Chemicals Business Unit .....	58
Feature on Promising Products and Businesses	
Semiconductor-related Products .....	61
Life Science Business Unit .....	63
Development pipeline of Pharmaceuticals business .....	65



## Chapter 4

page  
**121**

### Data Section

Financial and Non-Financial Highlights .....	123
11-Year Summary of Consolidated Financial Data .....	125
Nippon Kayaku Group Status .....	127
Company Overview / Investor Information / Communication with Shareholders and Institutional Investors .....	128
Nippon Kayaku Group Product Keywords 2024 .....	129
Independent Assurance Statement .....	130



## Chapter 3

page  
**67**

### Management Foundation to Support Sustainable Growth

Research & Development .....	69
Environmental Initiatives .....	73
DX .....	82

#### Focus

Human Resources and Creation of a Comfortable Workplace Environment ..	85
Respect for Human Rights .....	91
Supply Chain Management .....	93
Quality Management .....	95
Contributing to Local Communities .....	97
Corporate Governance .....	99
Directors, Audit & Supervisory Board Members, and Executive Directors .....	103
Outside Directors Roundtable .....	110
Compliance .....	115
Risk Management .....	117
Information Security .....	120

#### About Cover Design

This design in a tranquil space illuminated by soft rays of light expresses our creativity as well as the new technologies and approaches born from the plentiful three business units of the Nippon Kayaku Group. It shows our stance of transforming ourselves toward our vision while seeking harmony with society.



## Upon Publication of Nippon Kayaku Group Integrated Report 2024



**Yoshitsugu Ishida**

Member of the Board,  
Representative Executive Vice President,  
In charge of Corporate Planning Division,  
Corporate Communications Division,  
Finance & Accounting Division,  
Information Systems Division,  
and Purchasing Division

The Nippon Kayaku Group publishes the Integrated Report to deepen understanding of its efforts to enhance corporate value over the medium to long term among shareholders, investors, and a wide range of other stakeholders. The Integrated Report 2024, our seventh issue, has been structured in a way to convey—in a manner that is easy to understand—our story of all employees creating value united as one under the new structure that includes the three business units of Mobility & Imaging, Fine Chemicals, and Life Science, as well as the Technology Unit, which supervises our technical divisions. We have also expanded and enhanced the overall content so that we can provide our stakeholders with specific information that is easy to understand.

The Corporate Communications Division took the lead in preparing this report, in cooperation and collaboration with related divisions and departments. As the officer responsible for the production of the report, I hereby state that the production process is legitimate, and the information contained in the report is accurate. We hope this report will help you better understand the Nippon Kayaku Group's efforts. We will continue to improve the content of the report by placing emphasis on dialogue with our stakeholders. We would appreciate your frank opinions and requests.

## Editorial Policy

### Organizations Covered

This report covers 27 out of the 48 companies in the Nippon Kayaku Group, in principle. The 27 companies covered are Nippon Kayaku Co., Ltd. and its 26 consolidated subsidiaries (as of March 31, 2024).

### Time Period Covered

Fiscal year 2023 (from April 1, 2023 to March 31, 2024).

However, the report also contains some information from outside of this time period.

### Date Published

October 29, 2024

### Online version

URL: <https://www.nipponkayaku.co.jp/english/ir/library/annual/index.html>

### Guidelines Referenced

- International Integrated Reporting Framework
- GRI Standards
- Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)
- Guidance for Collaborative Value Creation
- IP and Intangible Assets Governance Guidelines



## Information Disclosed by the Nippon Kayaku Group



The Nippon Kayaku Group discloses various kinds of corporate information on the group's website in addition to the Integrated Report. Click on the following URLs for more information.

Investor Relations	<a href="https://www.nipponkayaku.co.jp/english/ir/">https://www.nipponkayaku.co.jp/english/ir/</a>
Sustainability	<a href="https://www.nipponkayaku.co.jp/english/sustainability/">https://www.nipponkayaku.co.jp/english/sustainability/</a>
■ GRI Index	<a href="https://www.nipponkayaku.co.jp/english/sustainability/other/gri/">https://www.nipponkayaku.co.jp/english/sustainability/other/gri/</a>
Reports	
■ Annual Securities Report for the 167th Period (Japanese)	<a href="https://ssl4.eir-parts.net/doc/4272/yo_ho_pdf/S100TTFJ/00.pdf">https://ssl4.eir-parts.net/doc/4272/yo_ho_pdf/S100TTFJ/00.pdf</a>
■ Corporate Governance Report	<a href="https://www.nipponkayaku.co.jp/sustainability/pdf/governance/corporate-governance/corporate_governance_report_202406_en.pdf">https://www.nipponkayaku.co.jp/sustainability/pdf/governance/corporate-governance/corporate_governance_report_202406_en.pdf</a>
External Evaluation and Awards	<a href="https://www.nipponkayaku.co.jp/english/sustainability/other/evaluation/">https://www.nipponkayaku.co.jp/english/sustainability/other/evaluation/</a>




## External Evaluations and Awards

### ESG Index Inclusions and Ratings (as of July 2024)


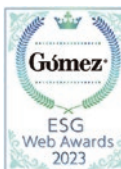
<p><b>FTSE Blossom Japan Sector Relative Index*</b></p>  <p><b>FTSE Blossom Japan Sector Relative Index</b></p> <p>This index reflects the performance of the Japanese companies with outstanding environmental, social, and governance (ESG) practices relative to others in their sector.</p>	<p><b>S&amp;P/JPX Carbon Efficient Index</b></p>  <p>This index weights and ranks TOPIX companies based on how well they disclose environmental information, and on carbon efficiency (carbon emissions per unit of sales).</p>	<p><b>Morningstar Japan ex-REIT Gender Diversity Tilt Index</b></p> <p>This index ranks companies based on the extent to which their gender diversity policies have been instilled throughout the organization, and on how they provide employees with equal opportunities regardless of gender.</p>
--	--	--

\*1 FTSE Russell (the trading name of FTSE International Limited and Frank Russell Company) confirms that Nippon Kayaku Co., Ltd. has been independently assessed according to the FTSE Blossom Japan Sector Relative Index, and has satisfied the requirements to become a constituent of the FTSE Blossom Japan Sector Relative Index. Created by the global index provider FTSE Russell, the FTSE Blossom Japan Index is designed to measure the performance of companies demonstrating strong Environmental, Social and Governance (ESG) practices. The FTSE Blossom Japan Sector Relative Index is used by a wide variety of market participants to create and assess responsible investment funds and other products.

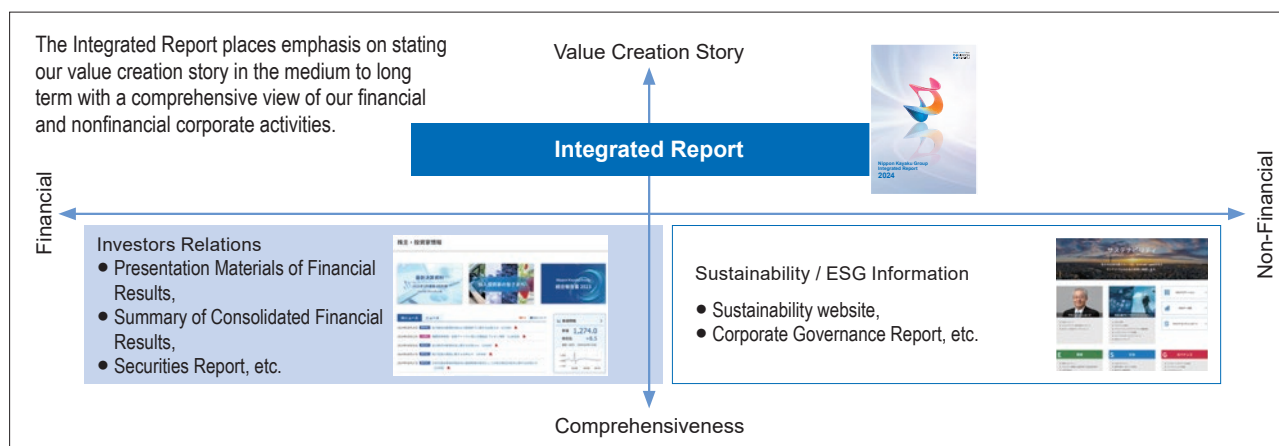
<p><b>MSCI ESG Ratings*2</b></p>  <p>A global rating index with seven levels of ESG risk and opportunity management from “AAA,” the highest rank, to “CCC,” the lowest rank (the Nippon Kayaku Group was rated AA in 2024).</p>	<p><b>MSCI Nihonkabu ESG Select Leaders Index*2</b></p> <p><b>2024 CONSTITUENT MSCI NIHONKABU ESG SELECT LEADERS INDEX</b></p> <p>This index has the MSCI Japan IMI Top 700 Index as its parent index. It comprises companies with outstanding ESG evaluation.</p>	<p><b>MSCI Japan Empowering Women Index (WIN)*2</b></p> <p><b>2024 CONSTITUENT MSCI JAPAN EMPOWERING WOMEN INDEX (WIN)</b></p> <p>This index has the MSCI Japan IMI Top 700 Index as its parent index. It comprises companies with outstanding records of promoting women's empowerment.</p>
--	--	--

\*2 The inclusion of Nippon Kayaku Co., Ltd. in any MSCI index, and the use of MSCI logos, trademarks, service marks or index names herein, do not constitute a sponsorship, endorsement or promotion of Nippon Kayaku Co., Ltd. by MSCI or any of its affiliates. The MSCI indexes are the exclusive property of MSCI. MSCI and the MSCI index names and logos are trademarks or service marks of MSCI or its affiliates.

### Recognition and Awards

<p><b>CDP</b></p>  <p>The Nippon Kayaku Group earned an A- in the CDP Climate Change Report and a B in the CDP Water Security Report from CDP, an international NGO that carries out environmental examination and evaluation.</p>	<p><b>EcoVadis</b></p> <p>The Nippon Kayaku Group earned a bronze medal from EcoVadis, which carries out comprehensive evaluations of companies in the four fields of environment, labor and human rights, ethics, and sustainable procurement.</p>	<p><b>BroadBand Security (Gomez ESG Site Ranking)</b></p>  <p>The Nippon Kayaku Group was selected as an Outstanding Company in this ranking, which rated companies from the five perspectives of website user-friendliness, ESG sharing, E (environment), S (social), and G (governance).</p>
---	---	---

## Positioning of the Integrated Report





## At a Glance

### Mobility & Imaging Business Unit



## Global "sukima" ideas

### Micro gas generators and squibs for external sales

Micro gas generators for seatbelt pretensioners (winding device) and squibs (ignition component) produced as automotive safety components make up the top global share, as products for external sales, due to their performance and reliability.

### Basic Data of the Nippon Kayaku Group



Net Sales

**201.8** billion yen\*<sup>1</sup>



Global Business Expansion

**12** countries and regions\*<sup>1</sup>



Founding

**108** th anniversary



Operating Income

**7.3** billion yen\*<sup>1</sup>

### Scale of Growth Markets Where the Nippon Kayaku Group Engages in Business

Estimated based on market surveys by the Nippon Kayaku Group

#### Mobility & Imaging Business Unit



Expected Markets

**Airbag inflators**

**250 to 300**  
billion yen

(Automotive Safety Components of Safety Systems Business)



New Markets

**Global market for safety components for drones**

**5 to 7**  
billion yen

(Safety Components for Drones of Safety Systems Business)

#### Fine Chemicals Business Unit



Expected Markets

**Semiconductor manufacturing-related product groups**

**200 to 250**  
billion yen

(Semiconductor-related Products of Functional Chemicals Business)

## Fine Chemicals Business Unit



## Epoxy resins for environmentally friendly semiconductor encapsulation

We provide epoxy resins with high electrical reliability that are compliant with environmental regulations—such as those on halogen—as products for semiconductor encapsulation and package substrates, and maintain the top global share for these products.

## Life Science Business Unit



## Number of cancer related products' lineups

We have a lineup of 51 products, including anti-cancer drugs deemed as essential drugs, generic anti-cancer drugs, and oncology pharmaceuticals (as of March 2024).



Paid-in Capital

**14.9** billion yen

R&amp;D Expenses

**19.8** billion yen\*1

Group Employees

**5,902** people\*2

\*1 Net Sales, Global Business Expansion,  
Operating Income, R&D Expenses in FY2023  
\*2 Number of employees as of Mar 31, 2024



Expected Markets

**Industrial inkjet inks****100 to 140**  
billion yen(Industrial Inkjet Inks of Color  
Material Business)

Expected Markets

**Unmet needs oncology  
drugs****5 to 10** billion  
yen per product(Oncology Pharmaceuticals for  
Medical Use of Pharmaceuticals  
Business)

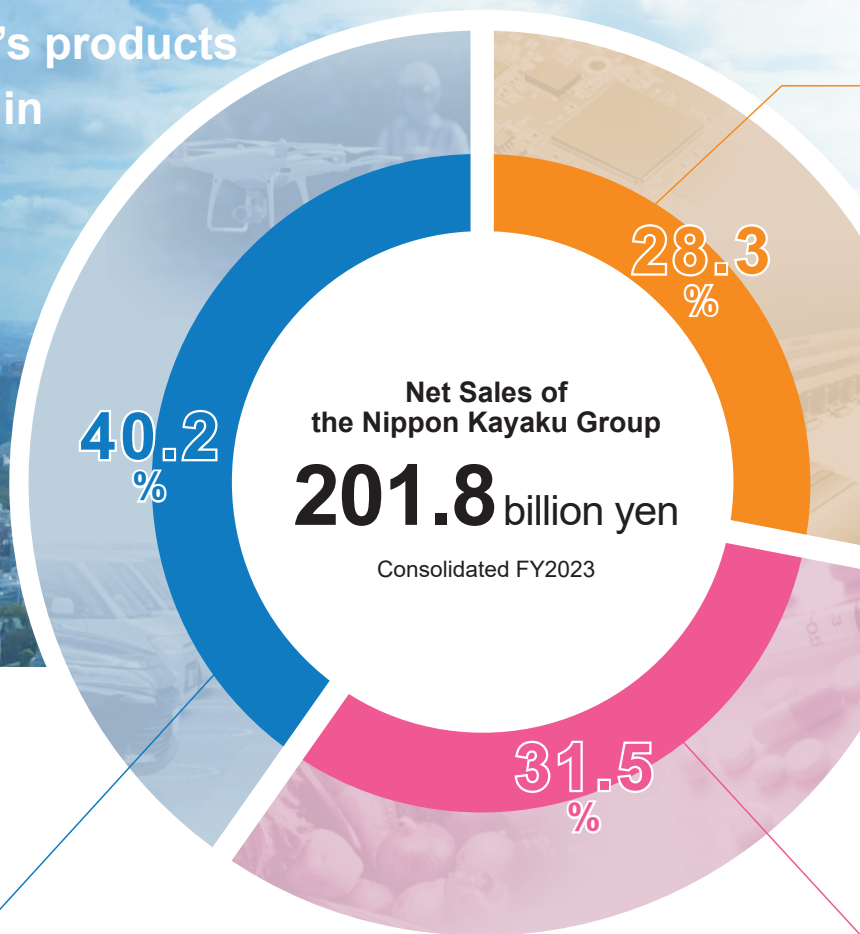
Expected Markets

**Global market of  
insecticides for  
lepidopterous insects****Approximately**  
**230** billion yen(Agrochemicals of Agrochemicals  
Business)



## At a Glance

The Nippon Kayaku Group's products are used in various places in our daily lives while being transformed into final products.



## Mobility & Imaging Business Unit

Nippon Kayaku provides automotive safety components that contribute to improving automotive safety, ensuring safety in the event of collision. Furthermore, besides polarizers for vehicles that use the core technology of dyes, we also provide components for X-ray analysis systems that apply sophisticated optical technologies.

### Core Technology

- Pyrotechnic safety technology
- Light control
- High-performance component development capabilities
- Dye design and synthesis

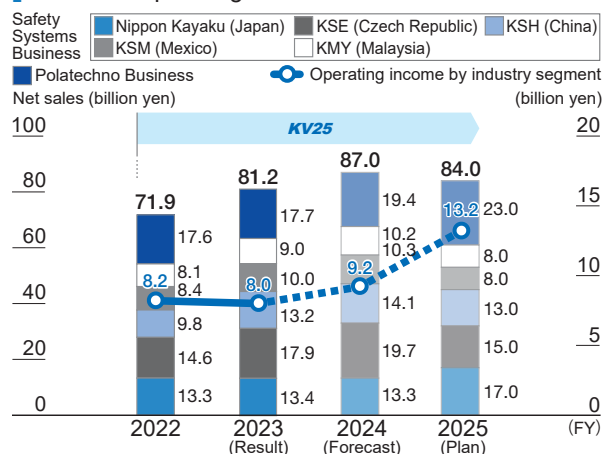


### Safety Systems Business

- Airbag inflators ①
- Micro gas generators for seatbelt pretensioners\* ②
- Squibs (ignition components found in inflators and micro gas generators)
- "PARASAFE" Emergency Parachute System for Drones

\* A device that rewinds the seatbelt to ensure safety of passengers in the event of an emergency

### Trends in Operating Results\*



### Polatechno Business

- Dye-type polarizers (cluster panels, etc.) ③
- Components for X-ray analysis systems (rare metals detectors, etc.) ④

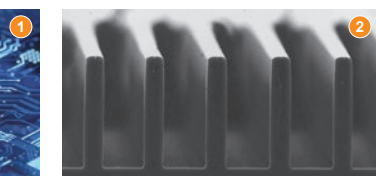
\* Forecasts and planned values are based on the financial results material released on May 14, 2024.

## Fine Chemicals Business Unit

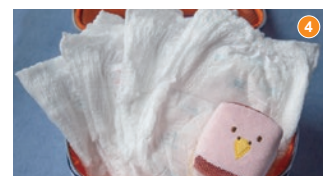
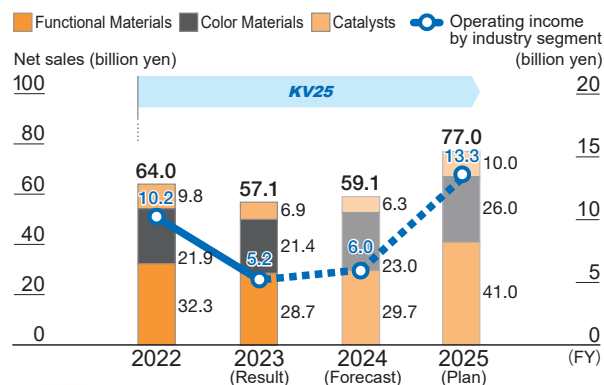
Nippon Kayaku provides chemicals with characteristics, including functional materials used in semiconductor-related products for which significant growth is expected in the future; color materials that bring colors to rich and convenient lives; and catalysts for the production of acrylic acid and methacrylic acid which are used in the production of disposable diapers and transparent resins.

### Core Technology

- Molecule design
- Precise organic synthesis
- Catalyst design
- Characteristic evaluation of compounds, composites, and products



### Trends in Operating Results\*



#### Functional Materials Business

- High-end epoxy resins ①
- UV-curing type resins
- Resist materials for MEMS ②

#### Color Materials Business

- Consumer inkjet colorants
- Industrial inkjet inks and dyes ③
- Dyes for textiles and paper pulp
- Developers for thermal paper and functional colorants

#### Catalysts Business

- Catalysts for the production of acrylic acid and methacrylic acid ④

## Life Science Business Unit

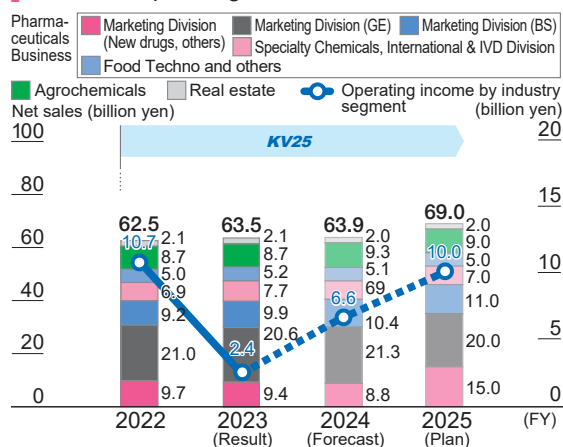
Nippon Kayaku reduces the burden on patients and contributes toward maintaining the universal healthcare system in Japan by providing generic drugs—which contain the same amount of active ingredients as the original products but at a lower price—and biosimilars, which are subsequent products of biopharmaceuticals. We also strive to improve the level of healthcare through the introduction and development of new drugs and a stable supply of medical pharmaceuticals. In addition, products of our Agrochemicals Business include insecticides for fruits and vegetables, and soil fumigants.

### Core Technology

- System that allows processes, from drug creation to production and sales, to be carried out in an integrated manner
- Manufacturing and management of active pharmaceutical ingredients
- Ingenuity in the development and formulation of new agrochemicals



### Trends in Operating Results\*



#### Pharmaceuticals Business

- Generic drugs ① (Pemetrexed: Drugs for lung cancer and other indications / Paclitaxel: Drugs for breast cancer and other indications, etc.)
- Biosimilars ② (Bevacizumab BS: Drugs for rectal/colon, ovarian cancer and other indications, etc.)
- New Drugs ③ (DARVIAS® for treatment of peripheral T-cell lymphoma; ALAGLIO®, a photodynamic diagnostic agent for bladder cancer, etc.)
- Portrazza®, a therapeutic agent for squamous non-small cell lung cancer

- Active pharmaceutical ingredients (Volk powder of Voglibose: Alpha-glucosidase inhibitors, etc.)
- Diagnostic agents (LANA MAMMOCARD CEA®: Reagent for fetal cancer antigen assay, etc.)

#### Agrochemicals Business

- Insecticides and soil fumigants ④ (FINESAVE® for thrips, Kayaku chloropicrin, etc.)



# The History of Value Creation

Providing the best products while evolving core technologies in s

## Mobility & Imaging Business Unit

● Automotive safety components ★ Emergency parachute system for drone ▲ Polatechno

●★1917

Began production of Japan's first industrial dynamite

A pioneer in Japan



●1989

Began production of squibs

Technology changes

Applying safety pyrotechnics to automotive safety components



▲1992

Began shipments of a polarizing film used in projectors and in vehicles

Polatechno products on the market



●1992

Began production of disk-type aluminum inflators



●1998

Began production of micro gas generators



## Fine Chemicals Business Unit

● Functional materials ★ Color materials ■ Catalysts

★1916

Succeeded in producing sulfur black dye in Japan

A pioneer in Japan



★1951

Launches the direct dye, Kayarus, intended for use with cotton, hemp yarn and other cellulose fibers



■1963

Entered into a contract with U.S. firm, Standard Oil Co. (Ohio), concerning the introduction of acrylic acid technologies (catalysts)

●1969

Began production of epoxy resins

■1972

Began manufacturing catalysts used in the production of acrylic acid used as a raw material for the high water absorption resin used in diapers, etc.

Catalysts products on the market

●1979

Began pilot production of the ultraviolet curing resin DPHA

★1984

Launched TG-SA® developer used for thermal paper such as those for boarding passes



## Life Science Business Unit

● Ethical pharmaceuticals Active pharmaceutical ingredients / Diagnostic agents  
◆ Insecticides for vegetables and fruits, Soil fumigants

●1932

Launched the anti-inflammatory drug, ASPIRIN



●1948

Began production of the antibiotic, PENICILLIN

●1969

Launched the antitumor antibiotic, BLEO®

Began focusing on oncology

●1994

Launched the prostate cancer drug, ODYNE

◆1934

Began production of the soil fumigant, CHLOROPICRIN

Technology changes

Started production of agrochemicals using dye synthesis technology.



◆1964

Began production of the insecticide, DIAZINON® granules



●1984

Launched the anti-cancer drug, RANDA®

◆1992

Launched the bite damage prevention agent, R-731

◆2005

Launched the epidemic prevention agent, SAFROTIN® MC

## Corporate History and Trend in Net Sales

■ Mobility & Imaging Business Unit ■ Fine Chemicals Business Unit ■ Life Science Business Unit

1916

Founded Nippon Kayaku Seizo Co., Ltd. (Head office: 1-1 Yurakucho, Kojimachi-ku, Tokyo)  
Morizo Oshiage assumed the position of president

1928

Buyout of Teikoku Senryo Seizo Co., Ltd.

1931

Established Yamakawa Seiyaku Co., Ltd.

1943

Merged and absorbed Teikoku Senryo Seizo Co., Ltd. and Yamakawa Seiyaku Co., Ltd.

1945

Company name changed to Nippon Kayaku

1949

Listed on the Tokyo Stock Exchange

1963

Received the Deming Prize

1916-

Formation of Core Technologies

1945-

Development as an Integrated Chemical Manufacturer

1965-

Growth and Development of New Fields



# step with the needs of the times

## 2000

Began production of cylinder-type steel inflators

## 2004

Made a capital investment in MOXTEC, Inc. providing inorganic polarizers and components for X-ray analysis systems

## 2017

Expanded a business in components for X-ray analysis systems following a buyout of RaySpec Ltd.

## 2018

Began mass production of new types of inflators **Weight reduction and smaller diameter**

## 2021

Began sales of PARASAFE® emergency parachute system for drones used for industrial purposes



PARASAFE® attached to drone



## Safety Systems

We provide safety and security for automobiles and new types of mobility by utilizing technologies for safe handling of pyrotechnics.

## Polatechno

We are expanding high durability dye-type polarizers, including use in vehicle head-up displays, and focusing on initiatives to achieve growth of components for X-ray analysis systems.

## 1999

Began full-scale production of colorants for inkjet printers

Conversion of applications of color materials



## 2002

Launched the NC-3000 epoxy resins used for semiconductor encapsulation, etc.

Resins for semiconductors, still the main product



## 2018

Launched maleimide resins for 5G substrates

## 2020

Launched TG-MD®, a phenol-free thermosensitive color developer

## Functional Materials

We focus on the expansion of semiconductor-related products by leveraging synergies among resins, cleaners, and manufacturing equipment.

## Color Materials

We focus on the growth of industrial inkjet inks and dyes, and develop thermosensitive color developers and functional dyes.

## Catalysts

In addition to catalysts for the production of acrylic acid and methacrylic acid, we develop catalysts that contribute to a hydrogen energy society.

## 2014

Launched the biosimilar, INFLIXIMAB BS

**A pioneer in Japan**

## 2019

Launched Portrazza®, an anti-EGFR (epidermal growth factor receptor) human monoclonal antibody

## 2021

Launched PEMETREXED, a generic drug  
Launched ALAGLIO®, a photodynamic diagnostic agent

## 2022

Launched DARVIAS®, an anticancer drug

## 2022

Launched BEVACIZUMAB BS, a biosimilar

## 2023

Launched Adalimumab BS, a biosimilar

## 2018

Launched the insecticide, FINESAVE®

Launch of agrochemicals with medicinal ingredient developed in-house



## 2016

Launched the insecticide/miticide, FUHMOM®

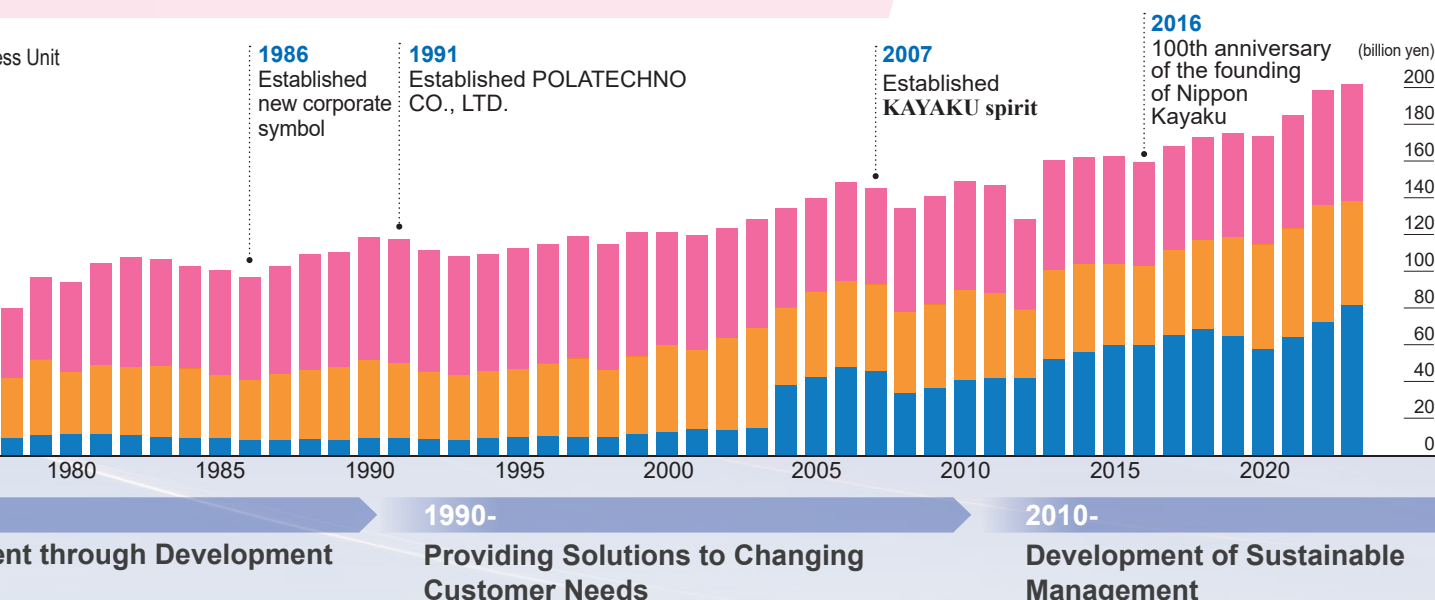
Evolution of formulation technology

## Pharmaceuticals

We reliably supply biosimilar formulations and generic drugs, mainly in the cancer field, while working on the development of outstanding pharmaceuticals and medical devices.

## Agrochemicals

We contribute to sustainable agriculture by meeting the needs for agrochemicals specialized in the fruit and vegetable fields by using our strength in formulation technology.

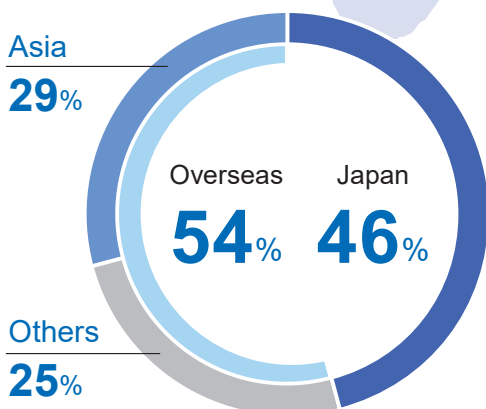


## Global Business Expansion

Global expansion of the “best products, technologies and services”



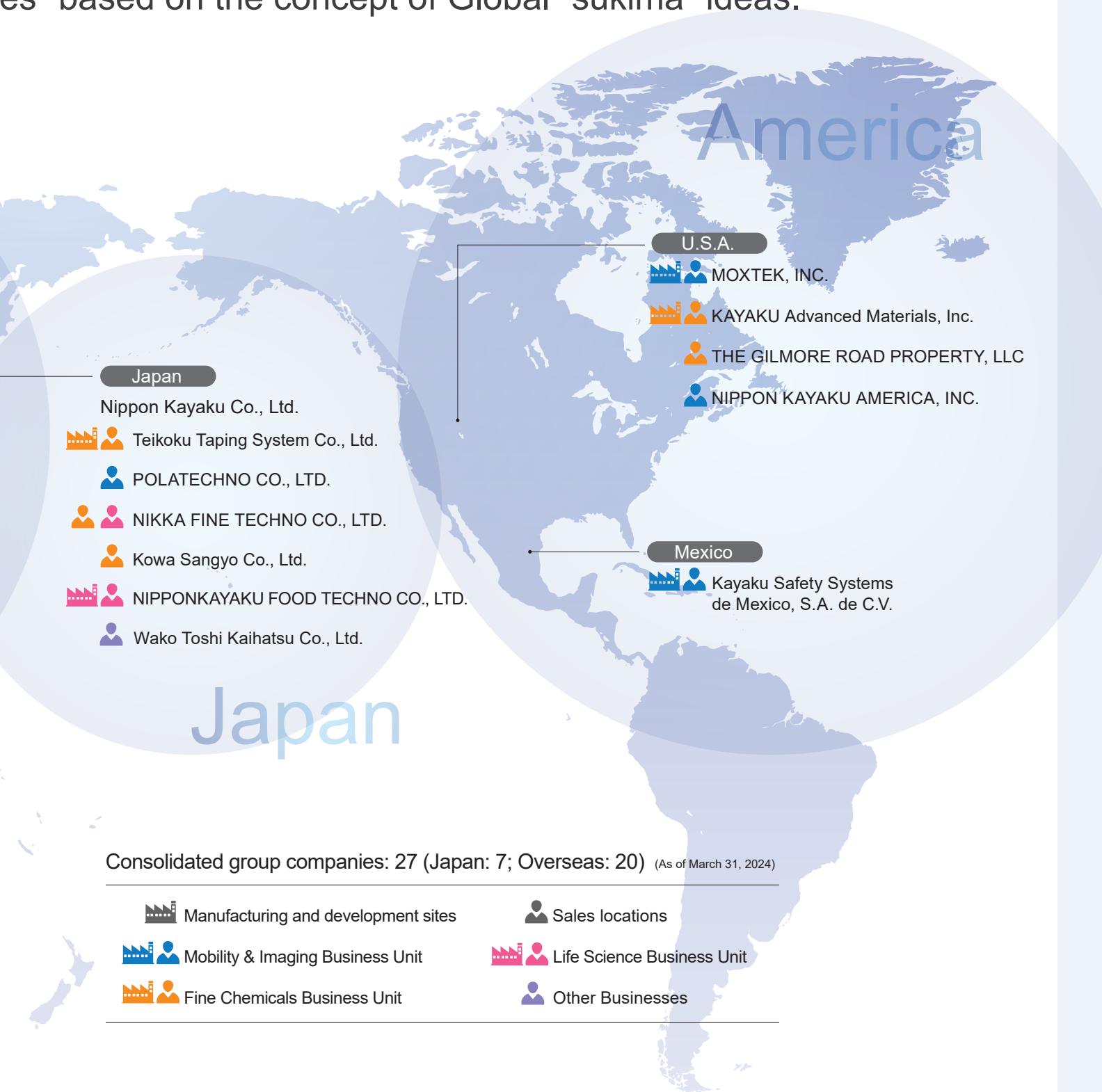
FY2023  
Composition ratio of net sales by region



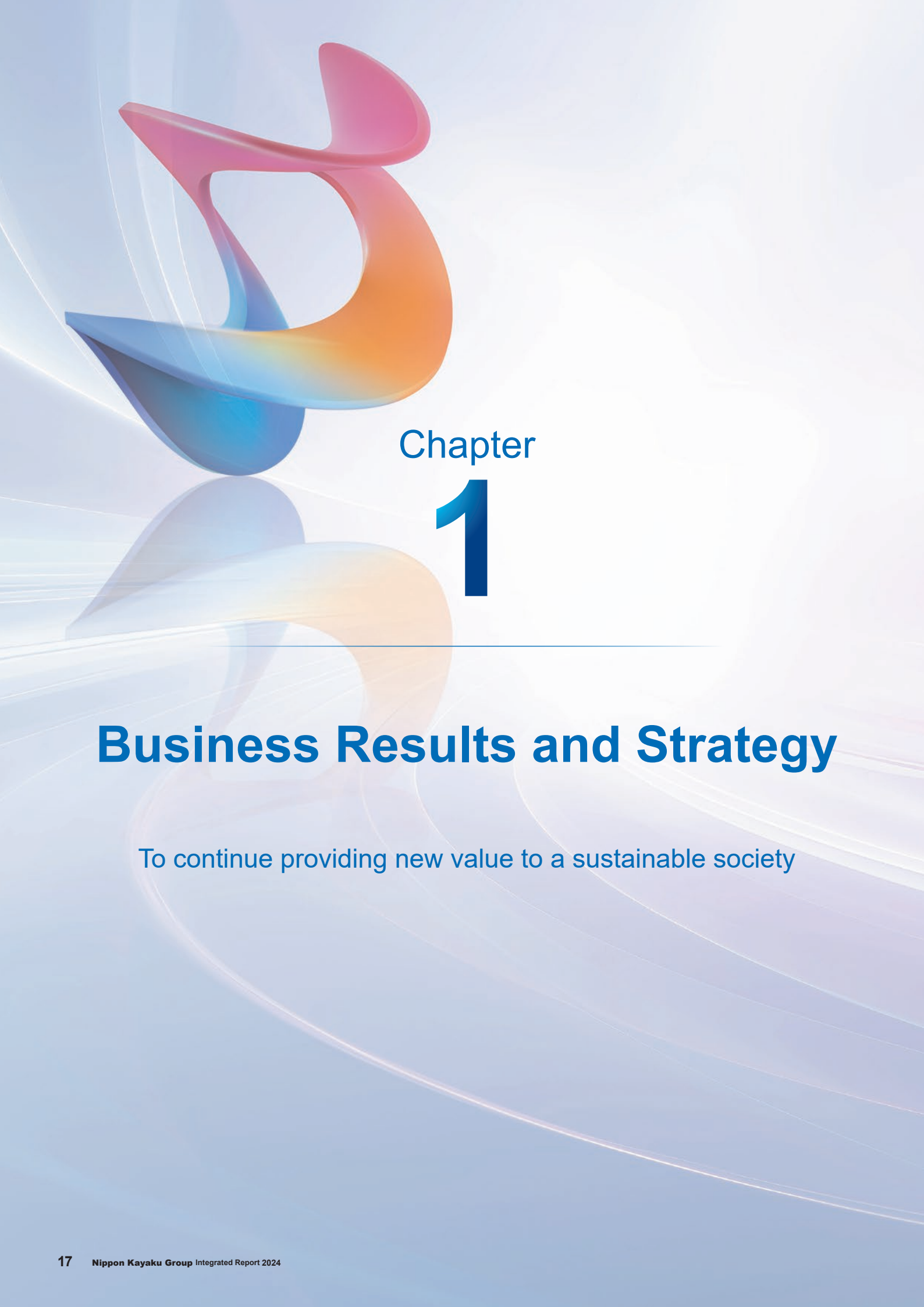
As of end of March 2024  
Number of global employees



es” based on the concept of Global “sukima” ideas.



The Nippon Kayaku Group operates in three business units—Mobility & Imaging, Fine Chemicals, and Life Science—through 27 consolidated group companies in Japan and 11 other countries and regions. Nippon Kayaku strives to be an invaluable global company by applying core technologies, technologies which may even come to prominence in niche areas, to deliver the “best products, technologies and service” to fill out “sukima (gaps)” in the global market.



# Chapter 1

---

## **Business Results and Strategy**

To continue providing new value to a sustainable society





## CONTENTS

Message from the President .....	19
----------------------------------	----



Nippon Kayaku Group's Value Creation Process .....	27
---	----

### Focus

Six Forms of Capital Serving as the Source of Competitiveness .....	29
--	----

The Comfortable Future Society with Peace of Mind That the Nippon Kayaku Group Hopes to Realize .....	31
---	----

Nippon Kayaku Group's Sustainable Management .....	33
---	----

Stakeholder Engagement .....	39
------------------------------	----

Review of the Medium-term Business Plan and Progress of the <b>KAYAKU Vision 2025</b> .....	41
---	----

Message from Chief Financial Officer .....	47
--	----



## Message from the President





# Achieving sustainable growth and increasing corporate value by steadily improving earning power and transforming the organization

Member of the Board,  
President, Representative Director

**Atsuhiko Wakumoto**

## Learning from Characters in Historical Novels

I love historical novels, and am especially fascinated by the ways of life of characters who lived in ages past, from the Spring and Autumn and Warring States periods in Chinese history, and the subsequent Qin and Han dynasties, to the Three Kingdoms. There is so much we can learn from history books such as Juuhachi Shiryaku (Eighteen History Outlines) and Records of the Three Kingdoms through the knowledge and actions of people who lived through turbulent periods. I am extremely interested in and drawn to the true nature of humanity, as depicted in the story telling of the intellectual and negotiating battles of Wu Zixu (of the Wu kingdom) and Fan Li (of the Yue kingdom), who supported their respective kings in the power struggle between King Fuchai of Wu and King Goujian of Yue, who are well known by the Chinese proverb “Gashin Shotan” (enduring unspeakable hardships for the sake of vengeance).

Wu Zixu, who excelled at politics and diplomacy, lost his standing with King Fuchai due to a clever trick by Fan

Li, and was forced to commit suicide. Wu Zixu, who strove for the expansion of Wu, had misjudged the character of his king. It was not long afterwards that the Wu kingdom, bereaved of Wu Zixu, would be destroyed. In contrast, Fan Li, a key figure in the victory of Yue, retired from his service under King Goujian of Yue, became a merchant after changing his name, and amassed enormous wealth. Fan Li escaped before his king, who was often very paranoid of others, became wary of even himself, and “boiled the hound once the rabbit is caught, and put the bow away once all the swans have been shot” (examples of how unnecessary things are quickly disposed of).

I keenly felt that looking at others with a level-head was so important that it could save lives, and I believe we can learn from the lessons in the ways of life of the people of ancient China, which have been passed on through the ages and across countries, and apply them to our business world.

# Message from the President

## Business Results of FY2023 and Progress of the *KAYAKU Vision 2025 (KV25)*

Now I would like to report the current status of the Nippon Kayaku Group. In the four-year Medium-term Business Plan **KAYAKU Vision 2025 (KV25)** from FY2022 to FY2025, the first fiscal year started off strong with net sales and operating income both exceeding the Plan, but in FY2023, net sales were 201.8 billion yen, 5.2 billion yen less than planned, and operating income landed at 7.3 billion yen, a large 12.7 billion yen below the Plan. For net sales, the Mobility & Imaging and Life Science Business Unit generally performed well, but declining semiconductor market conditions caused the Fine Chemicals Business Unit to experience a large decrease. And for operating income, increasing manufacturing costs from soaring raw material costs in all segments, and a growth investment of 6 billion yen in license fees for new drug candidates in the Pharmaceuticals Business (Life Science Business Unit) impacted performance. In addition to net sales and operating income, while the ROE target of 8% and the company-wide ROIC of 10% were set as management indicators, actual results hovered at 1.6% and 1.5%, respectively. Those were mainly due to underachievement in operating income target.

In the remaining fiscal years of **KV25**, our plan is to raise FY2024's net sales target of 210.0 billion yen to 230.0 billion yen in the final fiscal year of FY2025, and for operating income, we are aiming to lift FY2024's 12.5

billion yen to 26.5 billion yen in FY2025. When considering the differences from current conditions, we expect that considerable effort will be required to reach the income target for FY2025, and that we will be delayed in reaching the target by about one year.

In **KV25**, we set the improvement of operating income ratio, which has been trending downward for some time, as one of our management issues, and set the target of the final fiscal year as a passing point to solve this issue. However, these kinds of conditions have arisen as of FY2023, the 2nd year of the Medium-term Business Plan, and we apologize to our stakeholders for the great concern this has caused.

Fortunately, semiconductor market conditions have been showing signs of recovering since FY2024, and we expect the upswing in automotive production to continue as well. In the Fine Chemicals Business Unit, we are supplying epoxy resins for semiconductors without delays, and exploring a wide range of business opportunities for related products. In the Mobility & Imaging Business Unit, we are focusing on expanding into HUD Sun-Guard Film in addition to automotive safety components, and striving to make as much profit as possible.

Review of Medium-term Business Plan and Progress of the **KAYAKU Vision 2025** ■■ p. 41-46

Statements and references regarding performance in this document are under the results and outlooks announced in the financial results briefing materials for the fiscal year ending March 31, 2024.

## Medium- to Long-term Management Policy for Second Half of **KV25**

Currently\*1, Nippon Kayaku's PBR is around 0.8, which is said to be undervalued by the stock market. We have received feedback stating how difficult it is to understand the positioning and future prospects of several Business Units and product lines, therefore we would like to tell Nippon Kayaku's growth story in an easy-to-understand and satisfactory way while continuing dialogs with all shareholders and investors, and strive to maintain a stable PBR higher than one.

\*1 As of August 31, 2024

In the past, we responded to TSE's request for "Action to Implement Management That is Conscious of Cost of Capital and Stock Price" and focused on "strengthening earning power" and "increasing capital efficiency" as issues, which we explained through financial results briefings and other meetings. To strengthen earning power, we have expanded product lines where long-term market growth is expected in each business unit, planned continual launch and development of new products, and

clarified our business portfolio in terms of revitalizing and handling businesses that need to improve profitability. I will mention this again later in the message.

We are conducting various measures to improve capital efficiency. In the past, we explained that we would like to reach ROE targets by increasing profits through business activities, but moving forward, we will work towards comprehensive improvements in line with capital policies for buying treasury shares while considering economic trends and the business environment. Company-wide ROIC is expected to swing upwards alongside profits improving in FY2024, but this is still not enough to reach targets. During **KV25**, we will aim to reduce cash and equivalents to below 45.0 billion yen, monitor ROIC for each business, reduce inventory and accounts receivable, incorporate ROIC trees into measures for operating units, and aim to make improvements as one unified company. Further, we will aim to reduce cross-shareholdings to less than 10% of net assets during **KV25**.





We also place a high priority on returns to shareholders, and announced our return policy at the start of the Medium-term Business Plan, as well as concrete policies during the implementation of the Plan. Medium- to long-term dividend payout ratio is set at 40% or more, and during **KV25**, we will maintain dividends at 45 yen or more per share as an increase from FY2023 dividends. Further, we bought 3 billion yen of treasury shares in FY2024 as a part of the return policy which considers equity control. After **KV25**,

we intend to continue to consider treasury share purchase, including share cancellations.

Moving forward, we will quickly and accurately respond to everyone's feedback, proactively pursue initiatives that follow policies to strengthen earnings and improve capital efficiency, and strive to enhance company information disclosure so that it is useful and easy-to-understand.

Message from Chief Financial Officer p. 47-50

## From Changes in the Safety Systems Business to Changes Across the Nippon Kayaku Group

Market conditions like the semiconductor recession and soaring raw material prices greatly impacted our results in FY2023, but moving forward, the Nippon Kayaku Group is aiming to become a corporation with high resilience that is not easily affected by these kinds of market conditions. Using the Fine Chemicals Business Unit which experienced a slump as an example, it is believed that improving conditions will be difficult if we continue to rely solely on semiconductor epoxy resins which are main products in the Functional Materials Business. It is necessary that we focus on marketing rather than merely meeting the most recent needs, and devise business management not easily influenced by market conditions, like enhancing the lineup to meet a diverse range of needs in semiconductors over the future. In order to do this, we need to, for example, continuously launch new products even if it is on a small scale, and increase new business opportunities to connect to existing businesses. Fostering a workplace culture of always taking on new challenges is currently believed to be the most important issue for Nippon Kayaku.

In the past, we transformed the industrial-use explosives business into the Safety Systems (automotive safety components) Business, and entered an industry where high standards in speed and quality in various aspects are required as a supplier. When I was previously

involved with sales at Safety Systems Business, customers always commented "Nippon Kayaku is such a nice, laid-back company." This was because the speed of our clocks that measured work progress was slower compared to that of the automotive industry, and it was this way of working that caused such sarcastic and berating comments that questioned if we could survive in the future. I was very grateful for the advice and worked hard to reform our corporate organization to adopt the speed of the automotive industry. As a result, we were able to greatly change the awareness of the entire Safety Systems Business, and truly feel that we have finally come to be approved by customers.

After becoming President, I have strongly promoted company-wide awareness reform activities to eliminate unreasonableness, waste, and inconsistency (referred to as the 3Ms [Muri, Muda, Mura] in Japanese) under the name "A3 Activities." We are promoting changes for a better Nippon Kayaku that does things like revitalizes the organization through segment reorganization, has dialogue with shareholders/investors and provides easy-to-understand information to the capital market, and properly responds to sustainability issues; and we are making efforts to quickly become a "nice company" where customers say so because we are energetic and not because we are laid-back.

# Message from the President

## Revitalization of Organization through Segment Reorganization and Demonstration of Synergy

The 200 billion yen in consolidated sales of the Nippon Kayaku Group is comprised of products and product lines that sell from hundreds of millions to billions of yen. We found niche markets that were difficult for major companies to compete in, and grew by making our basic strategy “technology integration and niche strategies” and expanding. Moving forward, we would like to flexibly adapt to changing needs and survive as a corporation needed by the world.

However, looking back at the group in recent years, I feel it has become difficult to create new “technology integration and niche strategies” like how automotive safety components came from industrial-use explosives and optical films for polarizers came from dyes. In other words, one could say that current products are being provided within the area of responsibility of each business from start to finish without much passion. If these conditions continue, the personnel and organization will become rigid, and we will not be able to demonstrate our strengths. Therefore, we reorganized segments in June 2023, from four businesses that continued for over 20 years, to three new businesses with high potential for product lines and business synergies.

The **Mobility & Imaging Business Unit** adds the Polatechno Business, which handles automotive dye-type polarizers, to the Safety Systems Business which is expected to see long-term growth in automotive safety components. We will be the first to obtain information about new display devices to include in vehicles while focusing on the electrification of automobiles and the spread of self-driving in the future, explore new uses for dye-type polarizers, and propose components that utilize specialized optics technologies. Further, we will raise profitability by utilizing our efficient production methods cultivated in production of automotive safety components and our

expertise on reducing costs to improve the competitiveness of polatechno products.

The **Fine Chemicals Business Unit** consists of the Functional Materials Business, Color Materials Business, and Catalysts Business. For Functional Materials, we will pursue operation and sales strategies in line with semiconductor manufacturing equipment and semiconductor cleaners in addition to semiconductor epoxy resins, the main products. For Color Materials, focusing on industrial-use inkjet inks for digital printers where growth is expected, we will make efforts in expansions under a development structure that also includes printer and printer head manufacturers to form a trinity. For Catalysts, we will strive to be the first to develop new catalysts for hydrogen production while refining our competitiveness in niche units like the direct sale of catalysts for acrylic acid and methacrylic acid production. In addition to close-to-the-customer operations, a strength of this Business Unit, we will work hard to widen our marketing field of view and strengthen the business.

The Pharmaceuticals Business and Agrochemicals Business which are under the **Life Science Business Unit** are similar in that they are not easily impacted by market conditions when compared to other businesses, but they take a long time to develop new drugs/chemicals. In the Pharmaceuticals Business, we are currently transforming from a system that makes generic drugs and biosimilars the main products, which are impacted by yearly National Health Insurance price revisions, to a system that looks at introduced and company-developed drugs, and adds new drugs with high profitability. In the Agrochemicals Business, in order to increase profitability, we will make efforts in effective and efficient research and development through DX in ingredient development and sharing intellectual property strategies with the aim of developing new medical ingredients to follow Flometoquin, which was launched in 2018.

The **Technology Unit** is a new organization that was established by combining the Research & Development Group and the Technical Operation Group. The Unit promotes research and development across the company, and promotes upgrading production locations to smart factories, as well as research and production DX. Further, in the Environment and Energy areas, the Unit will take on a mission to create new products and businesses by leveraging the collective knowledge of our group. The Technology Unit is an important organization responsible for the creation of new businesses and products across the company in order for the Nippon Kayaku Group to achieve significant and steady growth.



## Business Portfolio Approach — Revitalizing “Earning Power Amelioration” Business

In response to the request by TSE for “Action to Implement Management That is Conscious of Cost of Capital and Stock Price,” we announced the Nippon Kayaku Group’s business portfolio in May 2024 in order to show how each product line is positioned in the new three Business Units.

KV25 Business portfolio  p. 48

In the portfolio, product lines are separated into four quadrants. We positioned semiconductor-related products (FC) and inflators (MI) in “Important businesses” that concentrate management resources, and HUD polarizers (MI) and catalysts for hydrogen production (FC) in “Novel and future prospects businesses.” Consumer inkjet colorants (FC) and generic anti-cancer drugs (LS) fall under “Foundation businesses,” which is an area where we make efforts to maximize cash generation by maintaining current profit and minimizing management resources.

FC: Fine Chemicals Business Unit

MI: Mobility & Imaging Business Unit

LS: Life Science Business Unit

How we handle “Earning power amelioration” businesses might be where the characteristics of the group are most apparent. For product lines placed here, instead of immediately abandoning them, we thoroughly

explore components such as “technology integration” and renewability by exploring new applications over a certain period, and this also includes synergies within new Business Units and collaborations with outside companies. There are various examples of product lines we renewed through this process, such as “semiconductor epoxy resins” where we avoided competition with other commodities and found a way to take advantage of quality-oriented applications, “dye-type polarizers” which were created by combining our dichroic dyes and Arisawa Mfg.’s production technologies, and “automotive safety components” made by changing industrial-use explosives into high added value products. Thus, product lines in “Earning power amelioration” businesses have aspects that demonstrate our “technology integration and niche strategies.”

However, it goes without saying that we decide to withdraw product lines in which we are unable to find a new path for after such considerations. Most recently, for product groups that will ultimately be categorized in “Earning power amelioration” such as some products in the Agrochemicals Business in FY2023, we will reorganize and make adjustments to be less than 2% of net sales, so that they do not occupy a large portion of the portfolio.

## Creating a Corporate Culture that Can Proactively Take on Challenges in New Themes

In order to improve corporate value, we are making efforts while focusing on creation of new businesses and products, mitigation of climate change, DX, business process re-engineering, and work style reform as five priority tasks under KV25 as company-wide projects. Creation of new businesses and products, which has high added value and acts as a source of profit generation, is extremely important to us.

In recent years, our group become involved in several innovative and high-potential development themes like solar cells using pigment properties as well as drug delivery systems. Recently, however, other than a limited number of themes such as “safety devices for drone,” the number of research and development themes that the entire company focuses on has been declining. We think that this is largely due to the many times personnel felt crushed after having to discontinue a theme they were focusing on, which has made them reluctant to take on new challenges. Much like a business structure becoming rigid, if research and development embodying “technology integration and niche strategies” atrophy, themes to propel the next generation of business will dry up and make it very difficult for us to survive in the future.

Methods in research and development are also changing alongside the times. The key is not to rely solely on one extremely good invention, but rather to have comprehensive team abilities both internally and externally, and to systematically pursue marketing and intellectual property strategies. In projects for creation of new businesses and products, we are incorporating aspects that have been ignored in the past, and the Technology Unit is taking the lead in pursuing various activities in order to progress research and development that is realistic while feeling cutting-edge.

For example, we are proactively searching for new themes by doing things like assigning personnel to communities where industry-government-academia innovators gather, having interviews at pitch events and with individual startups, periodically holding cross-sectoral meetings for new business and product planning, and investing in venture capital. Continually doing these has landed us on several themes using technologies from the Fine Chemicals Business Unit for the “Environment and Energy” areas where focus is placed on by the Technology Unit.

## Message from the President

Specifically, we are collaborating with companies such as AZUL Energy, which develops organic catalysts that can be used in metal-air batteries and fuel cells, and iPEACE223, which owns catalyst technologies to produce propylene from bio materials, and started working on themes that aim to make products out of each of those technologies. We will also participate in a consortium led by the Tokyo Institute of Technology (now the Institute of

Science Tokyo) that aims to realize a hydrogen energy-based society, and contribute to the realization of a water electrolysis system by developing an anion exchange membrane that utilizes our technologies.

Moving forward, we would like to apply knowledge from the Mobility & Imaging and Life Science Business Unit and continue to create new themes that utilize their characteristics.

Research & Development ■■■ p. 69

### Developing Human Resources that Can Establish Good Relationships with the People Around Them

Human capital management, which maximizes the value of human resources to increase corporate value, is currently attracting attention. I think everyone is on board with the idea that “a company’s birth starts with the support of people,” but if asked what is the value of human resources and the essence of human capital, the answers may differ depending on who is answering or their position. The use of human capital such as helpers, house guests, and travelers in the Spring and Autumn and Warring States periods would be scolded as excess capital in our era.

Now that I belong to the Nippon Kayaku Group and play a role in shaping our future, for the company, I see human capital as the relationships that center on each individual employee. While individual professional skills and knowledge are of course important, I believe that utilizing each individual’s position, personality, and strengths and expanding good relationships within and outside the company enhances

the productivity of the organization one belongs to, and as a result, the company’s organization will become stronger.

For example, in the pharmaceutical sales I experienced when I first joined the company, it was important to pay close attention to each stakeholder, like the doctors, pharmacists, and managers of the hospital and build good relationships with them in order to achieve good results. Also, when I was working in the Safety Systems Business, I believe maintaining good relations with customers through the negotiating skills and sales sense of personnel had no small impact on the results. Even in my current position of representing the company, we cannot pursue change and reform without good relationships with stakeholders and employees who give us suggestions. I believe that the human capital of the group, in addition to individual qualities and relationships, should be viewed from a perspective of how much each individual employee is able to contribute to corporate activities.

### Promoting Human Capital Management, an Important Management Issue

In the FY2023 effectiveness assessment of the Board of Directors, “utilization of human capital” was identified as an important issue, and the company re-established its human

resource development policy. In this policy, it states that the ideal human resource sought by the company is proactively independent, filled with a desire to take on challenges, and has a global and open sense of values. Also, in the FY2024 effectiveness assessment, we chose utilization of human capital as an important issue, and continue to plan practical measures in line with the policy.

The basic parts in the Nippon Kayaku Group’s human resource strategy are no different from the general approach of strongly providing an environment that is easy and rewarding to work in. In diversity promotions, we hosted the large-scale kick-off event “KAYAKU / ZenKatsu\*2” over a half-day period from the action plan based on the Act on the Promotion of Women’s Active Engagement in Professional Life in August 2024 as a part of initiatives to promote participation of women, and I myself also attended as one who was responsible for realizing the event’s goal of increasing the number of



female managers and further expanding participation.

\*2 Combination of Japanese words “zenin” (all employees) and “katsuyaku” (participate) to mean that all Nippon Kayaku employees participate

In addition, the development and enhancement of global human resources is an urgent issue for the group, as overseas sales account for a large proportion of our Mobility & Imaging and Fine Chemicals Business Unit. We are striving to improve our ability to promote overseas business by combining multiple measures, like making a list of employees with a strong desire to go abroad, strengthening workforce by hiring new graduates, mid-career workers, and locals, English conversation training, overseas work training and on-the-job training.

To foster a culture where one can take on challenges, there needs to be an environment where everyone can have

honest discussions that elicit ideas and motivations every day, and any harassment only serves to get in the way of improving corporate value. Every year we give compliance surveys and compliance training using e-learning as a way of ensuring psychological safety and promoting its understanding.

In addition to continuing the initiatives above, we will focus on matters such as reformation of the human resource system to make work more rewarding, initiatives to place the right person in the right job based on their wishes, and measures to establish an awareness of cost and ROIC improvement, and strive to develop human resources that can build good relationships with their surroundings, with “independent,” “challenges,” and “global” as keywords.

Human Resources and Creation of a Comfortable Workplace Environment  p. 85

## Lastly, My Message to Our Stakeholders

As a company that promotes sustainable management, our corporate vision is “continuously providing society with the best products through ceaseless progress and the combined forces of our consciences.” Under this **KAYAKU spirit**, we hope to be a company that can play a role with a sense of presence in providing everlasting happiness and joy to the environment, society and all stakeholders.

In the current Medium-term Business Plan **KV25**, we are focusing on basic policies for sustainable management, and will continue to pursue compatible environmental, societal and economic values to realize a sustainable society. Investments in utilizing human capital, strengthening intellectual property, and addressing environmental issues are investments, like investments in business, that will lead to long-term growth and value creation, and these are essential for improving our competitiveness in the future. In the future we will also continue to steadily implement sustainable management and strive to realize the **KAYAKU spirit** without neglecting our underlying foundations, such as corporate governance and compliance.

To date, we have made efforts to incorporate advice from our shareholders, investors, and other stakeholders into company policies and expand the information we disclose. Although we know that there are still many areas in which we are lacking, we at the Nippon Kayaku Group will

continue to place importance on constructive dialogue and ensure we promote improvements in various management issues, step by step. We will strive to enhance our corporate value by transforming ourselves into a speedy and resilient company that can surpass everyone’s expectations. I would like to thank all of you, our stakeholders, for your continued honest feedback.



October 1, 2024

President, Representative Director

# Nippon Kayaku Group's Value Creation Process

Under its corporate vision, the **KAYAKU spirit**, the Nippon Kayaku Group will practice sustainable management that responds to the trust placed in it by all of its stakeholders, by ensuring transparency and fairness in management and contributing to the creation of a sustainable environment and society through its business activities.

## Input

**Six forms of capital nurturing strengths while transforming the DNA passed down since founding in 1916**

Foundation for sustainable growth that meets the trust of stakeholders

**Financial capital**

Message from Chief Financial Officer [p. 47](#)

Highly resilient production system that stably supplies high-quality products

**Manufactured capital**

Global Business Expansion [p. 15](#)

Global "sukima" ideas that meet the needs of the times

**Intellectual capital**

Research & Development [p. 69](#)

Respect for diversity and demonstration of each individual's full potential

**Human capital**

Human Resources and Creation of a Comfortable Workplace Environment [p. 85](#)

Further collaboration with local communities and contribution to society's overall sustainability

**Social capital**

Contributing to Local Communities [p. 97](#)

Thorough energy and resource conservation and emphasis on global environmental conservation

**Natural capital**

Environmental Initiatives [p. 73](#)

## Sustainable Management (business activities)

Provision of products, technologies, and services with high added value under three business units

Five key company-wide material issues that deepen sustainable management

Creation of New Business / Products

Mitigation of Climate Change

DX

Business Process Re-engineering

Work Style Reform

**Mobility & Imaging Business Unit**

[p. 53](#)

**Fine Chemicals Business Unit**

[p. 58](#)

**Life Science Business Unit**

[p. 63](#)

Corporate Governance

[p. 99](#)

Compliance

[p. 115](#)

Safety

[p. 89](#)

Quality

[p. 95](#)



# KAYAKU spirit

Continuously providing society  
with the best products through  
ceaseless progress and  
the combined forces of  
our consciences

## Outcome

Provision of economic,  
environmental, and social value  
through products and services

Contribution to stakeholders

## Output

### Products, technologies and services

The best products,  
technologies and services  
that protect life and health  
and support a comfortable life

#### Mobility



#### Electronics



#### Life Science



#### Environment and Energy



#### Shareholders

- Sustainable growth
- Returning of profits



Shareholder Returns

p. 50

#### Suppliers

- Value co-creation



Supply Chain Management

p. 93

#### Customers

- Products that provide economic value
- Products that contribute to the SDGs



#### Employees

- A workplace where employees can work with peace of mind
- Maintaining employment



Internal Environment Improvement Policy

p. 87

Opportunities in Each Business Area in  
Transitioning to a Decarbonized Economy  
for the 1.5°C Scenario

p. 76

#### Environment and Society

- Contributing to a sustainable society through products
- Carbon neutrality



Mitigation of Climate Change

p. 75

# Six Forms of Capital Serving as the Source of Competitiveness

Foundation for sustainable growth that meets the trust of stakeholders

## Financial capital



**Well-balanced**, mutually supporting portfolio toward sustainable growth (composition of business units)

- Maintain a **well-balanced portfolio** that has the Mobility & Imaging Business Unit with **stable growth**; the Fine Chemicals Business Unit that also **covers the vibrant semiconductor market**; and the Life Science Business Unit which is **not easily affected by the economy**

**Financial soundness** that serves as the foundation of trust from society

- Control **equity ratio at an appropriate level of around 70% with an emphasis on financial soundness** (74.2% at the end of FY2023)
- Maintain an **"A" corporate rating** by Rating and Investment Information, Inc. (R&I)

Cash allocation that **emphasizes growth investment**

- During the period of **KV25** (FY2022 to FY2025), secure funds by using corporate bonds and borrowing while considering capital costs with **an assumption of 200 billion yen (maximum) for agile applications such as R&D and capital investments as well as M&A and implementations**.

**Returns policy that emphasizes shareholders**

- During the period of **KV25**, adopt a policy that maintains annual dividends at the current level of **45 yen per share or higher**, targeting a dividend payout ratio of 40% or more\*  
\* Except when performance fluctuates at an unexpected scale
- As part of returns policy, consider the flexible acquisition of treasury shares while taking into account the trend of retained earnings

Message from Chief Financial Officer  p. 47



Highly resilient production system that stably supplies high-quality products

## Manufactured capital



**Global locations**, including a five-region system for optimal supply of automotive safety components

- At the Mobility & Imaging Business Unit, the **Safety Systems Business has five regions providing optimal supply to the entire world**
- The Fine Chemicals Business Unit has **production and sales sites in Europe, the United States, China, and other locations matching each product group's production, supply, and distribution**

Global Business Expansion  p. 15  
Mobility & Imaging Business Unit  p. 53

**Specialized production knowledge** in niche industrial fields

- Accumulate niche and **specialized production knowledge**
- **Dry film resists** (Functional Materials Business): Able to undertake processes from resist formulation to film forming
- **Laminators for semiconductor manufacturing** (Functional Materials Business): Contribute to higher foundry productivity, with the ability to customize hardware and software
- **Dye-type polarizers** (Polatechno Business): Achieve high performance through production control, from dye synthesis to stretching

Fine Chemicals Business Unit  p. 58

**Stable supply system of high-quality pharmaceuticals**

- **Appropriately enhance production capabilities and build a stable supply system centered on Takasaki Plant**, which undertakes pharmaceutical manufacturing with a high level of quality assurance
- Expanded quality testing facilities and **enhance quality assurance system** in FY2023; **plan to implement production facilities for stable manufacturing of pharmaceuticals** in FY2024

Life Science Business Unit  p. 63

**Quality management** that is always working to improve quality

- Carrying on the quality improvement spirit that led to being awarded the Deming Prize in 1963, deploy **quality assurance and quality improvement** activities at each business unit **according to their business models, such as A3 activities (KAIZEN)**—which also cover overseas group companies—and **other company-wide activities**

Quality Management  p. 95

Global "sukima" ideas that meet the needs of the times

## Intellectual capital



**Global "sukima" ideas** that pursue originality using technologies that stand out

- **Invest 9.8% of sales as R&D expenditure** to support Global "sukima" ideas
- Promote the cross-organizational project working on the company-wide material issues **"Creation of New Business and Products"** and accelerate R&D as the Nippon Kayaku Group

**Laboratories for each business** tightly linked to business strategies

- Possess five R&D organizations corresponding to the businesses
- **Research & Development Division of the Safety Systems Group and the Polatechno R&D Dept.**, which are located close to plants for easy collaboration
- **Fine Chemicals R&D Laboratories** and **Pharmaceutical Research Laboratories**, which are consolidated at Tokyo where the R&D Planning Division and Intellectual Property Division are located
- **Agrochemicals Laboratories**, which has a farm for experiments in the Kashima area

**Intellectual property** that effectively uses information to create new knowledge and strategies

- Based on the **Intellectual Property Policy and Intellectual Property Strategy**, carry out reduction of risks related to intellectual property and systematic intellectual property educational activities for researchers
- Engage in integral intellectual property development that includes trademarks as well as inventions **trending at more than 1,000 patents held in Japan**
- **Engage in active collaboration** between the Intellectual Property Division and **each laboratory**, including the use of IP landscaping in R&D

Collaboration with external organizations, etc.

Active use of **open innovation**

- Actively introduce and utilize external technologies through external exchanges, such as startups and academia.
- Identify and promote collaboration with **startups** with particularly strong technical capabilities
- **Actively promote** technological and **human resource exchange**, making use of coworking spaces for open innovation and other such means

Research & Development  p. 69



In principle, the figures for FY2023 and as of the end of March 2024 are provided.

Respect for diversity and  
demonstration of each individual's  
full potential

## Human capital



**Diversity, Equity, and Inclusion (DE&I)**  
that accepts diverse human resources  
and work styles

- Diversity: **Aim to increase the percentage of female managers, to 10% or higher by FY2024; the current figure stands at 8.8%**
- Work-life balance: **Percentage of paid leave taken is currently 72.8% against a target of 70% or higher; work to creating an environment that is easy to take leave**
- Gender equality: **Rate of male employees taking childcare leave is currently 78.5% against a target of more than 50%**

**Employee engagement** aimed at being  
a good, strong, energetic company

- Adopt **a company environment policy** that aims to create environments where employees and the management trust each other and can work energetically and with job satisfaction and passion
- Improve motivation toward work and become **a company that is popular with employees by means such as a position class system** that evaluates based on capabilities instead of seniority, **internal application system** that allows employees to apply for certain jobs based on their own intentions, and **initiatives to ensure psychological safety**

**Development of global human  
resources and business leaders**  
that lead a sustainable society

- Identify **human resources who have a strong desire to work overseas, and enhance ability to drive global operations** by raising the level of English conversation skills and providing training on working knowledge of English designed for each type of work
- Actively promote overseas group companies' core human resource development and local recruitment
- Conduct training on management skills for young employees and **focus on developing human resources that can become candidates for frontline leaders**

**Corporate culture** that always  
enhances productivity and  
**practices KAIZEN**

- Share the Nippon Kayaku Group's slogan of **being always conscious of 3% cost reduction, and seek to establish cost awareness** through A3 activities (KAIZEN) that puts this thinking into daily practice
- Conduct the annual A3 activities (KAIZEN) presentation meeting that gathers domestic and overseas group companies under one roof to **invigorate information exchange and lateral deployment of A3 activities at the global level**

Human Resources and Creation of a  
Comfortable Workplace Environment **p. 85**

Further collaboration with local  
communities and contribution to  
society's overall sustainability

## Social capital



**KAYAKU spirit**, the corporate vision  
passed down since founding

- Continuously providing society with the best products through ceaseless progress and the combined forces of our consciences—share across the Nippon Kayaku Group the thinking that **the spirit of altruism is the most important thing** through the **KAYAKU spirit**, our corporate vision
- Practice **stakeholder engagement** that emphasizes dialogue and bidirectional communication

Nippon Kayaku Group's Sustainable Management **p. 33**

**Trust from customers** built through a  
strong track record

- Mobility & Imaging Business Unit that achieves customers' requirements using comprehensive developmental capabilities, including pyrotechnic safety technology and component design
- Fine Chemicals Business Unit **the properly meets the changing needs of customers through collaboration between sales and technology**
- Life Science Business Unit (Pharmaceuticals Business) that **responds meticulously to the approximately 18,000 inquiries received by the pharmaceutical sales information hotline**

Businesses **p. 51**

**System for cooperation with suppliers**  
to achieve a sustainable society

- Establish Basic Procurement Policies for fair, just, and honest transactions as well as sustainable procurement
- Conduct surveys on the state of suppliers in the **environmental and social aspects to confirm they do not have negative impacts**
- For **mitigation of climate change**, plan to develop action plan with the **cooperation of suppliers**

Supply Chain Management **p. 93**

**Coexistence with surrounding regions**  
based on mutual understanding and  
communication

- Undertake **lively communication**, including festivals at plants and opening facilities to the public, to invigorate the surrounding regions and encourage understanding of Nippon Kayaku
- Carry out **information exchange with local governments and active local recruitment—including at global locations**—to contribute toward healthy development
- **Expenditure for social contribution activities** in FY2023, including contributions to local communities, **was 158 million yen**

Contributing to Local Communities **p. 97**

Thorough energy and resource  
conservation and emphasis on global  
environmental conservation

## Natural capital



**Mitigation of climate change** with a view  
of the 1.5°C target of the Paris Agreement

- Agree with the recommendations of the TCFD and working toward achieving carbon neutrality in 2050
- **Medium-term Environmental Targets for FY2030 with a view of the 1.5°C target** of the Paris Agreement seek to reduce greenhouse gas emissions from business activities (Scope 1 and 2) by 46% compared with FY2019 levels

Mitigation of Climate Change **p. 75**

**Countermeasures for and control of  
water risks** coexisting with business  
activities

- Through analysis of climate change-related risks and opportunities, **flood damage associated with typhoons, heavy rainfall and high tides has been identified as a key physical risk** for several of the Nippon Kayaku Group's business locations
- **Reduce risk** by carrying out damage analysis and systematic countermeasures, and **seek coexistence with business continuity** in the event of a disaster through natural coexistence with the environment of our business locations

Countermeasures for flood risks **p. 77**

**Consideration for biodiversity** through  
chemical substance management,  
wastewater and waste reduction, etc.

- **Recognize consideration for biodiversity as an important issue** toward achieving a sustainable society
- **Conserve the water environment** through management of PRTR substances and wastewater
- Limit waste generation, with **the recycling rate at 83.8% and the zero emission rate at 0.68%**
- **Undertake plant operations in harmony with the natural environment and active use of forest-certified paper**

Consideration for Biodiversity **p. 80**

**Products and research themes  
contributing to the environment** aimed  
at global environmental conservation

- R&D targets that contribute toward achieving a sustainable society are the four areas of Mobility, **Environment and Energy**, Electronics, and Life Science
- **Expand products contributing to the environment and undertake R&D in the four target areas**, recognizing the risks and opportunities of climate change

Businesses **p. 51**

Mitigation of Climate Change **p. 75**



# The Comfortable Future Society with Peace of Mind That the Nippon Kayaku Group Hopes to Realize

Four target areas in business units, research, and development that contribute to achieving a sustainable society

## Mobility

### The Changing Automotive Industry as well as Safety Components and Display Devices

In a once-in-a-century period of transformation brought about by CASE\* technology, the automotive industry is changing rapidly.

Amid such major changes, as long as cars continue to remain running on four wheels, the Nippon Kayaku Group's automotive safety components—inflators, micro gas generators, and squibs—will continue to contribute significantly toward improving safety like before.

The use of head-up displays (HUDs) and larger display equipment are also expected in the near future due to the need to display information necessary for safe driving and for entertainment. The products of the Polatechno Business, with optical control as their core technology, are being adopted by customers for HUDs and other applications at an early stage.

\* CASE: An acronym derived from the initials of four key concepts: 'C' for Connected (connectivity), 'A' for Autonomous (automation), 'S' for Shared (sharing), and 'E' for Electric (electrification)



1 Expansion of vehicle electrification



2 Spread of connected cars and autonomous driving



3 Large and more diverse in-vehicle displays

### Continuing to Provide Safety and Security for New Types of Mobility

Air mobility, for which spread and progress is anticipated, is expected to transform our daily lives and business.

Industrial drones, which are also used in agriculture such as for the spraying of agrochemicals, is expected to see applications in logistics, including helping to reduce transportation time and delivery costs. Our PARASAFE® emergency parachute system for drones is recognized by customers for its performance and reliability and will contribute toward the social implementation of industrial drones.

With the prospect of serving as larger forms of air mobility, flying cars have the potential to improve traffic congestion and significantly shorten travel time. The Nippon Kayaku Group is also advancing proposals for safety components targeting flying cars, using our pyrotechnic safety technology—nurtured over many years—and the knowledge from PARASAFE®.



4 Using industrial drones



5 Emergence of flying cars

## Electronics

### The Nippon Kayaku Group's Functional Materials Supporting Next-generation Communications

Due to the rapid evolution of digitalization and remote communications, there is a requirement to convey more information at high speeds in various fields. Next-generation high-speed communications such as 5G and 6G achieve high-speed, high-capacity data transmission using high-frequency radio waves.

The Nippon Kayaku Group provides epoxy resins—with high electrical reliability and conforming to strict standards such as low halogen—for semiconductor encapsulation and substrates. Besides smartphones and tablets, they are used in applications such as mobile communication base stations and servers. Furthermore, in anticipation of sophisticated uses such as 5G semiconductor package encapsulation, maleimide resins with properties that further suppress signal delay and loss compared to epoxy resins were developed, launched in 2018, and are currently being evaluated and adopted. They are well received and adoption is progressing.



1 Next-generation high-speed communication using high-frequency radio waves



2 Greater use of semiconductors, such as in smart household appliances



3 Operation of mega data centers

### Creating Comfortable Lifestyles Using the Power of Semiconductors

Even in healthcare, opportunities for the use of semiconductors are expected to further increase, including the use of big data gathered from medical institutions and such. In addition, there is currently vibrant demand for semiconductors for AI used in ChatGPT and image generation, which were achieved through progress in GPUs. It is expected that the semiconductor market, which was around 0.5 trillion dollars in 2020, will expand to a scale of approximately 1 trillion dollars in 2030.

Nippon Kayaku provides a wide range of products related to semiconductors, including: light-curing resins used for LCD encapsulation and such; dry film resist for MEMS manufacturing; cleaners used for cleaning and resist stripping in semiconductor manufacturing processes; and semiconductor manufacturing equipment such as precision laminators for attaching a support to silicon wafers. We will make everyone's lives richer and more comfortable.



4 Using big data for data-based health, etc.



5 Evolution of AI, such as generative AI chat services and image generation

## Life Science

### Healthcare is Evolving to Bring Smiles to Everyone

Healthcare continues to make progress, and there are expectation on diagnosis and treatment prediction using genetic analysis and medical AI. Surgery robots combining AI and machine technology and regenerative medicine using iPS cells have the potential to transform healthcare. In an aging society, the government will be taking the lead to promote the building of a society where people can live with peace of mind, including the spread of the community-based integrated care system.

In view of such changes in healthcare and society, the Nippon Kayaku Group will contribute to the progress of healthcare, including the provision of new pharmaceuticals fulfilling unmet needs centered on oncology. We also desire to be helpful in a society where everyone can live with peace of mind by offering a stable supply of generic drugs and biosimilars that can reduce the copayment burden of patients.



1 Progress of healthcare



2 Spread of remote diagnosis



3 A society where everyone can live with peace of mind

### Continuing to Support a New Era of Agriculture

Modernization is underway, including business agriculture becoming larger in scale through farmland consolidation and corporatization as well as the spread of smart agriculture. At the same time, the agrobusiness industry is also required to deal with new issues, such as lower production volumes and quality due to global warming, and changes in the distribution and occurrence of pests.

The Nippon Kayaku Group actively takes in the changing needs of people working in agriculture. We will provide excellent agrochemicals that are friendly to the environment through research and development utilizing our formulation technology centered on our strength in insecticides for vegetables and fruit trees and soil fumigants.

We will also actively study the application of formulation technology to new agricultural materials, including biostimulants that improve crop yields and quality by enhancing plant resistance to so-called "abiotic stresses" such as drought, cold weather, hail, and wind.



4 Farmland consolidation and corporatization



5 Spread of smart agriculture

## Environment and Energy

### Achieving Carbon Neutrality for a Sustainable Future

To create a sustainable future where we can continue to live with peace of mind, it is necessary, as a company, to deal with issues that include climate change—which has significant impact on ecosystems and society—and the destruction of ecosystems due to excessive economic activities.

To achieve carbon neutrality by 2050, the Nippon Kayaku Group has set Medium-term Environmental Targets for reducing greenhouse gas emissions. At the same time, we support the recommendations of the TCFD, unite as one company—including our production technology, business, and purchasing divisions—to undertake initiatives, and disclose information about our climate change measures. We are also promoting business activities aimed at contributing to the preservation of biodiversity, such as efficient utilization of limited water resources through ingenuity in wastewater treatment and proper management of water quality as well as plant operation that coexists with natural flora and active use of forest-certified paper.



1 Achievement of carbon neutrality



2 Active use of renewable energy



3 Encouragement of biodiversity

### Society's Accelerating Energy Transformation

It is expected that, through companies undertaking initiatives on climate change and biodiversity and bringing changes to society, the economic effect from market expansion of products using new technologies, greater efficiency from their use, and other such efforts will be approximately 290 trillion yen in 2050.\*

The Nippon Kayaku Group will aim for sustainable growth by timely grasping business opportunities in energy transformation. Besides the development of next-generation products by our Mobility & Imaging Business Unit and Fine Chemicals Business Unit, we will also work on R&D themes such as catalysts for next-generation energy devices born from open innovation led by the Technology Unit and the manufacturing of chemicals from bio raw materials.

\* Source: "Green Growth Strategy Through Achieving Carbon Neutrality in 2050" formulated by Japan's Ministry of Economy, Trade and Industry, in collaboration with other ministries and agencies



4 Use of raw materials and products with low environmental burdens



5 Appearance of next-generation energy devices



# Nippon Kayaku Group's Sustainable Management

## Basic Policy on Sustainable Management

Under its corporate vision, the **KAYAKU spirit**, the Nippon Kayaku Group will practice sustainable management that responds to the trust placed in it by all of its stakeholders, by ensuring transparency and fairness in management and contributing to the creation of a sustainable environment and society through its business activities. (**KAYAKU spirit**: Continuously providing society with the best products through ceaseless progress and the combined forces of our consciences.)

## The KAYAKU spirit and Sustainable Management

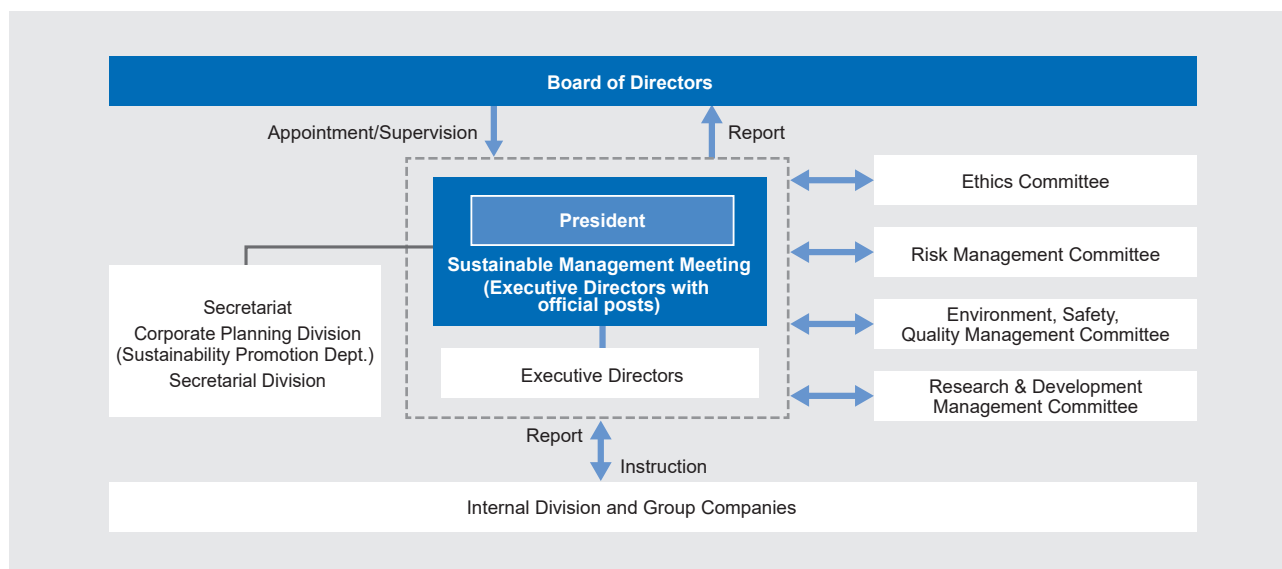
The Nippon Kayaku Group's Corporate Vision is embodied by the **KAYAKU spirit**: "continuously providing society with the best products through ceaseless progress and the combined forces of our consciences." Under the **KAYAKU spirit**, we aim to create environmental, social and economic value by engaging in sustainable management, create a sustainable society, and increase our corporate value.

As a standard of conduct to realize the **KAYAKU spirit**, we have established a Nippon Kayaku Group Charter of Conduct and Code of Conduct. In all of our corporate activities, we respect fundamental human rights, comply with laws and regulations, engage in fair business activities and respond to the trust of all stakeholders.

## System

The Nippon Kayaku Group has created a Sustainable Management Meeting, chaired by the President under the direct supervision of the Board of Directors to implement sustainability initiatives throughout the group. In principle, Sustainable Management Meetings are held on a weekly basis to discuss and report on all matters relating to the sustainability of the corporate group, society, and the environment. Important agenda items are approved by the Sustainable Management Meeting before discussion and reporting at Board of Directors meetings.

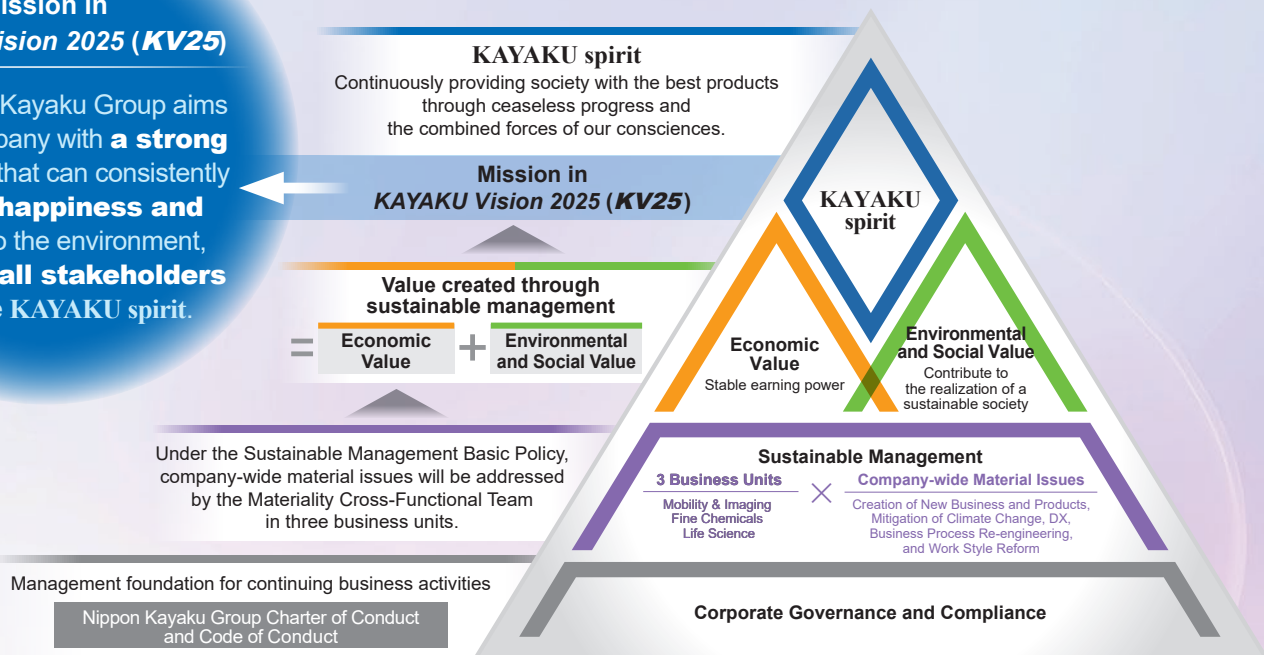
Under the umbrella of the Sustainable Management Meeting, we have established four subcommittees: the Ethics Committee, the Risk Management Committee, the Environment, Safety, Quality Management Committee, and the Research & Development Management Committee. The committees hold meetings on a regular basis and discuss and report to the Sustainable Management Meeting to ensure the transparency and fairness of management.





### Mission in KAYAKU Vision 2025 (KV25)

The Nippon Kayaku Group aims to be a company with a **strong presence** that can consistently **provide happiness and delight** to the environment, society and **all stakeholders** under the KAYAKU spirit.



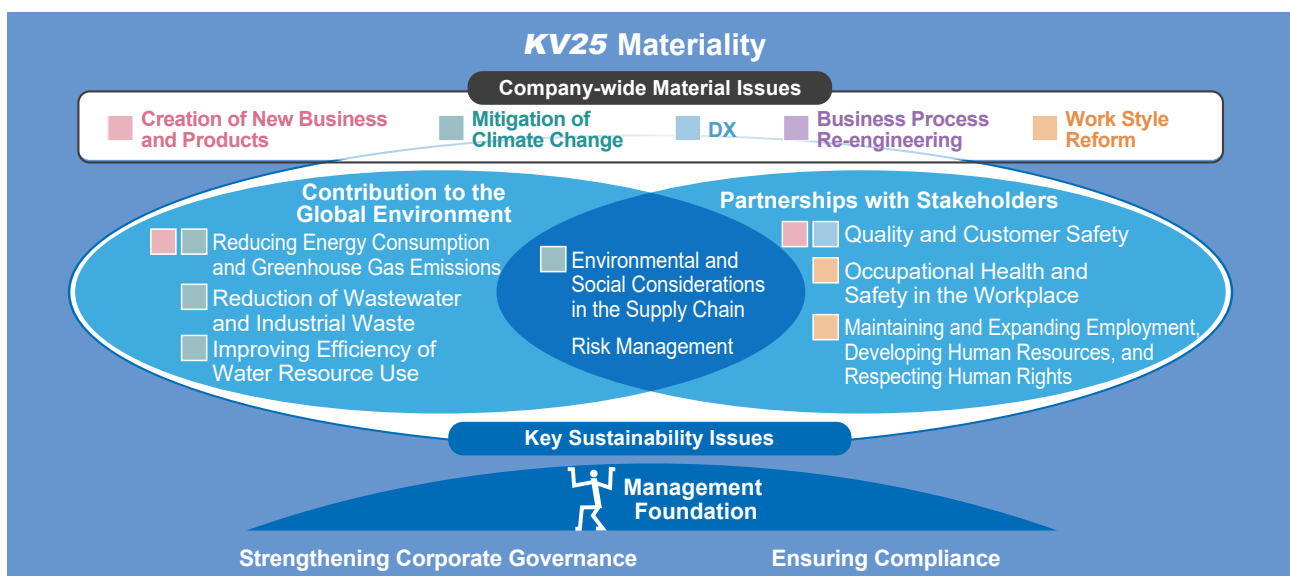
## KV25 Materiality

In order to realize its mission of being a company with a strong presence that can consistently provide happiness and delight to the environment, society and all stakeholders under the **KAYAKU spirit**, the Nippon Kayaku Group has identified five key company-wide material issues (materiality) to be addressed as priorities: Creation of New Business and Products, Mitigation of Climate Change, DX, Business Process Re-engineering and Work Style Reform.

We have also appropriately identified important issues faced by the Group in implementing sustainable management, from both internal and external perspectives,

defined them as key sustainability issues (materiality), and formulated a Sustainability Action Plan linked to our business activities.

**KV25** places top priority on addressing these company-wide material issues and the key sustainability issues that supplement them, to contribute to the creation of a sustainable environment and society based on our Basic Policy on Sustainable Management. **KV25** Materiality is a generic term combining these company-wide material issues and key sustainability issues.



# Nippon Kayaku Group's Sustainable Management

## Mission in *KAYAKU Vision 2025 (KV25)*

The Nippon Kayaku Group aims to be a company with a strong presence that can consistently provide happiness and delight to the environment, society and all stakeholders under the **KAYAKU spirit**, as its Mission in **KAYAKU Vision 2025 (KV25)**.

### 1 Presence

At the Nippon Kayaku Group, we will show our presence as a corporation seeking sustainable growth and strive to improve our social recognition through the fusion of technologies and our strategies in niche areas based on Global “sukima” ideas.

Strive to achieve from a long-term perspective

**Mission in  
KAYAKU Vision 2025  
(KV25)**






### 2 Provision of happiness and delight to all stakeholders

Besides continuing to provide the best products, technologies, and services through our three business units, we will work on important issues such as climate change and work style reform so that we can provide value to all stakeholders related to the Nippon Kayaku Group.

## Company-wide Material Issues Initiatives

The Nippon Kayaku Group has identified five key issues that should be prioritized in company-wide cross-organizational projects, as company-wide material issues: Creation of New Business and Products, Mitigation of Climate Change, DX, Business Process Re-engineering and Work

Style Reform. Our Materiality Cross-Functional Team (M-CFT), composed of members selected from multiple divisions, is working to instill awareness of initiatives addressing company-wide material issues and speed up the resolution of each issue.

Company-wide material issues	Initiatives
<b>Creation of New Business and Products</b> 	We will contribute to realizing our mission by collaborating across the three business units and breaking down barriers within existing organizations to create new businesses and products in the four businesses of Mobility, Environment and Energy, Electronics, and Life Science.
<b>Mitigation of Climate Change</b> 	We will work to prevent global warming—such as the reduction of greenhouse gas emissions—and achieve carbon neutrality, and make united efforts with each plant and research institute to combat climate change risks.
<b>DX</b> 	Our current goals are to drive company-wide digital transformation (DX), increase sales through process transformation, and expand our businesses by reducing costs. Specifically, we will work to achieve DX in the areas of (1) IT education and awareness reform, (2) strengthening IT infrastructure through ERP and IT infrastructure restructuring, etc., (3) R&D, production, sales/marketing and management business processes.
<b>Business Process Re-engineering</b> 	We will work to improve our asset efficiency and earning power by reviewing our group business management, business operation / control (management) and cost control methods, and by improving work efficiency and productivity through A3 activities (KAIZEN)* aimed at business process improvement—to eliminate all kinds of waste—and cost reduction.
<b>Work Style Reform</b> 	We will work to implement work style reforms and personnel system reforms to enable every employee to work energetically and increase employee engagement, with the aim of being a good, strong, energetic company.

\* A3 activities (KAIZEN): Awareness reform activities—based on awareness of reducing costs—designed to develop individual and organizational strengths (skills and expertise) and autonomy, to make the Nippon Kayaku Group an energetic company.

## Key Sustainability Issues Initiatives and KPIs

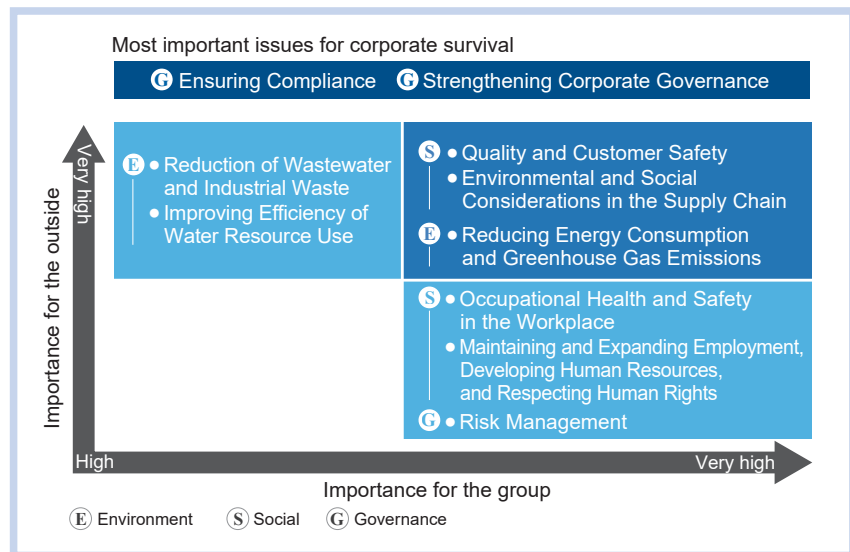
The Nippon Kayaku Group has formulated a Sustainability Action Plan linking its business activities with the identified key sustainability issues. We also utilize the SDG Compass\* to link each materiality with one or more of the

17 SDGs. By implementing initiatives to achieve the KPIs in the Sustainability Action Plan, we will contribute to the achievement of the SDGs and the creation of a sustainable society.

\* The official name is "SDG Compass - Corporate Action Guidelines for SDGs", which was jointly developed by three international organizations, GRI, UNGC and WBCSD, as a guide to the SDGs for companies.

### Key Sustainability Issues

We have classified our key sustainability issues into three categories—most important issues for corporate survival, most important issues, and important issues—and established action plans for each issue.



### Method for Identifying Key Sustainability Issues

To appropriately grasp issues facing the Nippon Kayaku Group from both internal and external perspectives and respond to the expectations and demands of stakeholders, the key medium-term CSR issues were identified in 2019.

To coincide with the start of the new Medium-term Business Plan—**KAYAKU Vision 2025**—and the shift

from CSR management to sustainable management, in April 2022, we changed the term “key CSR issues” to “key sustainability issues” and reviewed them in order to appropriately respond to the diversification of our business activities and various changes in social issues.

STEP 1 Recognition of themes	STEP 2 Creating point scores from internal and external opinions	STEP 3 Mapping of important issues	STEP 4 Validation and approval
Building on our previous key sustainability issues (laid down in our <b>KAYAKU Next Stage</b> key medium-term CSR issues), we have extracted themes from the GRI Standards on the demands of a diversifying society to serve as our base, and updated our issue items accordingly.	<p><b>A</b> Converting External Evaluations into Points: We have taken the evaluation standards of multiple international assessment bodies concerned with promoting responsible investment, as well as the SASB* required standards for separate industries, linked them to our issue items, and assigned external evaluation point scores to them.</p> <p><b>B</b> Converting Internal Evaluations into Points: We have taken the key Medium-term Business Plan themes for each separate business and corporate division, linked them to our issue items, and assigned internal evaluation point scores to them.</p> <p>* The Sustainability Accounting Standards Board (SASB) is an American non-profit organization which determines sustainability information disclosure standards for each separate industry.</p>	The materiality items “Strengthening Corporate Governance” and “Ensuring Compliance” are identified as the “most important issues for corporate survival.” Other issues are mapped based on external and internal evaluations, which assign point-based assessments. Our resultant point-based map has had threshold levels inserted, with anything exceeding those thresholds being specified as a key sustainability issue.	With intellectual input from our sustainability specialists taken into account, our specifying methods and specification results are reviewed by our key decision-making institution, the Sustainable Management Meeting, and approved after two rounds of discussions.



# Nippon Kayaku Group's Sustainable Management

## Key Sustainability Issues and Sustainability Action Plan (excerpt)

The Nippon Kayaku Group's Sustainability Action Plan utilizes the SDG Compass to link each key issue (materiality) with one or more of the 17 SDGs. By managing and disclosing the progress of KPIs every year

and implementing sustainability activities, the Group aims to create environmental, social and economic value, help to achieve the SDGs (i.e., to create a sustainable society) and increase corporate value.

Key sustainability issues	Corresponding SDGs	Action plans	Indicators (KPI)	FY2025 Targets	FY2023 Results
Most important issues for corporate survival	Ensuring Compliance	<ul style="list-style-type: none"> <li>Exercise thorough compliance, which is a basic principle for conducting corporate activities, and engaging in fair business operations</li> <li>Maintain and enhance an open corporate culture with a high sense of ethics</li> </ul>	Number of serious compliance violations*1	0	0
			Compliance training rate	100%	96%
	Strengthening Corporate Governance	<ul style="list-style-type: none"> <li>Strengthen corporate governance of the entire group and manage in a highly transparent and sound manner</li> </ul>	Percentage of group companies with compliance / whistleblowing hotlines	100%	83%
			Number of times that the assessment on the effectiveness of the Board of Directors meetings is evaluated	Once per year	Once
			Number of times internal business audits are performed by the Audit Division	60 times in four years	17 times
Key sustainability issues	Corresponding SDGs	Action plans	Indicators (KPI)	FY2025 Targets	FY2023 Results
Most important issues	Quality and Customer Safety	<ul style="list-style-type: none"> <li>Enhance our quality control and quality assurance systems by continuously improving our quality management system and ensuring thorough quality-related governance</li> <li>Implement quality management, improve production efficiency and reduce process abnormalities through digitalization</li> </ul>	Number of serious complaints by customers*2	0	0
			Number of serious quality process abnormalities in processes*2	0	0
	Environmental and Social Considerations in the Supply Chain	<ul style="list-style-type: none"> <li>Practice supply chain management with consideration for environmental and social aspects, based on the Sustainable Procurement Guidelines</li> </ul>	Response rate for confirmation of consent to Sustainable Procurement Guidelines	(Non-consolidated) 90%	(Non-consolidated) 91%
			Formulation and implementation of improvement plans using questionnaires to suppliers	(Non-consolidated) Disclose progress	Ensure that there are no human rights or environmental issues with any of our business partners
	Reducing Energy Consumption and Greenhouse Gas Emissions  Reduction of Wastewater and Industrial Waste  Improving Efficiency of Water Resource Use	<ul style="list-style-type: none"> <li>Implement energy-saving and global warming countermeasures and achieve FY2030 environmental targets</li> <li>Identify issues and clarify strategies for achieving carbon neutrality by FY2050</li> </ul>	Greenhouse gas emissions (Scope 1+2)	(Targets to be achieved by FY2030) 70,598 tons or less (A reduction of 46% or more compared to FY2019)	102,704 t-CO <sub>2</sub>
			VOC emissions	(Non-consolidated) Disclose results	(Non-consolidated) 32.9 tons
			COD emissions	(Non-consolidated) Disclose results	(Non-consolidated) 210.9 tons
			Total waste output	(Non-consolidated) Disclose results	(Non-consolidated) 20,974 tons
			Recycling rate	(Non-consolidated) 80% or higher	(Non-consolidated) 83.8%
			Zero emission rate	(Non-consolidated) 1% or less	(Non-consolidated) 0.7%
			Goal setting in line with SBT and consideration and implementation of specific measures	Disclose progress	Medium-term Environmental Targets were revised to align with the 1.5°C level
			Disclosure in line with TCFD recommendations	Disclose progress	Information Disclosed
			Develop products and technologies with consideration for environmental issues	Disclose progress	Disclose progress

Key sustainability issues	Corresponding SDGs	Action plans	Indicators (KPI)	FY2025 Targets	FY2023 Results
Important issues	Occupational Health and Safety in the Workplace	<ul style="list-style-type: none"> <li>Strengthen the foundation for safe operation by thoroughly enforcing basic rules on safety and health and improving equipment and work procedures</li> <li>Implement health and productivity management and provide a workplace environment with a healthy work-life balance where employees can work with enthusiasm</li> </ul>	Number of serious accidents*3	0	0
			Acquisition of certifications under the Certified Health & Productivity Management Outstanding Organizations Recognition Program (Large Enterprise category)	(Non-consolidated) Continued certification	(Non-consolidated) Continued certification
			Percentage of paid leave taken	(Non-consolidated) 70% or higher	(Non-consolidated) 72.8%
			Percentage of employees who take mental health training	(Non-consolidated) 100%	The 1st year of the 3-year plan has started as scheduled
			Percentage of employees receiving regular health checkups	(Non-consolidated) 100%	(Non-consolidated) 100%
			Ascertaining and improving employee satisfaction through questionnaire surveys	(Non-consolidated) Disclose progress	Engagement surveys were conducted to assess the current situation and identify issues
	Maintaining and Expanding Employment, Developing Human Resources, and Respecting Human Rights	<ul style="list-style-type: none"> <li>Promoting diversity and inclusion through the recruitment of diverse human resources, effective HR assignment and exchanges</li> <li>Pass down and strengthen technical capabilities in monozukuri (manufacturing) and achieve globalization in human resources through ongoing human resource development</li> <li>Engage in business operations that pay care and consideration to the human rights of employees and all other people involved in the supply chain</li> </ul>	Percentage of female employees in management posts*4	(Non-consolidated) 10% or higher	(Non-consolidated) 8.8%
			Percentage of employees with disabilities	(Non-consolidated) Achieve legal minimum employment rate	(Non-consolidated) 1.93%
			Amount invested in education and training per employee	(Non-consolidated) Disclose results	(Non-consolidated) ¥76,565 / person
			Training hours per employee	(Non-consolidated) Disclose results	(Non-consolidated) 17.7 hours
			Number of training sessions held on human rights	Once or more per year	2 times
			Human rights due diligence: human rights impact assessment rate	(Non-consolidated) Implemented by FY2022 (Consolidated) 100% by FY2025	Human rights risk assessments were conducted for employees of the Nippon Kayaku Group, and priority risk mitigation measures were identified
	Risk Management	<ul style="list-style-type: none"> <li>Respond to various business-related risks and ensure business continuity by maintaining production systems, ensuring the proper procurement of raw materials, and strengthening measures against disasters</li> </ul>	Implementation rate of risk control activities for business, etc., and top five risk control activities	100%	100%
			Number of BCP drills conducted	Once or more per year	3 times

\*1 Number of serious accidents as judged by the Ethics Committee

\*3 Accidents involving three or more people requiring time off work, or resulting in fatalities

\*2 Losses of 10 million yen or more

\*4 Targets for the end of FY2024



## Sustainability Action Plan

<https://www.nipponkayaku.co.jp/english/sustainability/management/materiality/#h-04-02>

## The SDGs and the KAYAKU spirit

The SDGs are a set of 17 social, economic and environmental goals to be addressed by various bodies, organizations and entities by FY2030, adopted unanimously by UN member states with the goal of building a sustainable world.

The philosophy of the SDGs is synonymous with the Nippon Kayaku Group's corporate vision of continuously providing society with the best products through ceaseless progress and the combined forces of our consciences, and we believe that corporate activities for the realization of the **KAYAKU spirit** are consistent with the actualization of the SDGs, although the scale and targets are different from those of the United Nations.

The Nippon Kayaku Group's Sustainability Action Plan utilizes the SDG Compass to link each key sustainability

issue (materiality) with one or more of the 17 SDGs.

Going forward, the Nippon Kayaku Group will continue working to generate environmental, social and economic value, create a sustainable society, increase its corporate value, and contribute to the achievement of the SDGs.

### SUSTAINABLE DEVELOPMENT GOALS



# Stakeholder Engagement

## Basic Approach

The Nippon Kayaku Group is aiming to be a company which delivers both happiness and delight to all stakeholders: our employees, customers, suppliers, shareholders, investors, and local communities. We value our conversations with stakeholders, taking advantage of various opportunities and communication tools to conduct appropriate information disclosure and two-way exchanges in order to improve our business activities. We strive to meet the expectations and demands of our stakeholders while fulfilling our social responsibilities through our business activities.

Stakeholders of the Nippon Kayaku Group



## Formulation of Multi-Stakeholder Basic Policy

In corporate management, it is important to create value with diverse stakeholders, including employees, customers, suppliers, shareholders, investors, and local communities. With this in mind, we will undertake appropriate cooperation with multi-stakeholders. Regarding the profits and achievements born from collaborative value creation and productivity improvement, returns to employees and consideration for suppliers are important from the perspective

that appropriate allocation to multi-stakeholders will lead to maintaining the momentum of wage raises and sustained economic development. It is based on such considerations that we formulated our Multi-Stakeholder Basic Policy.



### Multi-Stakeholder Basic Policy (Japanese)

[https://www.nipponkayaku.co.jp/sustainability/pdf/management/engagement/multi\\_stakeholder\\_policy.pdf](https://www.nipponkayaku.co.jp/sustainability/pdf/management/engagement/multi_stakeholder_policy.pdf)






## Links with Local Communities

The Nippon Kayaku Group has signed numerous agreements with local governments and regions at its business locations. By respecting various environmental agreements and making efforts to lower our environmental burden, we are contributing to the safety and reassurance of the local communities concerned.

Key local agreements signed by the Nippon Kayaku Group

Workplace	Agreement Title	Co-signatory
Safety Head Plant (Himeji)	Memorandum on Wastewater Management	Himeji City
	Local Fire Brigade Partner	Himeji City Fire Department
Fukuyama Plant	Agreement on Pollution Control	Hiroshima Prefecture and Fukuyama City
Asa Plant	Agreement on Water Pollution Control	Yamaguchi Prefecture Fishing Cooperative
	Agreement on Environmental Safety	Sanyo-Onoda City
Tokyo Plant	Green Agreement	Adachi City
	Joint-Agreement on the Establishment of a Committee to deal with Colored Wastewater Issues	2nd Management Office, Bureau of Sewerage, Tokyo Metropolitan Government
	Agreement on Mutual Disaster Support	Adachi City Shinden Residents' Association and Shinden 1-chome Estate Residents' Association
	Agreement on Locations of Sheds Housing Small Pumps for Civilian Use	Senju Branch, Tokyo Fire Department
Takasaki Plant	Company Fire Brigade Cooperation Agreement	Takasaki District Fire Bureau
Kashima Plant	Agreement on Pollution Control	Ibaraki Prefecture, Kashima City, and Kamisu City
Tokyo R&D Administration Office	Sea Rescue Activity Cooperation Agreement Agreement with the Akabane Ward Council on Mutual Support for Disaster Prevention in Dangerous Buildings	Akabane Branch, Tokyo Fire Department



Stakeholders	Outline of Initiatives	Method of Communication
<b>Employees</b> 	<p>We believe that people are the nucleus of our corporate activities. Through respecting the human rights of each and every employee, and striving to provide a reassuring working environment, we aim to become a company which allows its people to really feel their own personal development amid the rewarding nature of their work.</p>	<ul style="list-style-type: none"> <li>• Talent management system</li> <li>• Engagement survey</li> <li>• Compliance awareness survey and stress check survey</li> <li>• Company newsletter</li> <li>• Compliance hotline</li> <li>• Agreements with labor unions</li> </ul>
<b>Customers</b> 	<p>Through pursuing high product quality and supplying the best socially and environmentally conscious products, technologies and services, we strive to gain the satisfaction and trust of our valued customers:</p> <ul style="list-style-type: none"> <li>• Automobile module manufacturers and optical material users</li> <li>• Users of resins, dyes, and catalyst materials</li> <li>• Medical professionals and patients</li> <li>• Agrochemical manufacturers, wholesalers, and retailers; agricultural cooperatives</li> </ul>	<ul style="list-style-type: none"> <li>• Ascertaining of needs through sales activities</li> <li>• Refinement/improvement of products and services</li> <li>• Plant field trip</li> <li>• Publication of information online</li> <li>• Provision of safety guidance on agrochemical use and advice on pest control methods</li> </ul>
<b>Suppliers</b> 	<p>From research and development to raw material procurement, manufacturing, sales, and distribution, we are working with all our supply chain partners to respect human rights and promote environmental conservation, workplace safety and health, legal compliance, and sustainable purchasing (including fair trade considerations).</p>	<ul style="list-style-type: none"> <li>• Information exchange through visits, web chats, and everyday business negotiation</li> <li>• Sustainable procurement survey</li> <li>• Procurement seminars</li> </ul>
<b>Shareholders and Investors</b> 	<p>Having established our disclosure policy, we are presenting all shareholders and investors with timely, honest, and impartial information so that they may appropriately understand our business situation and various business initiatives.</p>	<ul style="list-style-type: none"> <li>• Financial results briefings</li> <li>• General meetings of shareholders (AGM)</li> <li>• Telephone conferences</li> <li>• 1-on-1 meetings</li> <li>• Publication of information via our website and integrated reports</li> </ul>
<b>Local Communities</b> 	<p>We have business locations across the world and operate as members of each local community. In addition to social contribution activities, we actively support the development of the next-generation and engage in information exchange with local governments, contributing to the healthy and sustainable development of local communities.</p>	<ul style="list-style-type: none"> <li>• Social contribution activities (plant festivals, street cleaning)</li> <li>• Plant field trip</li> <li>• Next-generation training support</li> <li>• Information exchange with local governments</li> </ul>

## TOPIC

## Labor-management relations

Since renewing our labor agreement in 1998, Nippon Kayaku Co., Ltd. and the Nippon Kayaku Labor Union have maintained healthy relations based on mutual trust between labor and management. Under the Union Shop System, with the exception of managers and a section of contracted workers, union membership rates stand at 100%.

With respect to the union, the company endeavors to disclose as much information as possible, earnestly respond to matters in line with its negotiation policy and have management directly convey its policies on business management, safety and health by convening the Central Joint Labor Management Council three times a year. We

also hold a Central Management Round-table Conference once a month, sharing information pertaining to the company's situation, deepening mutual understanding of issues, and discussing ways of resolving issues.

We also make efforts to promptly convey the details and outcomes of such meetings to employees in each division.

Issues concerning individual business units are discussed at each unit's annual Joint Labor Council and monthly Management Round-table Conference. Through the shared awareness of issues, relevant discussion and opinion exchanges allowed by these meetings are we aiming to deliver a more comfortable workplace.

# Review of the Medium-term Business Plan and Progress of the *KAYAKU Vision 2025*

## KV25 Net Sales & Operating Income Plan

(billion yen) Net Sales ■ Mobility & Imaging Business Unit ■ Fine Chemicals Business Unit ■ Life Science Business Unit

250

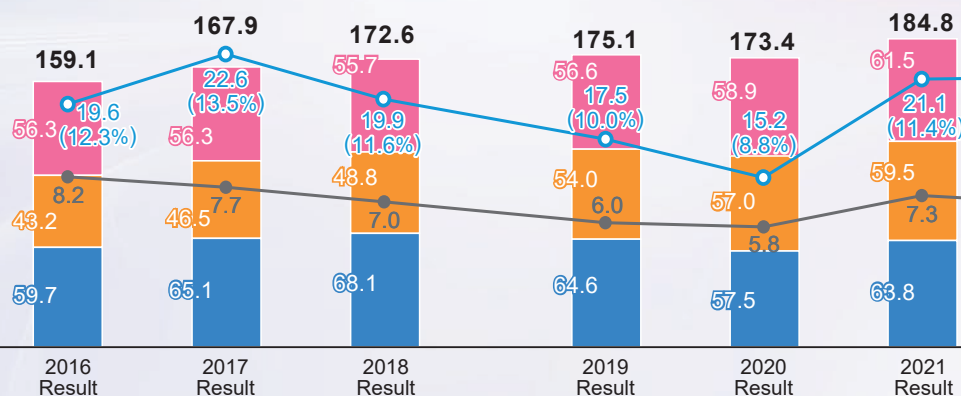
200

150

100

50

0



### Medium-Term Business Plan —Slogans and Goals

#### FY2016 to FY2018

#### Take a New Step 2016

Based on the **KAYAKU spirit**, continue to change in anticipation of the changes taking place

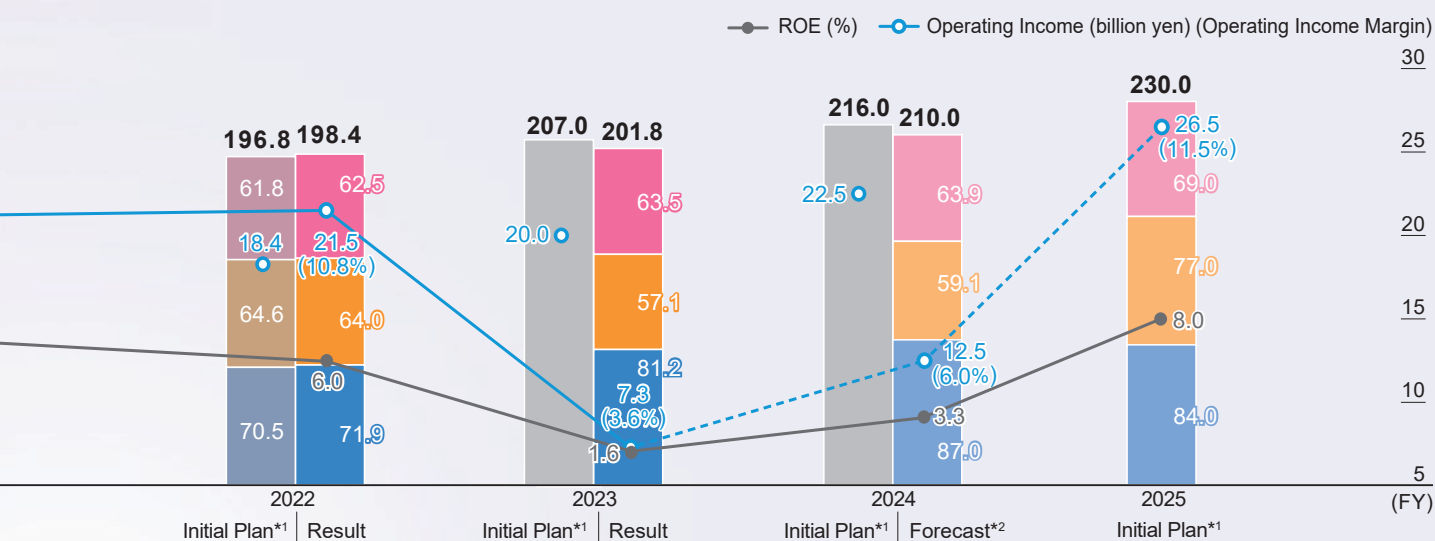
#### FY2019 to FY2021

#### KAYAKU Next Stage

Practice CSR management and continue to provide products and services that are needed around the world

Changes in net sales and operating income as well as their key reasons	Nippon Kayaku Group as a whole		<b>Higher sales (+9.7) Lower profit (-1.8)*<sup>3</sup></b>	<b>Higher sales (+12.2) Higher profit (+1.1)*<sup>4</sup></b>
			<ul style="list-style-type: none"> <li>Achieved record-high sales in FY2016 due to tremendous growth of the Safety Systems Group</li> </ul>	<ul style="list-style-type: none"> <li>Trade friction between the United States and China as well as the COVID-19 pandemic had both positive and negative impact on each business; as a whole, sales and profits were lower in FY2020 but moved toward recovery in the second half of the period</li> </ul>
	Mobility & Imaging Business Unit		<b>Higher sales (+8.6) Lower profit (-1.1)*<sup>3</sup></b>	<b>Lower sales (-4.3) Lower profit (-2.9)*<sup>4</sup></b>
		Safety Systems Group	<ul style="list-style-type: none"> <li>Sales grew by 11.9 billion yen</li> <li>Continued with capital investment for establishing a global production system</li> </ul>	<ul style="list-style-type: none"> <li>Sluggish due to sudden reduction in automotive production caused by the COVID-19 pandemic and global semiconductor shortage, but saw signs of recovery from 2021</li> </ul>
		Polatechno Group	<ul style="list-style-type: none"> <li>Sales of dye-type polarizers became sluggish</li> <li>Sales of X-ray analyzer components held firm; acquired RaySpec Ltd. based in the United Kingdom</li> </ul>	<ul style="list-style-type: none"> <li>Sales of dye-type polarizers remained sluggish while X-ray analyzer components held firm</li> <li>Polatechno dissolved its parent-subsidiary listing and became a business division in October 2020</li> </ul>
	Fine Chemicals Business Unit		<b>Higher sales (+4.2) Higher profit (+3.1)*<sup>3</sup></b>	<b>Higher sales (+10.7) Higher profit (+2.8)*<sup>4</sup></b>
		Functional Materials Group	<ul style="list-style-type: none"> <li>Sales of epoxy resins for semiconductors held firm</li> </ul>	<ul style="list-style-type: none"> <li>Sales of epoxy resins for semiconductors performed steadily</li> </ul>
		Color Materials Group	<ul style="list-style-type: none"> <li>For inkjet inks and colorants, consumer use shrank as expected but industrial use expanded</li> </ul>	<ul style="list-style-type: none"> <li>For inkjet inks and colorants, demand for consumer use increased during the COVID-19 pandemic while industrial use was sluggish but started to recover in FY2021</li> </ul>
		Catalysts Group	<ul style="list-style-type: none"> <li>Acrylic acid manufacturing catalysts grew</li> </ul>	<ul style="list-style-type: none"> <li>Held firm, performing especially steady in FY2020 and achieving sales of 10.9 billion yen</li> </ul>
	Life Science Business Unit		<b>Lower sales (-3.1) Lower profit (-3.5)*<sup>3</sup></b>	<b>Higher sales (+5.8) Higher profit (+1.9)*<sup>4</sup></b>
		Pharmaceuticals Group	<ul style="list-style-type: none"> <li>Sales shrank for long-listed products and such, maintained for generic drugs, and expanded for biosimilars</li> </ul>	<ul style="list-style-type: none"> <li>Biosimilars grew tremendously from FY2019 to FY2020</li> </ul>
		Agrochemicals Group	<ul style="list-style-type: none"> <li>Launched new insecticide FINESAVE<sup>®</sup>, contributing to business performance</li> </ul>	<ul style="list-style-type: none"> <li>Held firm due to contribution from FINESAVE<sup>®</sup>, etc.</li> </ul>

\*<sup>3</sup> FY2018 results compared to FY2015 \*<sup>4</sup> FY2021 results compared to FY2018 \*<sup>5</sup> FY2023 results compared to FY2021  
Nippon Kayaku Group Integrated Report 2024



\*1 Figures of Initial Plan are based on the disclosure in the financial results presentation on May 13, 2022.

\*2 Figures of Forecast are based on the disclosure in the financial results presentation on May 14, 2024.

#### FY2022 to FY2025

#### KAYAKU Vision 2025 (KV25)

Promote sustainable management, and at the same time, address the five key company-wide material issues (① Creation of New Business and Products, ② Mitigation of Climate Change, ③ DX, ④ Business Process Re-engineering, and ⑤ Work Style Reform) as an activity that leads to future growth

#### Higher sales (+17.0) Lower profit (-13.7)\*5

- Although the Fine Chemicals Business Unit saw a decrease in sales, the increase in sales at the other two business units was even higher
- Lower profits due to the Fine Chemicals and Life Science Business Units

#### Higher sales (+17.4) Higher profit (+0.3)\*5

- With continued market recovery since FY2022, significantly higher profits due to advantageous exchange rate
- Profits affected by increases in raw materials costs and fixed costs

- Dye-type polarizers struggled; expectations for recovery by shifting toward new applications in vehicles
- Sales of X-ray analyzer components held firm

#### Lower sales (-2.4) Lower profit (-4.9)\*5

- From the second half of FY2022, the market for epoxy resins for semiconductors suddenly slowed down and sales remained sluggish
- For inkjet inks and colorants, demand dropped for consumer use from the special demand during the COVID-19 pandemic while industrial use shifted toward strong performance as originally expected
- Held firm, with steady performance in FY2022 and sales of 9.8 billion yen

#### Higher sales (+2.0) Lower profit (-8.1)\*5

- Impact of on-going drug pricing revisions was covered by higher volume and there was overall growth
- For FY2023, costs of introducing new anti-cancer drugs for unmet needs led to lower profits
- Held firm due to steady overseas sales, etc.



# Review of the Medium-term Business Plan and Progress of the *KAYAKU Vision 2025*

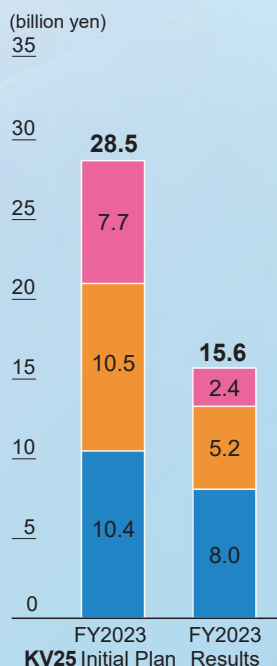
## Higher Sales and Lower Profits for Overall Business Performance in FY2023

In FY2023, we achieved net sales of 201.8 billion yen, falling short of the 207 billion yen initially planned in **KV25** even though sales increased by 3.4 billion yen. Meanwhile, operating income was 7.3 billion yen, decreasing by 14.2 billion yen and significantly lower than the 20 billion yen initially planned in **KV25**. The main reason for the decrease in income was the reduction in operating income of each business unit.

As the decrease in income was extremely significant, as of the end of FY2023, the outlook for achieving the target operating income of 26.5 billion yen in FY2025—the final year of **KV25**—seems to be quite difficult. Toward FY2025, besides initiatives to improve profitability in the medium-to-long term, an urgent issue is the improvement and recovery of short-term profits at each business unit. We will aim for an operating income of a level around 20 billion yen and strive as far as possible to exceed that level.

### Reasons behind business units not achieving their operating income targets or having lower income in FY2023

Business units' operating incomes in FY2023



#### Life Science Business Unit

##### Pharmaceuticals

- Overall, performance held firm, but 6 billion yen accounted as unplanned R&D expenditure in the 3rd quarter as costs of introducing new anti-cancer drugs for unmet needs

#### Fine Chemicals Business Unit

Increase in manufacturing costs due to soaring raw material prices in all subsegments

##### Functional Materials

- Reduction in production efficiency due to lower production caused by a sluggish market

##### Color Materials

- Impact on profits from changes in product mix accompanying changes in demand

#### Mobility & Imaging Business Unit

##### Safety Systems

- Higher product cost rate due to soaring prices of raw materials, including steel-related materials such as iron and aluminum
- Increase in fixed costs, such as labor costs, at overseas subsidiaries

##### Polatechno

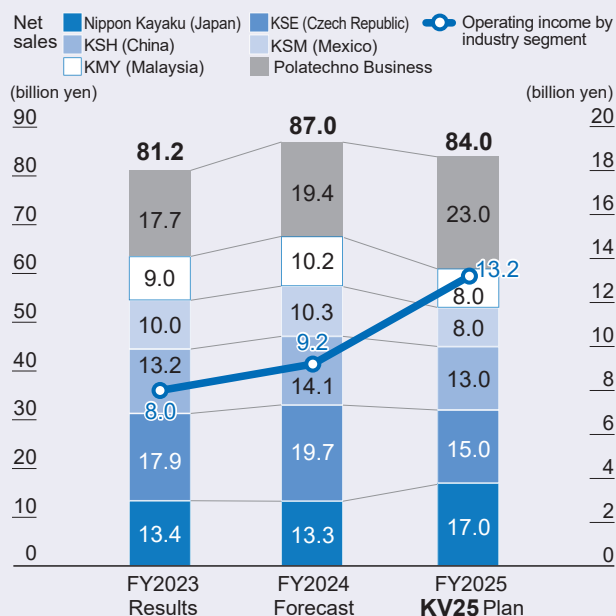
- Lower profits rate as dye-type polarizer products struggled

## Path for Growth of Each Business Unit Toward Final Year of *KV25*



### Mobility & Imaging Business Unit

#### Net Sales and Operating Income Trends



#### Path for growth

##### Safety Systems

- Sales and profits increased due to expanded sales in China and ASEAN—where demand for automotive safety components is expected to grow—and South Korea
- Strong performance in Japan due to recovery in automotive production

##### Polatechno

- For dye-type polarizers, sales expanded for vehicle applications centered on the newly developed sun-guard films for head-up displays (HUDs)
- X-ray analyzer components continued to hold firm

#### Areas of concern

##### Safety Systems

- Response to limit the impact of continued high prices of raw materials for automotive safety components

##### Polatechno

- Steady results in sales of dye-type polarizers for HUDs

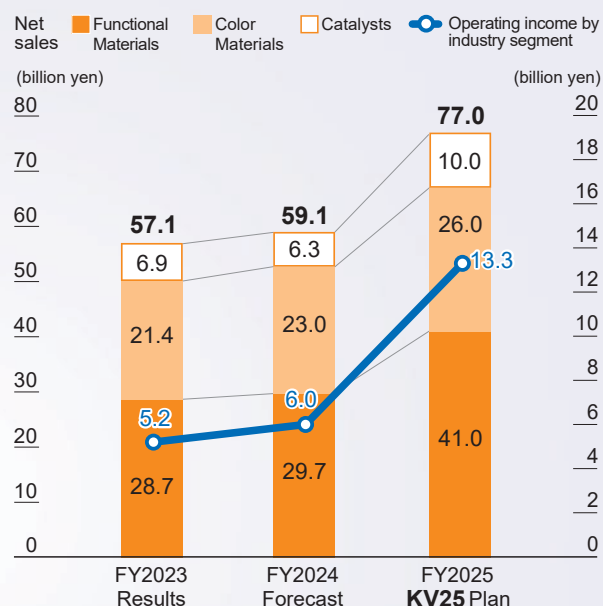
#### Forecast toward FY2025

**Automotive safety components will recover together with recovery of automotive market**



## Fine Chemicals Business Unit

### Net Sales and Operating Income Trends



### Path for growth

#### Functional Materials

- With the recovery of the semiconductor product market, upstream inventory is being resolved and epoxy resins for semiconductors is moving toward full-scale recovery from the second half of 2024

#### Color Materials

- For inkjet inks and colorants, demand for consumer use is recovering as inventory adjustments were resolved, and those for industrial use is growing due to demand recovery

#### Catalysts

- Sales are expected to be sluggish in FY2024, but to be steady in FY2025 due to overlap in catalyst replacement timing of acrylic acid and methacrylic acid manufacturing plants

### Areas of concern

#### Functional Materials

- Proper response in case of further increase in raw material prices due to impact of exchange rate and such
- Recovery in epoxy resin performance from second half of 2024

#### Color Materials

- Growth of industrial inkjet inks and dyes, which serve to drive growth

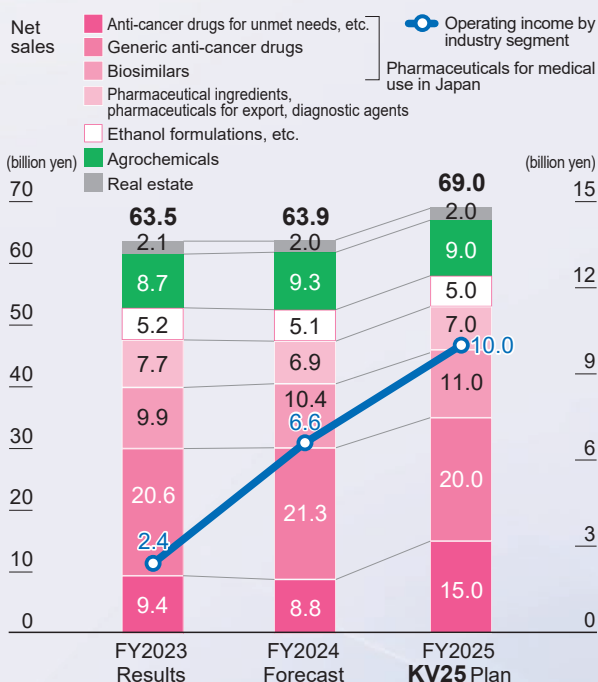
### Forecast toward FY2025

Recovery in sales of semiconductor-related products in second half of FY2024 is key



## Life Science Business Unit

### Net Sales and Operating Income Trends



### Path for growth

#### Pharmaceuticals

- Steadily cover negative impact of drug pricing revisions through higher volume of generic drugs and biosimilars
- Growth of anti-cancer drugs for unmet needs, such as DARVIAS®, Portrazza®, and Alaglio®

#### Agrochemicals

- Expansion of flometoquin-based products in Japan and overseas

### Areas of concern

#### Pharmaceuticals

- Impact on operation income from the accounting of expenditure for pipeline expansion, such as introduction costs

### Forecast toward FY2025

Smooth progress expected with no major concerns in market conditions

# Review of the Medium-term Business Plan and Progress of the *KAYAKU Vision 2025*

## KV25 Company-wide Management Targets

Self-evaluation through FY2023: ○ Substantially achieved ○ Achieved △ Not achieved

Economic value (FY2025)

<b>Net sales</b>		<b>Steady growth to exceed 230 billion yen in FY2025</b>
Goals <b>230</b> billion yen		<p>Net sales have been steadily growing since establishment in 1916, and the CAGR for the period of three of the most recent—including current—Medium-term Business Plan (FY2016 to FY2023) was 3.5%. Following FY2023, which saw higher sales even though affected by market conditions, we expect sales to continue to increase in FY2024 and are aiming to achieve our goals for FY2025 by growing each business.</p> <p>Review of the Medium-term Business Plan and Progress of the <i>KAYAKU Vision 2025</i> <a href="#">p. 41-44</a></p>
FY2023 results <b>201.8</b> billion yen	Self-evaluation ○	
<b>Operating income</b>		<b>Exceed record income of 24.1 billion yen</b>
Goals <b>26.5</b> billion yen		<p>The difficulty in growing operating income and chronic reduction trend of operating income rate are management issues that need to be improved for the Nippon Kayaku Group. We will advance portfolio transformation to nurture product groups with high added value at each business unit.</p> <p>KV25 Business portfolio <a href="#">p. 48</a></p> <p>In addition, to recover from the significant decrease in income in FY2023, we will steadily implement initiatives following each business unit's path for growth toward FY2025.</p> <p>Review of the Medium-term Business Plan and Progress of the <i>KAYAKU Vision 2025</i> <a href="#">p. 41-44</a></p>
FY2023 results <b>7.3</b> billion yen	Self-evaluation △	
<b>ROE</b>		<b>Seek to improve by increasing asset efficiency</b>
Goals <b>8%</b> or more		<p>As a profitability indicator shared with shareholders and investors, we recognize that an ROE of 8.0% or higher is the ideal for the medium-to-long term, as stated in the Ito Review. We temporarily achieved this up till 2016, but since then, there is difficulty in growing operating income and it is on a decreasing trend. In the past, the policy was to increase ROE by higher profits from the growth of each business unit. However, going forward, we will seek improvement that also incorporates financial policies such as the acquisition of treasury shares so that we can make an early recovery.</p> <p>Message from Chief Financial Officer <a href="#">p. 47-50</a></p>
FY2023 results <b>1.6%</b>	Self-evaluation △	
<b>ROIC</b>		<b>Increase asset efficiency through management with ROIC on a divisional basis</b>
Goals <b>10%</b> or more		<p>We recognize that the level of ROIC companywide that we should aim for in the medium-to-long term through operating each business with an awareness of asset efficiency is 10% or higher. The actual ROIC in FY2022, set as a management indicator, was 8.3%. In FY2023, ROIC slumped at 1.5% due to a reduction in operating income before taxes caused by lower profits of our businesses. While we expect ROIC to reverse in trend and increase from 2024, this is still not enough to reach our target. Besides improving our performance, we will unite as one company to improve ROIC through an accumulation of efforts, including financial policies and measures implemented in the daily operations of each workplace.</p> <p>Message from Chief Financial Officer <a href="#">p. 47-50</a></p>
FY2023 results <b>1.5%</b>	Self-evaluation △	

\* Calculated as Profit before income taxes divided by invested capital



## Greenhouse gas emissions

Reduce by **46%** in FY2030  
(Compared to FY2019)

Mitigation of Climate Change ■■ p. 75-80

We had set reduction targets for greenhouse gas emissions toward meeting the previous 2°C target of the Paris Agreement. However, we revised our Medium-term Environmental Targets so that we can meet the 1.5°C target that can further limit the rise in global average temperature. (Revised in April 2024)

## Carbon neutrality

Achieve in FY**2050**

## Building a digital society

Providing environmentally friendly semiconductor materials that contribute to next-generation communications and digital transformation (DX)

Fine Chemicals Business Unit ■■ p. 58-62

## Creating a healthy society

Contributing to the improvement of QOL  
Providing a stable supply of pharmaceuticals

Life Science Business Unit ■■ p. 63-66

## Continuing to protect lives

Providing products that ensure safety  
and security in the mobility field

Mobility & Imaging Business Unit ■■ p. 53-57

## Supporting the supply of food

Providing safe agro-products to meet  
global food needs

Life Science Business Unit ■■ p. 63-66

Each business unit will continue to provide the best products, technologies, and services to protect lives and health and support enriching lifestyles. At the same time, we are undertaking R&D that targets the four areas of Mobility, Environment and Energy, Electronics, and Life Science that contribute toward achieving a sustainable society, and we are achieving progress in various themes and topics.

## Creating a company with a strong presence

Increasing customer satisfaction  
Human rights due diligence to business partners

Quality Management ■■ p. 95-96

Respect for Human Rights ■■ p. 91-92

We are striving to improve customer satisfaction—including enhancing systems for technical services and responding to customer inquiries—according to the format of each business. We are also advancing initiatives that respect the human rights of all people involved in business activities, including human rights due diligence that also covers our suppliers.

## Human resources development

Improve employee satisfaction  
Promotion of diversity  
(Percentage of female managers over 10%, etc.)

Human Resources and Creation of a Comfortable Workplace Environment ■■ p. 85-90

We are fostering a productive and flexible corporate culture that ensures diversity and psychological safety, and strive to develop people who will create innovation, the source of our competitiveness. In addition, we conducted an employee engagement survey for the first time in FY2023. We will use the results and seek to become a company that is popular with employees.

## Message from Chief Financial Officer



Member of the Board, Representative Executive Vice President,  
In charge of Corporate Planning Division,  
Corporate Communications Division,  
Finance & Accounting Division, Information Systems Division,  
and Purchasing Division

**Yoshitsugu Ishida**

The Nippon Kayaku Group leverages its strong financial capital, characterized by a well-balanced mix of three business units that support sustainable growth, a robust financial standing that maintains an “A” corporate rating from the Rating and Investment Information, Inc. (R&I), and a cash allocation strategy that prioritizes growth investments to drive transformation.

Through **KAYAKU Vision 2025 (KV25)**, the four-year Medium-term Business Plan that began in FY2022, we at the Nippon Kayaku Group will maintain our solid financial structure at a certain level, appropriately manage our resources, and flexibly respond to changes in market conditions and business risks. At the same time, we will contribute to the realization of a sustainable society by providing economic value and environmental and social value through mitigation of climate change and other measures.

### Action to Implement Management That is Conscious of Cost of Capital and Stock Price

Looking over the Nippon Kayaku Group's company-wide performance over the past 11 years, it can be observed that while net sales have grown driven by increased demand, operating income margins have stagnated. We recognize that the main cause of this is a chronic decline in marginal profit rate due to a lack of new businesses and new products.

As part of our efforts to address this issue, in June 2023, we defined promising market units and reorganized our segments into three business units: -Mobility & Imaging\*1, Fine Chemicals\*2, and Life Science\*3. We will aim to achieve the continuous creation of new businesses and new products by leveraging synergies within each business unit and actively investing in growth fields.

In addition, to earn the trust of our shareholders and investors and further increase corporate value, we have established target levels for management indicators such as ROE and ROIC, focusing on efficient business

operations with an awareness of capital efficiency and on the swift creation of new businesses and new products. Furthermore, to contribute to a sustainable society, we are committed to necessary investments to address mitigation of climate change and make effective use of human capital.

Unfortunately, as of the end of June 2024, our group has been evaluated as undervalued, with a price-to-book ratio of approximately 0.8. In response to the Tokyo Stock Exchange's request for “Action to Implement Management That is Conscious of Cost of Capital and Stock Price,” we have identified “strengthening earning power” and “improving capital efficiency” as priority issues. We intend to advance asset-efficient management by presenting our approach to portfolio transformation and other efforts focused on enhancing efficiency.

\*1 Safety Systems Group (Automotive Safety Components), Polatechno Group (Optical films for automotive, etc.)

\*2 Functional Materials Group, Color Materials Group, Catalysts Group

\*3 Pharmaceuticals Group, Agrochemicals Group



Stable **PBR of 1x or more**

Strengthen earning power	Transformation of business portfolio		Leverage strengths in main fields and businesses, address business issues
Improve capital efficiency	Treasury stock	Decided to acquire 3 billion yen this fiscal year, with plans to cancel some treasury stock	
	Dividends	Aim for a dividend payout ratio of 40% or more in the medium to long term ➡ Maintain annual dividends of 45 yen/share or more during the <b>KV25</b> period while actively investing for the future	
	Cross-shareholdings	Less than 10% of net assets (achieved during the <b>KV25</b> period)	
	Invested capital	Reduce inventory and accounts receivable, and reduce cash equivalents to 45.0 billion yen or less (achieved during the <b>KV25</b> period)	
Promotion of sustainable management	Addressing company-wide material issues to realize our mission		
	<ul style="list-style-type: none"><li>● Reducing greenhouse gas emissions (FY2030 target: 46% or more reduction compared to FY2019)</li><li>● Promotion of active participation of diverse human resources (promotion of human capital management)</li></ul>		

The desired management indicators are ROE of 8% or more and company-wide ROIC of 10% or more in the medium to long term.

## Portfolio Transformation to Strengthen Earning Power

In FY2023, we reviewed our business portfolio policy to strengthen earning power and classified each product group into “earning power amelioration business,” “foundation business,” “novel and future prospects businesses,” and “important business.”

Based on this result, we will determine the fields to concentrate management resources from FY2024 onward, which is the second half of **KV25**.

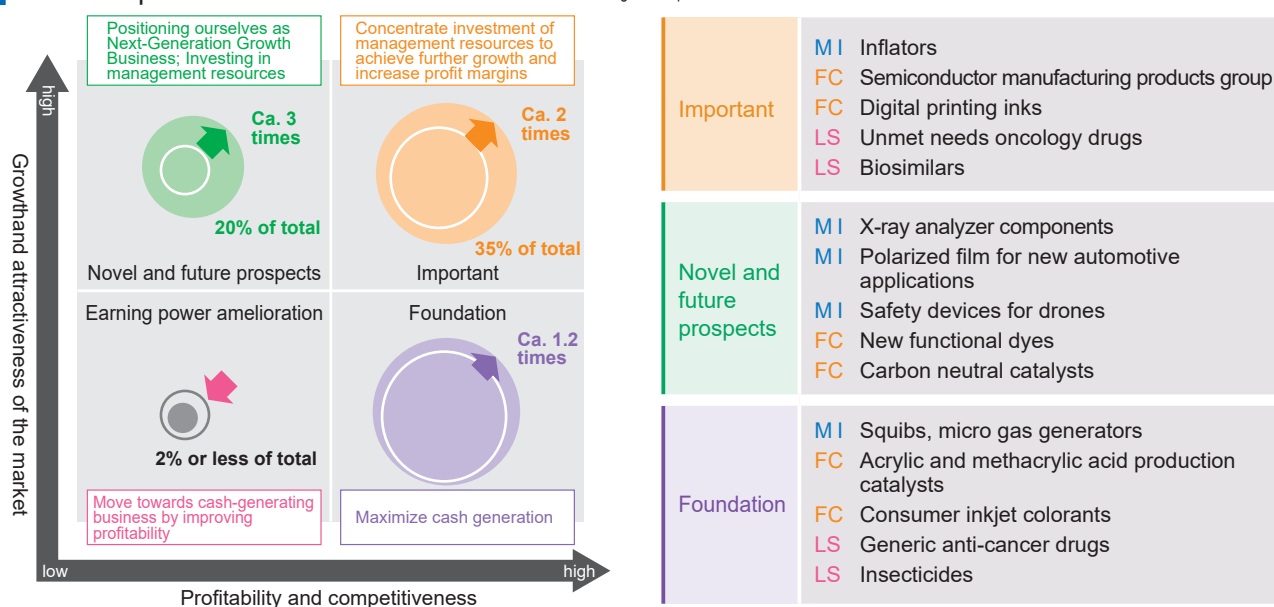
In order to prevent “Earning power amelioration businesses” from occupying a large part of our portfolio, we will make it a foundation business by leveraging profit improvement and deciding whether to continue the business, and adjust it so that it accounts for 2% or less of net sales.

“Foundation businesses” are business that support our current performance, such as squibs and micro gas generators in the Mobility & Imaging Business Unit. We will be even more conscious of this and operate our business more efficiently, aiming to maintain or slightly increase sales while maximizing cash generation.

“Novel and future prospect businesses” are a product group that will be useful for a sustainable society in the future, such as safety devices for drones in the Mobility & Imaging Business Unit. We will consciously invest management resources such as R&D expenses and human resources to create new businesses and new products, and aim to increase it to 20% of sales by FY2030. (Approximately three times the amount in FY2023)

“Important businesses” are a product group that is just starting to grow, such as inflators in the Mobility & Imaging Business Unit, semiconductor manufacturing products in the Fine Chemicals Business Unit, and unmet needs anti-cancer drug in the Life Science Business Unit. We will concentrate the greatest portion of management resources, such as capital investment, human resources, and licensing, on these units to achieve further growth and improve profitability. We have set a goal of increasing the proportion of sales to 35% by 2030. (Approximately double the amount in FY2023)

### Business portfolio transformation Arrows indicate FY2030 targets compared to FY2023



## Cash Allocation to Promote Transformation for Growth

The period of **KV25**, from FY2022 to FY2025, has set a larger growth investment budget than in the previous Medium-term Business Plan, to allocate management resources toward “important businesses” and “novel and future prospect businesses” in our portfolio. Specifically, we have planned a total R&D expenses of 65.0 billion yen and a total capital expenditures of 91.0 billion yen over the four years, with a cash allocation framework with a maximum of

approximately 200 billion yen, including flexible allocations for M&A and product introductions. In addition to cash and deposits and accumulated net profit, we will also utilize borrowing with a target equity ratio of around 70%.

Major uses of funds through FY2023 include expenses for a licensing agreement for Taltrectinib, a new drug candidate for lung cancer in the Life Science Business Unit (R&D expenses); capital investment to increase production capacity



## Message from Chief Financial Officer

for epoxy resins for semiconductors and industrial inkjet inks in the Fine Chemicals Business Unit, and an investment in SkyDrive Inc., a company developing flying cars, within the Mobility & Imaging Business Unit (flexible allocation).

For FY2024 and beyond, we will continue to

concentrate management resources on growth, with anticipated investments for the introduction of new unmet needs anti-cancer drug in the Life Science Business Unit, and for production capacity expansion in the Mobility & Imaging and Fine Chemicals Business Units.

A cash allocation of approximately **200 billion yen** has been set to drive transformation toward growth during the **KV25** period.

### R&D investment limit:

**65.0 billion yen**

Total amount used by FY2023:

**33.1 billion yen: 51%**

### Capital investment limit:

**91.0 billion yen**

Total amount used by FY2023:

**41.2 billion yen: 45%**

### Flexible allocation:

**Approx. 45.0 billion yen**

### Major usage results up to FY2023

- License agreement cost for Taltrectinib, new drug candidate for lung cancer (**LS** approx. 6 billion yen)
- Expansion of facilities to increase epoxy resin production at the Asa Plant (**FC** 6.6 billion yen)
- Expansion of facilities to increase industrial inkjet production at the Fukuyama Plant (**FC** 4.3 billion yen)
- Construction of an integrated pharmaceutical quality assurance building at the Takasaki Plant (**LS** 3.5 billion yen)
- Underwriting cost for third-party allocation of new shares to Adrais, a company developing buparlisib, a new drug candidate for head and neck cancer (**LS** approx. 6 billion yen)
- Investment cost in SkyDrive Inc., a company known for flying cars (**MI**)

### Main candidates from FY2024 onward

- Costs to introduce unmet needs anti-cancer drug candidates (**LS**)
- Costs to meet increased demand for semiconductor-related products such as epoxy resins (**FC**)
- Costs to meet increased demand for inflators and other Automotive Safety Components (**MI**)
- M&A and introduction costs related to the four target units of R&D: "Mobility," "Environment and Energy," "Electronics," and "Life Science"

**MI** Mobility & Imaging Business Unit **FC** Fine Chemicals Business Unit **LS** Life Science Business Unit

## Promote ROIC Management to Improve Capital Efficiency

### Manage each department using ROIC to improve asset efficiency

The Nippon Kayaku Group has adopted ROIC as a management indicator starting with the Medium-term Business Plan **KV25** and is monitoring it by business unit to improve asset efficiency. While ROIC may temporarily decline during periods of aggressive growth investment, we consider it a useful indicator that reflects the business and our ability to generate profits efficiently. Over the long term, we are aiming for an ROIC target of 10% or higher.

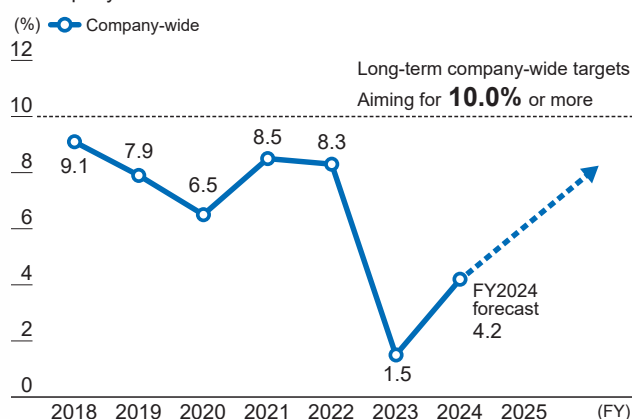
In FY2023, two major investments for the introduction of new drug development projects were made within the Life Science (pharmaceuticals) Business Unit. Of these was a one-time payment of approximately 6 billion yen recorded as R&D expenses for the license from Anheart (US, currently NuvationBio)\*, and the divisional ROIC declined due to the decline in profits in the Life Science Business Unit. In addition, the decline in profits in the Fine Chemicals Business Unit also had an impact, leading to a decline in the company-wide ROIC. However, no significant, unexpected R&D expenses are anticipated in FY2024, and we expect to see a recovery in company-wide ROIC driven by overall profit growth.

Although we are still not fully in line with our long-term targets, we will aim to improve our company-wide ROIC

over the medium to long term by implementing measures such as strategically reducing inventory while determining the quantity of customer requests, improving our cash conversion cycle by considering reducing accounts receivable, reducing cross-shareholdings that are not highly relevant to our business, and selling unused facilities and equipment and other unnecessary assets.

\*Additionally, we acquired approximately 6 billion in shares through a third-party allotment for a licensing agreement with Adlai (Cayman Islands).

### Company-wide ROIC trends



## Implementing ROIC improvement activities across the company

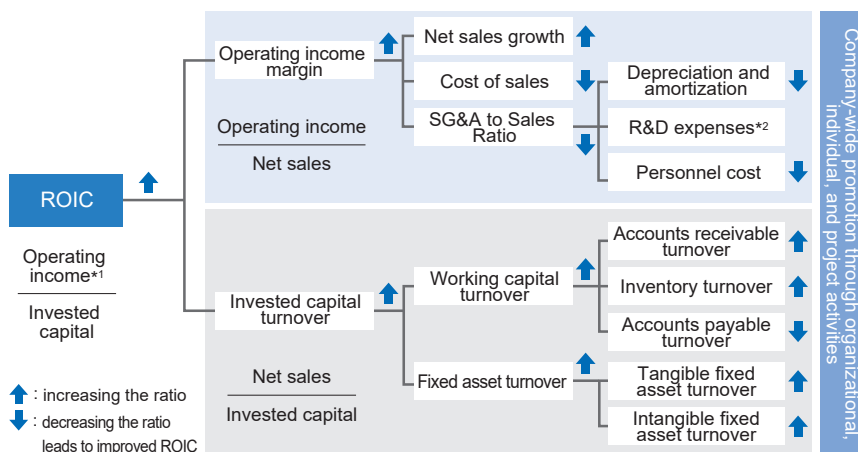
In order to increase corporate value as a company, we need to deepen ROIC management one step further. The key to this is to spread awareness within the company that specifically leads to each person's work improving ROIC in all subdivided tasks, such as company organization, individuals, and projects.

The group determines the performance-linked bonuses for executive officers based on the achievement of ROE, etc., while using a calculation method for employee bonuses that takes ROIC into account. In addition, the group

encourages all employees to practice business improvement using the ROIC tree through e-learning and other education.

Furthermore, under the catchphrase "always be conscious of 3% cost reduction," the group is working on "A3 activities (KAIZEN)", aiming to eliminate difficulty, waste, and inconsistency (referred to as the 3Ms (Muri, Muda, Mura) in Japanese) to reduce cost by improving business efficiency and productivity, and by sharing good examples of activities throughout the group, thereby striving to foster everyday cost awareness.

### ROIC tree used for employee e-learning



\*1 Pre-tax operating income is used to calculate company-wide ROIC.

\*2 There is no arrow for the R&D expense ratio because it is not necessarily better to lower it.

### Award themes for the 2023 A3 activities Presentation Conference

- Improving the efficiency of inspection work in polarizing plate production
- Improving productivity of industrial inkjet inks
- Reducing costs by shortening epoxy resin production time
- Reducing costs and improving production efficiency of semiconductor resist products



## Shareholder Returns

The Nippon Kayaku Group regards returns to our shareholders as important and target a medium- to long-term dividend payout ratio of 40% or higher. Under the Medium-term Business Plan **KV25**, which spans from FY2022 to FY2025, we have maintained a dividend payout ratio of 40% or more, with plans to sustain a minimum annual dividend of 45 yen per share through FY2025 (an increase of 5 yen in FY2022).

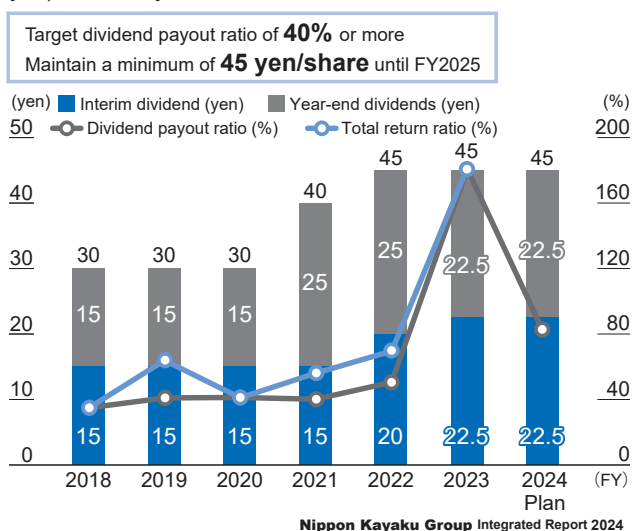
Furthermore, we will use retained earnings to strategic investments in R&D, capital investment, product introductions, M&A, and other areas necessary for future growth, but will also flexibly acquire treasury shares as part of our profit return

### Recent acquisition of treasury shares:

November 2019 to March of the following year.	Acquisition of treasury shares	2.4 million shares (approx. 3 billion yen)
May to September 2021	Acquisition of treasury shares	2.6 million shares (approx. 3 billion yen)
February 2022	Cancellation of treasury shares	7.0 million shares (Book value basis, 8.1 billion yen)
November 2022 to March of the following year	Acquisition of treasury shares	3.0 million shares (approx. 3 billion yen)
<b>May to September 2024</b>	<b>Acquisition of treasury shares</b>	<b>2.4 million shares (approx. 3 billion yen)</b>

measures, while carefully monitoring the situation.

In FY2024, we declared interim dividends of 22.5 yen per share, with a record date of September 30, and year-end dividends of 22.5 yen per share, for total annual dividends of 45 yen per share. Additionally, from May to September 2024, we repurchased 2.4 million shares (approximately 3 billion yen) of treasury shares.





Chapter

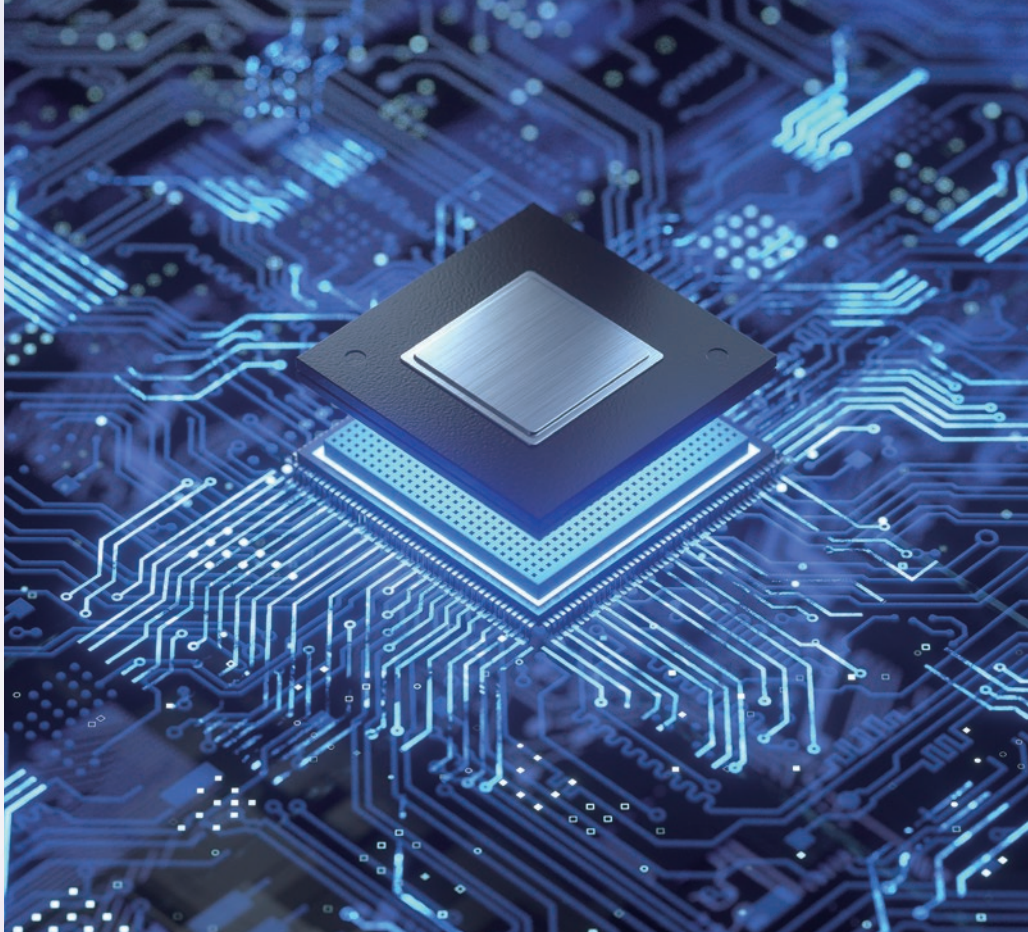
# 2

---

## Businesses

Providing the best products in step with the needs of the times





## CONTENTS

Mobility & Imaging Business Unit .....	53
Feature on Promising Products and Businesses	
Safety Devices for Drones, PARASAFE® .....	56
Fine Chemicals Business Unit .....	58
Feature on Promising Products and Businesses	
Semiconductor-related Products .....	61
Life Science Business Unit .....	63
Development pipeline of Pharmaceuticals business .....	65

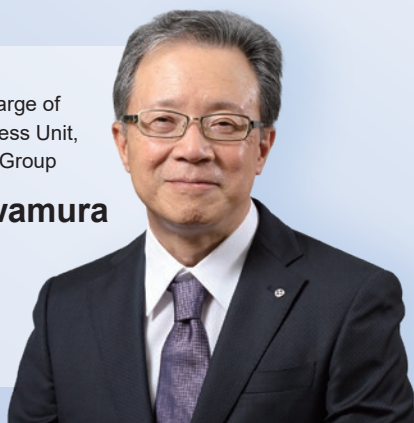


# Mobility & Imaging Business Unit

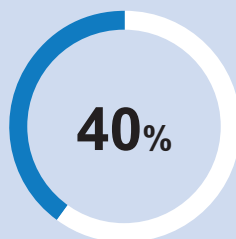
For automotive safety components, amid the expected growth of inflators centered on China and ASEAN, we will focus on new applications of dye-type polarizers as shades for head-up displays.

Member of the Board  
Managing Director, In charge of  
Mobility & Imaging Business Unit,  
Head of Safety Systems Group

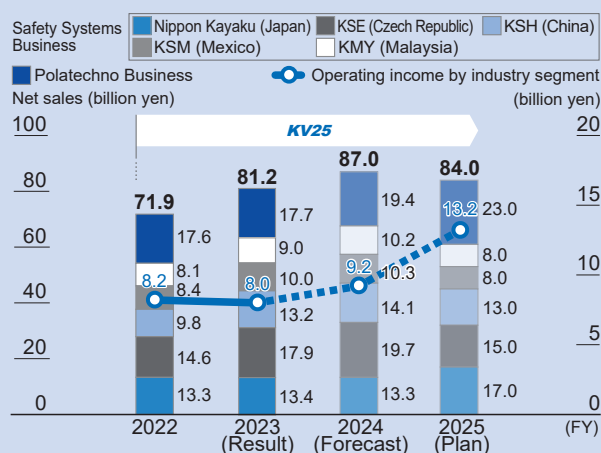
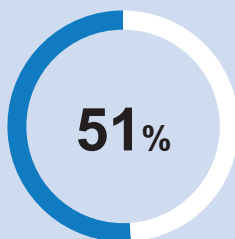
**Shigeyuki Kawamura**



FY2023  
Ratio to Total  
Net Sales



FY2023  
Ratio to Total Operating  
Income by Industry Segment



Forecast and plan figures are based on those disclosed in the financial results presentation on May 14, 2024

## Growth Story from FY2024 and Beyond

Although profits in FY2023 were affected by the increase in raw material prices and other factors, we are passing on the costs to prices. For FY2024, we expect the domestic market to recover and the overseas market to remain steady.

### Growth of inflators centered on China and ASEAN

The installation rate of automotive safety components is expected to continue increasing in the future centered on China, ASEAN, and other emerging countries. We aim to expand the market through new inflators with higher competitiveness.

### Recovery of polarizers in the Polatechno business

For high durability dye-type polarizers for vehicles in the Polatechno business, we are focusing on new applications

such as for head-up display instead of existing applications in instrument panels, where demand is shrinking. Therefore, we expect a recovery in the Optical Films business.

Together with the Precision Components business, which includes X-ray analyzer components with steady sales, the Polatechno business will contribute toward the performance of the Mobility & Imaging Business Unit.

### Launch of new Safety devices for drones

PARASAFE® emergency parachute system for drones is the next area of application for our pyrotechnic safety technology. We will promote commercialization by providing this system to customers in Japan and overseas and contributing toward the social implementation of industrial drones.

Contribution to SDGs



## Business Overview for FY2023

Net Sales

### Safety Systems Business

- Inflators **Strong**
- Micro gas generators and squibs **Strong**
  - Although the domestic business was affected by semiconductors shortages and such at the start of the year, automobile production subsequently recovered and remained firm; sluggishness reappeared in the fourth quarter due to production-line suspensions by certain automakers
  - Overseas sales increased substantially due to strong demand in Europe, the US, China, and ASEAN as well as advantages due to yen depreciation

### Polatechno Business

- Optical films **Struggling**
  - Sales struggled due to sluggish sales and production discontinuations of existing models using our optical films
- X-ray analyzer components **Steady**
  - Sales held firm

Operating income by industry segment

Operating income saw a slight decrease due to increases in raw materials costs and fixed costs



## Strengths We Possess

### Technology for handling pyrotechnics safely

- Specialized technology passed down from the handling of industrial pyrotechnics when the company was founded



### Share of automotive safety components

- Micro gas generators for external sales and squibs make up the top share in the global market

### Global expansion

- Optimal production and supply structure with five global locations and Himeji Plant as the mother plant



### Safety Systems Business



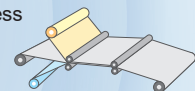
### Polatechno Business

### Synergy with business units

Mutual utilization of distribution channels for automotive components  
Sharing of production expertise in the processing and assembly industry

### Technology for the manufacturing of high durability dye-type polarizers

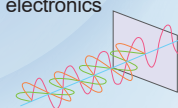
- Synthesis of high-performance dichotomous dyes and manufacturing technology using original dye stretching process



Converting technology

### Technology for light control in polarizers, X-rays, etc.

- Expertise in light control meeting diverse needs in areas such as electronics



Polarization and retardation control

## Current Core Products and Markets

### Inflators

Inflators are devices used to instantly inflate airbags. Airbags are loaded with a gas generating agent, which applies explosive technologies to control the speed at which an airbag deploys at within 1/1000th of a second at the point of impact.



Disk-type



Cylinder-type

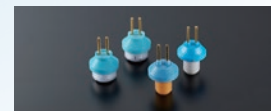
### Micro gas generators

Micro gas generators are compact gas generating devices used for seatbelt pretensioners, which are devices to retract seat belts in the event of a collision, safely restraining passengers in place.



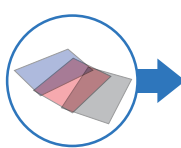
### Squibs

A squib is an ignition device embedded in inflators and micro gas generators. It receives electric signals from impact sensors to operate safety devices.

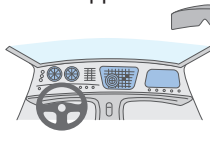


### High durability dye-type polarizers

High-durability dye-type polarizers with excellent resistance to heat and light are used as optical components that can withstand harsh environments such as automotive applications.



High durability dye-type polarizers



For vehicle instrument panels



For polarized sunglasses

### X-ray analyzer components

The X-ray analyzer components of US-based Moxtek, Inc. and UK-based RaySpec Ltd. are found in handheld X-ray detectors and such used by airports and border security.

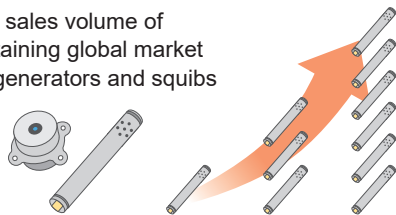


Handheld X-ray fluorescence analyzer

## New and Promising Areas, and Key Growth Areas

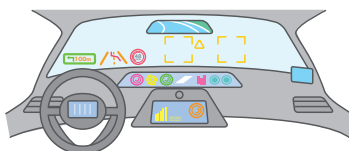
### Expand sales volume of inflators

Target expansion of sales volume of inflators while maintaining global market share in micro gas generators and squibs



### New automotive applications such as HUD shades

Dye-type polarizers respond to the evolution of head-up displays, smart room mirrors, and other vehicle display devices.



### Safety devices for drones

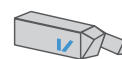
Demand for the expansion of applications such as transportation by the drone and the assurance of safety

- Development that can address diverse needs
- Make it the de facto standard
- Develop larger components



### Expansion of the X-ray business

Increasing demand of the recycle of rare metals



X-ray generators



X-ray detectors

X-ray windows

- Expansion of components for X-ray analysis systems




**TOPICS 1 New cylinder-type inflator—Initiatives to expand our global share for inflators**

The market for automotive safety components is expected to continue to expand in the future due to more vehicles being sold in the medium-to-long term as well as an increase in the number of safety components per vehicle, especially in emerging countries. In this new market opportunity, the Nippon Kayaku Group aims to expand our global share for inflators following the already significant share held by our squibs and micro gas generators by expanding sales of our new cylinder-type inflator.

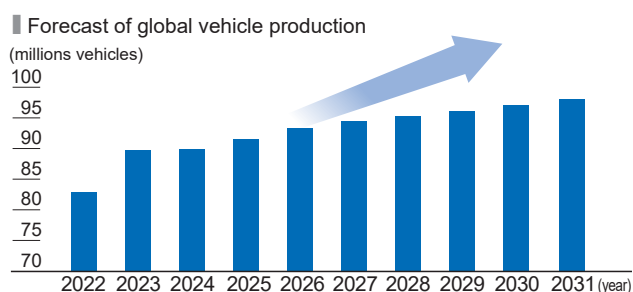
Disc-type inflators are used in the front airbags for the driver and passenger seats. Meanwhile, thin and long cylinder-type inflators are used in the side airbags that protect the sides of passengers and knee airbags that

protect the knees—side and knee airbags being increasingly adopted due to strengthening of safety standards. Production of the new cylinder-type inflator will start in 2025. Besides a product design that offers improvements by simplifying the production processes compared to existing products, this new inflator is 30% lighter, contributing toward improving fuel consumption for gasoline vehicles and cruising range for electric vehicles. Carbon emissions during production is also reduced by 30% due to less metals used, structural design, and other factors, making it a product that is friendly to the environment in the move toward carbon neutrality.

Production of the new cylinder-type inflator will start from our plant in Malaysia. We will also carry out capital investment at other overseas locations to increase the number of manufacturing locations, and we plan to establish a system that allows production to commence production in China from October 2025. We will establish a global supply structure from multiple locations and expand our global share, mainly targeting the markets of China and ASEAN, where robust demand is anticipated.



The new cylinder-type inflator (left), which is lighter and has design improvements in structure and processes, and the existing product (right)



\* Estimated by the Nippon Kayaku Group based on survey data from S&P Global Mobility that was released in February 2024

**TOPICS 2 High durability dye-type polarizers—Toward application in vehicle head-up displays**

High durability dye-type polarizers in the Polatechno business have long been used in vehicle LCDs as materials that can pass tests for long-term durability, or capability of withstanding direct sunlight exposure and high temperature environments. In recent years, we also expect to see growth in new applications centered on shades for protecting projection equipment of head-up displays (HUDs).

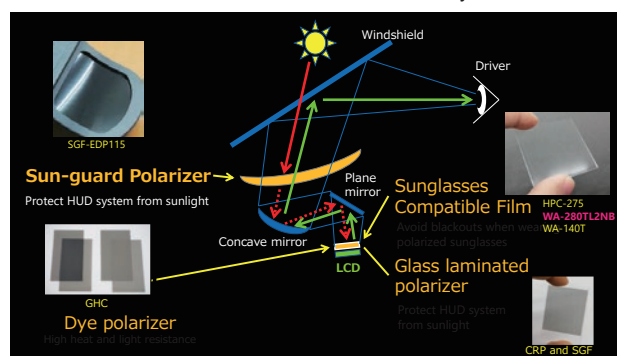
By reducing energy from direct sunlight—which causes the temperature of the projecting part of a HUD to rise—without lowering the display brightness of a HUD, shades can limit the thermal degradation of the light source. We can provide shades with excellent optical properties and long-term reliability as

dye-type polarizers have high resistance to heat and light.

Furthermore, if the projecting part of the HUD uses an LCD panel, it will also require materials that have high resistance to heat and light. Therefore, the market for dye-type polarizers and phase different plates used in combination is also expected to expand.

Besides not generating optical degradation in regard to heat and light, our products also have excellent reliability in not generating optical path physical surface distortion under environments with high temperatures. We therefore expect greater demand from automotive manufacturers requiring high quality. In addition, there are several cases of adoption of our products, centered on China where the production of electric vehicles (EVs) is vibrant, and we expect an expansion in demand in China for vehicles installed with HUDs centered on luxury cars.

HUDs are gaining attention in the safety aspect as devices that allow drivers to check information without moving their gazes. We will advance activities to develop markets—including Europe and the US where there is high interest in safety, in addition to China—to help grow dye-type polarizers, the core products of the Polatechno business.


**Products of the Polatechno business for HUD systems**


Special  
Feature

## Safety Devices for Drones



In the safety systems business, we created the product PARASAFE®, a safety device for drones used in industrial applications as a new air mobility, and launched sales in December 2021.

To PARASAFE®, we have applied our **pyrotechnic safety technology**, which we have cultivated for automotive safety components. When a drone drops from the sky due to unforeseen circumstances, PARASAFE® swiftly deploys a parachute with its pyrotechnic igniter, thus protecting

safety at ground level while preventing damage to the drone itself and cameras and other on-board equipment. Also used for drone certification, etc. under the revised Civil Aeronautics Act, this product is expected to contribute to the spread and expansion of Level 4 flights (operation beyond the visual line of sight (BVLOS) over populated areas without pilot action) in the future.

## Core technologies that enabled the development of PARASAFE®

1  
Pyrotechnic Safety  
Technology

Industrial pyrotechnics have the outstanding ability to reliably generate a certain amount of energy in an instant. We have handled pyrotechnics since our founding and our extensive expertise in the properties and safe handling of pyrotechnics is a major advantage of Nippon Kayaku.

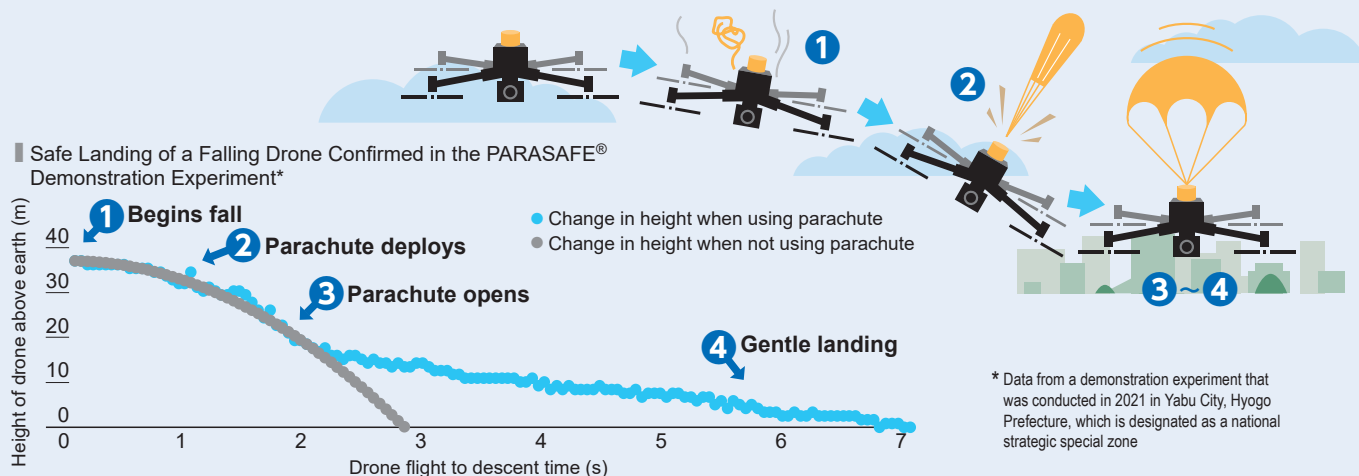
2  
High-performance Component  
Development Capabilities

In addition to materials, another strength of our company is our ability to develop components that offer both high performance and reliability and durability. We manufacture all products inhouse, using our expertise in material and form design, simulation of operation, etc.

3  
Sensing and Programming  
Technology

A device called an Autonomous Triggering System (ATS) is necessary to activate safety components when a dangerous fall is detected. We select the optimal sensors from drone flight data and simulations, develop an activation program, and are working on other technologies for ATS.

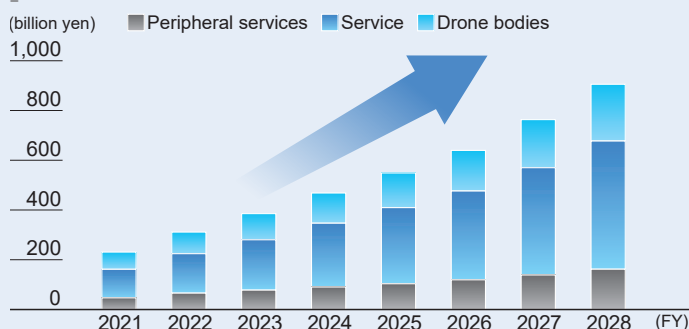
## Operating state of PARASAFE® attached to drone



## Market for Drones for Distribution and Inspection Expected to Grow Significantly in the Future

The impression is that there is a delay in social implementation in Japan compared to the previous fiscal year. Currently, we expect to commence mass production in line with social implementation around 2025 and start to see contributions to profits in 2026 or 2027. We think there is potential for accounting several billion yen in sales for drone safety components around 2030.

## Forecast of the Size of the Domestic Market for Industrial Drone Business



\* Partial excerpt from FY2023 data from the website of Impress Corporation



## Ensuring Safety for the Future of Extensive Use of Air Mobility

The air mobility market has kept expanding globally. Air mobility is expected to be used in various fields, such as agriculture and security, in addition to use in urban areas. Diversification and evolution of aircraft bodies is also anticipated, and various trials are being conducted on a whole range of aircraft, from small models weighing several kilograms to large models exceeding 100kg, and flying cars

that can transport people.

The Nippon Kayaku Group will provide optimal safety components in accordance with needs, including products for various weights and ones applying sensing technologies, in addition to the current PARASAFE®. We will thus secure our position as a peripheral device manufacturer and contribute to realizing a society with safe and secure air mobility.

### Expansion to logistics use

### Use for inspections, surveys, and security

### Emergence of flying cars

Future



**Current PARASAFE®**  
(for aircraft with gross weight of up to 25 kg)



**PARASAFE® for small aircraft**  
(with a gross weight of up to 15 kg)



**ATS : Autonomous Triggering System**  
A device that detects flight anomalies, which can be used in combination with PARASAFE®



**PARASAFE® for large aircraft**  
(with a gross weight of up to 150 kg)



**Safety devices for flying cars**

## Achieved Level 4 Drone Flights and Working Toward Widespread Use

In 2022, Japan's Civil Aeronautics Act and such were revised, and Level 4 flight of drones (operation beyond the visual line of sight (BVLOS) over populated areas without pilot action) became possible. In response to this revision, in March 2023, ACSL Ltd. (Edogawa-ku, Tokyo), a major drone manufacturer, acquired an official certificate for Level 4 flight for the first with aircraft equipped with PARASAFE® from Nippon Kayaku. Subsequently, the recognition of PARASAFE® as a safety component compliant with Level 4 flight of drones grew. We are cooperating with several manufacturers of drones for logistics and such toward obtaining type certification.



Besides such technological initiatives, in 2023, we also participated together with Tokio Marine & Nichido Fire Insurance Co., Ltd. (head office: Chiyoda-ku, Tokyo) in a project by Hyogo Prefecture and others on promoting the practical use of drones, carrying out verification experiments aimed at establishing better drone insurance. Specifically, through drone free-fall experiments and computer simulations, we were able to collect a lot of data helpful in establishing drone insurance\* that comprehensively compensates the liability risks in accidents such as when drones fall while in flight.



The Nippon Kayaku Group hopes to properly fulfill our role toward achieving domestic social implementation while actively participating in various initiatives in the aspects of technologies and systems for industrial drone safety components.

\* Official, tentative name: Unmanned helicopter general insurance

## Initiatives for Overseas Deployment of PARASAFE®

China has already embarked on the social implementation of drones ahead of others, including uses such as pesticide spraying and food delivery. Most airframes are fitted with parachute-type safety systems, creating a market of the largest scale in the world. To enter this market, besides being a safety system made in China placing emphasis on industrial circular policies, cost competitiveness will be crucial. The Nippon Kayaku Group plans to consolidate resources and develop the Chinese market through sales activities by local subsidiary Kayaku Safety Systems (Huzhou) Co., Ltd. and strengths such as lower costs arising from in-house designing of parachutes.

In Europe, there are strict legal regulations in place regarding drone flight, and currently, operation methods for social implementation are being studied, led by industry parties such as airframe manufacturers. The situation of compliance with legal regulations being crucial to widespread use is similar to that in Japan. We are carrying out marketing while using our knowledge from having acquired certification in Japan.

Furthermore, in the United States, Aero Systems West, Inc. (ASW, California, the United States), which specializes in drone design and development, as well as manufacturing and operational training, joined the group in 2022 through a capital participation. Including exhibiting at Commercial UAV Expo, a large-scale exhibition for unmanned aerial vehicles, we will promote research and activities toward widespread use, such as aiming to satisfy the ASTM F3322 safety standard for drone parachutes designated by civil aviation authorities.



Initiative toward entering the Chinese market (top; exhibiting at UAS EXPO 2024 held in Shenzhen)  
Activity for satisfying the US safety standard ASTM F3322 (bottom; exhibiting at Commercial UAV Expo 2023 held in Las Vegas)





## Fine Chemicals Business Unit

We will focus on areas where growth is expected—such as semiconductor-related products and industrial inkjet inks—and establish a system for increased production while continuing to work on increasing our profit margins.

Member of the Board  
Managing Director, In charge of  
Fine Chemicals Business Unit

**Shinji Inoue**



Contribution to SDGs



### Business Overview for FY2023

Net Sales

#### Functional Materials Business

- Epoxy resins for semiconductor encapsulation and substrates **Sluggish**
  - Sales were sluggish due to a slow recovery in market conditions for semiconductor materials, a decline in demand for consumer electronic devices, and restrained investment in communication infrastructure
- Ultraviolet curing resins for displays **Steady**

#### Color Materials Business

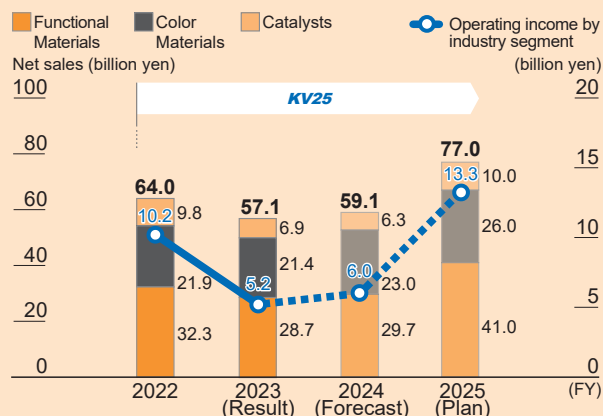
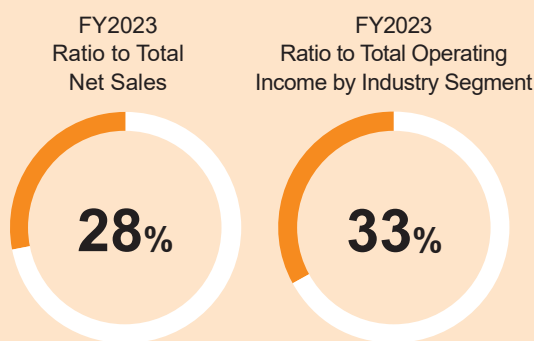
- Consumer inkjet colorants **Sluggish**
  - Demand was sluggish despite progress in eliminating inventories in the market
- Industrial inkjet inks **Steady**
  - Sales remained steady, just as in the previous year

#### Catalysts Business

- Catalysts for the production of acrylic acid and methacrylic acid for use in new manufacturing **Sluggish**
  - Sales were sluggish during the replacement period

Operating income by industry segment

Operating income decreased due to increases in raw materials costs and fixed costs



Forecast and plan figures are based on those disclosed in the financial results presentation on May 14, 2024

### Growth Story from FY2024 and Beyond

In FY2024, under Functional Materials, we expect a recovery for semiconductor-related products from the second half. As for Color Materials, we expect a recovery in consumer inkjet colorants and growth in industrial inkjet colorants. For Catalysts, the replacement period continues due to the catalyst replacement cycle at our customers' plants, but it will reverse in FY2025, and on average, we expect a continuation of stable market conditions.

#### Passing on raw material costs to prices

The Fine Chemicals Business Unit imports many raw materials. Due to pressure on profits from higher raw material prices arising from the exchange rate and the increase in energy costs, we have progressively passed on costs to prices.

We will pay attention to the future trend of raw material prices and consider passing on costs to prices again as necessary.

#### Strategic investment in facilities to increase production

We undertook a large-scale investment to increase production of epoxy resins at Asa Plant and industrial inkjet inks at Fukuyama Plant. We will properly launch these new plants.

#### Initiatives to increase profit margins

The Fine Chemicals Business Unit will work as a whole on the issue of increasing profit margins. Besides expanding sales and revising prices, we will adopt a multi-directional approach, including reducing costs, improving yields, reviewing production processes, and launching new products as early as we can.



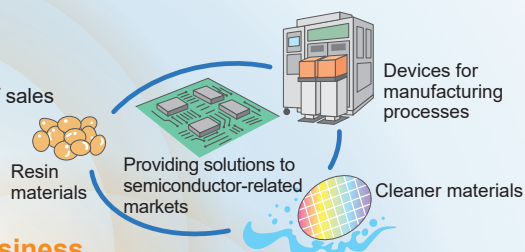
## Strengths We Possess

## Semiconductor-related product synergies

- Strengths in using epoxy and maleimide resins for 5G, MEMS materials, cleaner materials, semiconductor manufacturing equipment, and other products for reciprocal identification of customer needs and expansion of sales

## Functional molecule design

- Enables the design of resins with special functions according to the purpose, such as high-purity, high heatresistance, etc.



## Functional Materials Business

## Precise organic synthesis

- Possess expertise in the synthesis of a wide range of color materials, from dyes that were the first in history in Japan, to colorants for inkjet printers and functional colorant materials

## Knowledge on inkjet ink performance evaluation

- Accumulated knowledge on evaluating characteristics—including ink discharge performance and fixability—nurtured through the development of consumer inkjet colorants

Color  
Materials  
BusinessCatalysts  
Business

## Synergy with business units

Dynamic sharing and fusion of management resources, such as unique technologies—including composition design, synthesis, dispersion, and evaluation—as well as human resources, intellectual property, and manufacturing facilities

## Optimal catalyst composition design and technical services

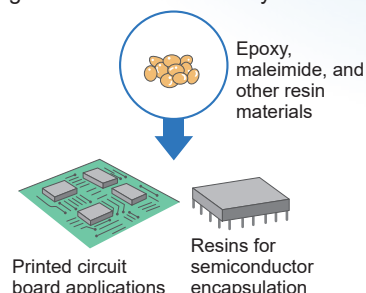
- Creation of high-performance catalysts using expertise in the composition of metallic elements used and grain size design
- Provision of technical services such as filling methods that manifest top performance



## Current Core Products and Markets

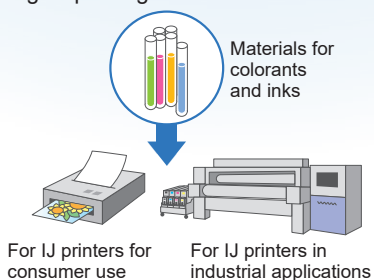
## Epoxy resins

The semiconductor market will grow to 1 trillion dollars by 2030.



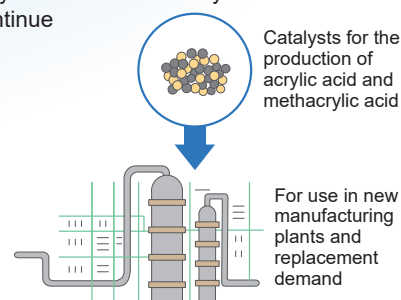
## Inkjet inks and colorants

Expect continued expansion of the digital printing market



## Catalysts for the production of acrylic acid and methacrylic acid

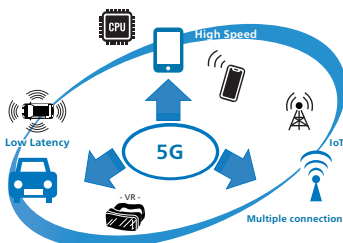
Expect 5% to 6% annual growth of the acrylic acid and methacrylic acid market to continue



## New and Promising Areas, and Key Growth Areas

## Applications related to semiconductors and LCDs

Capture expansion of semiconductor demand from the proliferation of IoT and next-generation high-speed communications



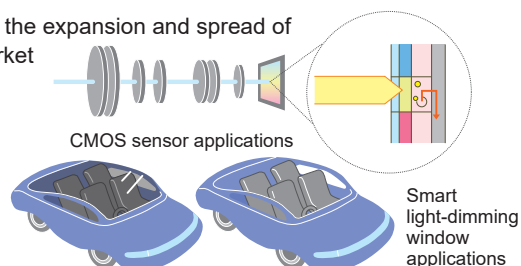
## Industrial inkjet applications

Expansion of demand for digital printing for packaging materials, textiles, etc.



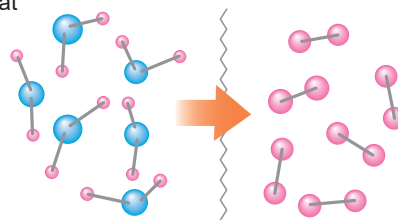
### Commercialization of functional colorants

Taking in the expansion and spread of each market



### Development of catalysts for hydrogen production

R&D on catalysts that contribute to a zero carbon society



## TOPICS 1 Focusing on growth areas—Expansion of industrial inkjet inks and dyes

The growth area for inkjet inks and colorants has shifted from consumer applications for households and offices toward industrial applications. In industrial applications, due to the advantage of being able to print different types in small quantities and short periods, digital printing is expanding as a replacement for offset printing. Digital dyeing of textiles—which is friendly to the environment as it does not need cleaning after printing—is another area that is growing significantly.

The new water-based pigment inks developed by the Nippon Kayaku Group has the feature of being able to directly print on coated paper used for flyers and posters. Coated paper is said to be a medium with poor absorbency that is difficult for inkjet printing as ink does not penetrate easily. With excellent drying performance and discharge stability, our inks can be properly fixated to allow printing with high resolution, quality, and speed.

As a new product group, we are also working on the development of inks for non-absorbent media that do not absorb ink at all, such as films for food and packaging.

At drupa 2024, a large-scale, international printing and

media trade fair taking place once every four years and held at Düsseldorf, Germany from May to June 2024, we showcased developmental products for non-absorbent media and print samples at our booth, gaining significant response due to their performance and print quality.

At Fukuyama Plant, the production location, we are undertaking capital investment for increasing production, including the construction of a new building for manufacturing industrial inkjet inks. The new building is scheduled to commence operation in FY2025. We will apply our strengths—including our dye, dispersion, and ink design technologies nurtured so far—to strive and grow our business for industrial inkjet applications to a business with a scale of 10 billion yen in sales by 2030.



Exhibiting at drupa 2024

## TOPICS 2 Developing catalysts that help realize a hydrogen-powered society

In recent years, there are expectations for the stable supply of hydrogen as a clean energy source for various applications such as fuel cells, power generation, and automobiles. Our Catalysts Business is working to develop catalysts that contribute towards realizing a hydrogen-powered society.

Our catalyst method for producing hydrogen involves focusing on an environmentally friendly process which thermochemically decomposes water through collecting sunlight and solar heat in a reaction field where water vapor and catalysts coexist. This method is characterized by its ability to use renewable energy and generate economies of scale by employing a three-dimensional reaction field.

In parallel with calculating the cost of hydrogen production based on data from the pilot plant, we are working on establishing technologies for the stable,

safe, and affordable manufacture of catalysts, aiming for practical application in FY2029.

Besides catalysts for hydrogen production, we are also exploring the development of catalysts for hydrogen carriers which enable efficient storage, transportation and utilization through dramatic reductions in storage volume. In FY2023, we achieved our target hydrogen production volume on a small scale. Going forward, we will study scaling up toward practical application.

With a view of practical application in the medium-to-long term, we will seek to create catalysts that are indispensable for the future hydrogen society.





Special  
Feature

## Semiconductor-related Products

## Expansion of Resins for Semiconductors

## Market Overview

Demand is growing recently for our high-purity epoxy resins for package circuit boards, in addition to ones for use as materials for semiconductor encapsulation, which must have a high degree of electrical reliability.

Digitalization is making rapid progress due to the development of 5G communication networks and the spread of telework and social media. The increase in demand for semiconductors, GPUs used in AI servers, and other such equipment that form the core of the infrastructure has become a tailwind.

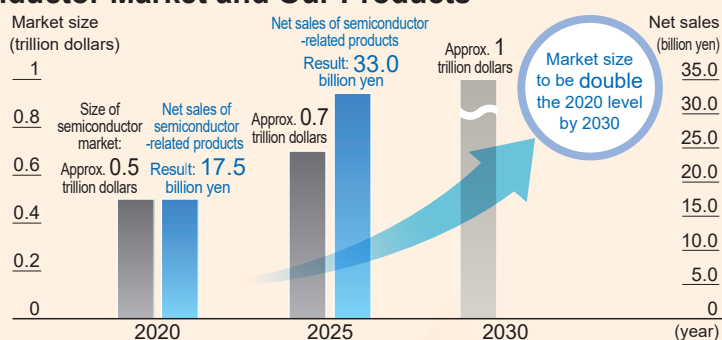


## Synergy between the Growing Semiconductor Market and Our Products

## KAYAKU Vision 2025 (KV25)

The semiconductor market is expected to grow rapidly to one trillion dollars by 2030. With this opportunity, we engaged in business for semiconductor cleaners and equipment used in semiconductor manufacturing processes.

Fully using this synergy, we plan to achieve sales of 33 billion yen in FY2025 for our semiconductor-related products—which include resins, cleaners, and equipment—and aim for rapid growth together with the market.



Final fiscal year of the KV25 Medium-term Business Plan

Numbers for semiconductor market size: Partially excerpted from Handotai Senryaku (Gairiyaku) (semiconductor strategy (short summary)), which was published at the website of the Ministry of Economy, Trade and Industry in June 2021

## Epoxy and Maleimide Resins

Epoxy and maleimide resins for semiconductor encapsulation and substrates with features such as high purity, flame retardance, and low dielectric characteristics

## Cleaners for Semiconductors

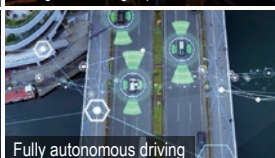
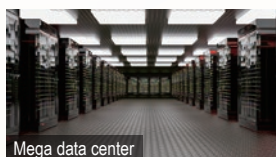
Acquired LCD and semiconductor cleaner business of Germany-based Henkel AG & Co. KGaA and started operating the business in April 2020

## Semiconductor Manufacturing Equipment

Acquired Teikoku Taping System Co., Ltd., which deals in laminators and other equipment used in semiconductor manufacturing processes, and started operating the business as part of the Nippon Kayaku Group in April 2021

## Value Provided to the Future Society Depicted by Synergy

We provide relevant products with high added value to a society that uses electronic devices and semiconductors in all aspects of life, including information, communication, mobility, healthcare, and smart agriculture.



## Showing presence in a society where semiconductors are used everywhere

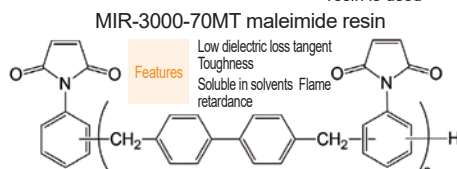
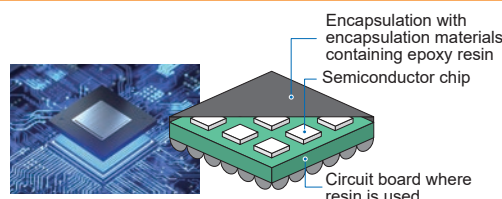
- Semiconductors will become even more important as the near future will be digitalized and electronic devices will be used everywhere.
- The Nippon Kayaku Group sees the strategy of expanding resins for substrates as crucial, and we are advancing research and development of materials for the latest semiconductors besides providing a stable supply of existing materials.
- Seeking sustainable growth, we leverage synergy with cleaners and equipment for manufacturing processes for multi-directional approaches.

## Specific Products

### Epoxy and Maleimide Resins

Greater demand for resins with characteristics

- We offer high-quality epoxy resins with characteristics that can also be used for applications requiring sophisticated management, such as in-vehicle devices.
- We launched new maleimide resins in 2018 for areas that require a good balance of characteristics and low dielectric loss tangent, such as 5G semiconductor package substrates.
- Demand for these resins is expected to grow further in applications such as mobile phone base stations and data center servers.



### Acrylate Resins

- We have a lineup of acrylate monomers, epoxy acrylates, urethane acrylates and other acrylate oligomers as the KAYARAD Series of light-curable resins. We also handle the special methacrylate KAYAMER Series and the KAYACURE Series of photopolymerization initiators and sensitizers.
- Specifically, for displays, these resins are used as components suitable for LCD sealants, hard coats, and color filter resists.



### Dry Film Resist for Microelectromechanical Systems (MEMS)

- SU-8 3000CF Dry Film Resist is a film photoresist that can be used in high aspect ratio photolithography process such as that in the production of RF surface acoustic wave (SAW) devices.
- It has a structure in which the resist layer is laminated with a cover film and a support film. This eliminates the solvent removal processes and contributes to process simplification.



SU-8 3000CF Dry Film series

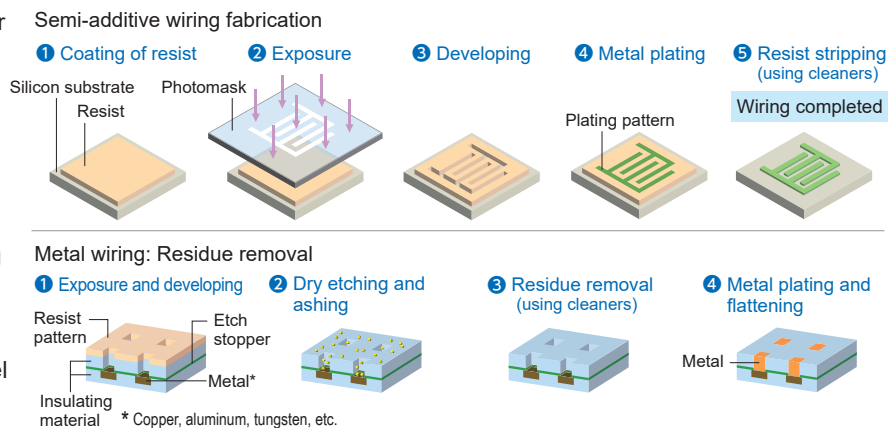


Enlarged image of developed Dry Film Resist

### Cleaners for Semiconductors

Incorporating demand for cleaners for manufacturing processes

- The LCD and semiconductor cleaner business was acquired with a special focus on semiconductor manufacturing applications.
- With technological knowledge as our strength, we have a lineup of excellent products, including developers and strippers that can be used in high-resolution processes, resist strippers used for wafer-level packaging, and dry etching residue removers.



### Semiconductor Manufacturing Equipment

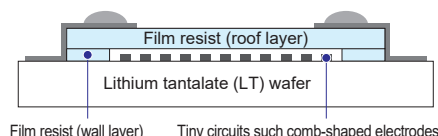
Providing solutions even in manufacturing processes

- We provide equipment used for semiconductor manufacturing, including laminating, stripping, and wafer mounting.
- Among our products, our laminators—which laminate film resist on wafers—have an established reputation for the precision of the conditions that can be configured. An example of their use is for forming hollow structures that protect tiny circuits in RF SAW filters used in communication equipment.
- We can customize products for each customer using hardware and software developed in-house, contributing to foundry operation with high productivity. We will provide solutions even for processes while collaborating with the resin and cleaner business.

RF SAW filter used in communication equipment



Hollow structure of microelectromechanical system formed using a laminator (components of SAW filters, etc.)



Tiny circuits such as comb-shaped electrodes



## Life Science Business Unit

Centered on our strength in cancer treatment, besides generic drugs and biosimilars, we will aim for a system that enables a lineup of new pharmaceuticals that fulfill unmet needs.

Member of the Board  
Managing Director, In charge of  
Life Science Business Unit

**Hiroshi Shimada**



Contribution to  
SDGs



### Business Overview for FY2023

Net Sales

#### Pharmaceuticals Business

The impact of drug pricing revisions was covered by higher volume, and sales were basically the same as in the previous year for the business as a whole

- Biosimilars (BS) **Strong**
  - Bevacizumab BS, which treats colon, rectal, ovarian cancers and other indications, penetrated the market and gained a 10% market share (as of April 30, 2023)
  - Launched in 2023, Adalimumab BS, which treats rheumatism and other autoimmune diseases, had a smooth start
- Generic anti-cancer drugs **Strong**
  - Dasatinib, which treats chronic myelogenous leukemia and other such indications, increased sharply in its share of generic drugs after the switch to generic drugs due to the same indications, dosages and administration as the original product

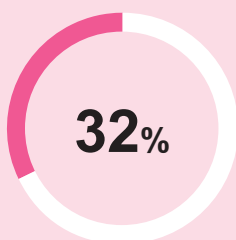
#### Agrochemicals Business **Steady**

Flometoquin and DIAZINON® grew in overseas sales

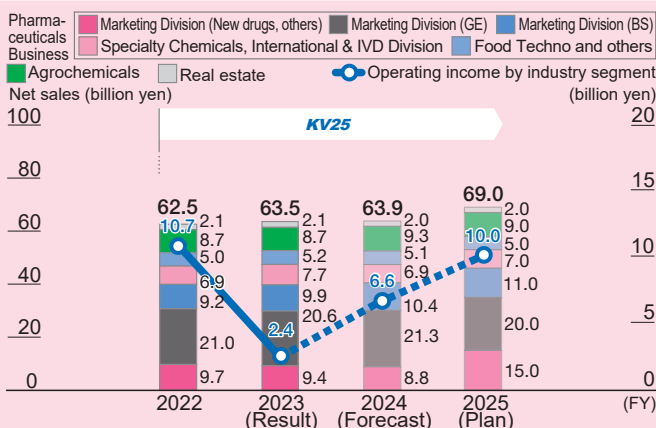
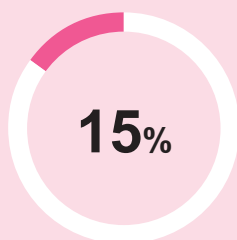
Operating income by industry segment

Operating income decreased due to upfront licensing fee of six billion yen recorded in the third quarter for the unmet needs of anti-cancer drugs

FY2023  
Ratio to Total  
Net Sales



FY2023  
Ratio to Total Operating  
Income by Industry Segment



Forecast and plan figures are based on those disclosed in the financial results presentation on May 14, 2024

### Growth Story from FY2024 and Beyond

In 2024 and beyond, we will continue to seek growth while maintaining the same stable performance so far, using our strengths of trust in the field of cancers and our position as a pioneer in biosimilars for Pharmaceuticals, and our capabilities in developing products—including new products—in Agrochemicals.

#### Generic drugs and biosimilars

Our business for generic anti-cancer drugs is recognized for its high repetition and stable performance, with strong sales for both new and existing products. For our biosimilars business, we will grow sales of Bevacizumab BS and Adalimumab BS, two products which were launched before FY2023. Regarding the recent issues with generic drugs in terms of supply concerns and quality problems, we will emphasize stable supply and quality assurance, and we will undertake studies that also include the enhancement of production facilities.

#### Introduction of new drug candidates with a view of the future

We will shift to a product portfolio—which will also include new drugs—that can easily ensure profits for our business in pharmaceuticals for treatment in Japan, which centers on generic drugs and biosimilars that are affected by annual drug price revisions. Regarding the two new drug candidates and one new diagnostic reagent candidate that were introduced in FY2023, we will advance the development stage to turn them into growth drivers.

#### Growth of Agrochemicals business

In Agrochemicals, amid the shrinking agrochemical market in Japan, the expansion of overseas sales will become the key to growth. Together with striving to expand sales of the existing DIAZINON®, chloropicrin, and the new product FINESAVE®, we will also promote the development of new active ingredients aimed at around 2030.



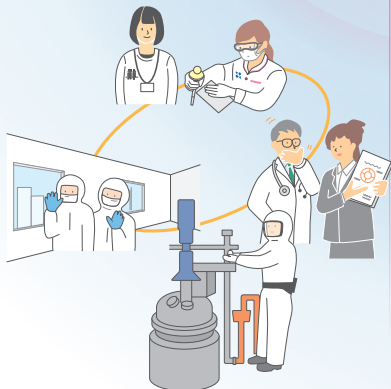
## Strengths We Possess

### Integrated business operation from R&D to manufacturing and sales

- ▶ Domestic manufacturing locations that contribute to a stable supply of high quality pharmaceutical drugs.
- ▶ Bidirectional sharing of information between R&D and manufacturing and sales
- ▶ Constant promotion of alliance activities with external parties

### System for compiling and providing information to medical professionals

- ▶ Nationwide stationing of medical representatives who possess advanced expertise and cover information on all products
- ▶ Establishment of a Pharmaceutical Information Center for medical professionals and patients, and building of a support system for cancer treatment



### Pharmaceuticals Business



### Agrochemicals Business

### Synergy with business units

Seeking greater efficiency in R&D processes, such as sharing of intellectual property and exchange of researchers for drug creation research

### Insecticides for fruits and vegetables, and soil fumigants

- ▶ We can provide detailed support of needs for insecticides and soil fumigants, focusing on fields of vegetables and fruits.



### Utilization of formulation technology in development

- ▶ In addition to the long development period for new active pharmaceutical ingredients, we utilize our extensive formulation technology to enable development of new forms of existing formulations



Surfactant, microcapsules and others

### Structure for global provision of agrochemicals

- ▶ Provision of insecticides through alliances with local sales companies in Europe, Asia, Africa, Central and South America, and other regions



## Current Core Products and Markets

### New Drugs

- DARVIAS® for treatment of peripheral T-cell lymphoma;
- Portrazza®, a therapeutic agent for squamous non-small cell lung cancer
- ALAGLIO®, a photodynamic diagnostic agent for bladder cancer, etc.

### Biosimilars

Infliximab BS, a therapeutic agent mainly for inflammatory bowel disease, Bevacizumab BS, a therapeutic agent mainly for colon, rectal, ovarian cancers and other indications, among other drugs

### Insecticides

- DIAZINON®
- FINESAVE®
- FUHMON®
- EVISECT®, etc.



### Generic Anti-cancer Drugs

Paclitaxel, a therapeutic agent for breast cancer and other indications, and Pemetrexed, a therapeutic agent for advanced/recurrent non-small cell lung cancer and other indications

### Active pharmaceutical ingredients (APIs) and diagnostic agents

Contract manufacturing of APIs and intermediates, diagnostic agents for Japan and the U.S., etc.

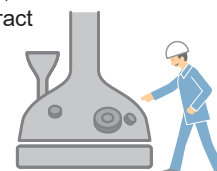
### Soil fumigants

- Double Stopper®
- Chlopicflow®
- TERONTM and ASAHI D-D Etc.



### Contract manufacturing

- Besides the manufacturing of Nippon Kayaku products, Kashima Plant also engages in contract manufacturing





## New and Promising Areas and Key Growth Areas

## Pharmaceuticals developed in-house

New drug development in the cancer field using our R&D platform



## Results achieved through alliance activities

Focusing on introduction and other activities to follow DARVIAS®, PORTRAZZA®, ALAGLIO®, etc.



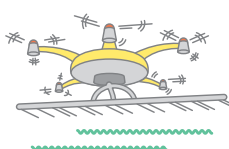
Establish a  
platform for  
sustained  
growth

## Ongoing market launches of unique formulations

Reduced toxicity, improved ease of use

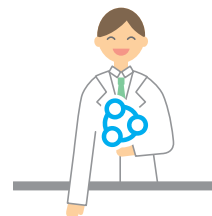


For distribution by drones



## Development of new active ingredients for insecticides

Research and develop new active pharmaceutical ingredients over the medium and long term



## TOPICS 1 Development pipeline of Pharmaceuticals business

To shift to a system that makes new drugs—instead of a product lineup centered on generic drugs and biosimilars—the key axis of contribution to performance,

the Nippon Kayaku Group added the two anti-cancer drug candidates Buparlisib and Talrectinib to the development pipeline in FY2023.

■ Development Pipeline (as of August 31, 2024)

	Stage	Development code (Generic name)	Origin	Characteristics
New Drugs	Phase III	AN2025 (Buparlisib)	Adlai Nortye (Cayman Islands)	<ul style="list-style-type: none"> <li>● Disease development: After platinum + ICT treatment, recurrent and transition squamous cell carcinoma of the head and neck</li> <li>● Mechanism of action: PI3K inhibitor</li> </ul>
	Phase II	AB-106/DS-6051b (Talrectinib)	AnHeart Therapeutics (US)	<ul style="list-style-type: none"> <li>● Disease development: ROS1 fusion-gene positive non-small-cell lung cancer</li> <li>● Mechanism of action: ROS1 inhibitor</li> </ul>
	Under preparation	Product name: Alaglio® (Aminolevulinic acid hydrochloride)	SBI Pharmaceuticals (Japan)	<ul style="list-style-type: none"> <li>● Photodynamic diagnostic agent</li> <li>● Characteristics: Emission of red light under a blue light source when incorporated into cancer tissue</li> <li>● Basic agreement for joint development (2023.9)</li> </ul>
Diagnostic agents	Under preparation	VECanDx™	BioCheetah (Singapore)	<ul style="list-style-type: none"> <li>● In vitro diagnostic products</li> <li>● Under development in Singapore</li> <li>● Signed licensing agreement for exclusive development and marketing rights in Japan</li> </ul>

Ever since the Ministry of Health, Labour and Welfare embarked on a policy of encouraging the active use of generic drugs in 2002, the adoption of generic drugs has spread due to the national policy. Following this trend, for Pharmaceuticals, we launched a strategy centered on the sale of generic drugs and added biosimilars to the lineup from 2014 to expand the business. However, in recent years, there has been significant impact to the income from generic drugs and biosimilars due to drug price revisions

being conducted every year, including revisions in the in-between years. Therefore, to add a foundation for long-term business growth that is not easily affected by drug price revisions, we have carried out a relatively large investment compared to the past and introduced new drug candidates.

**Buparlisib** is in Phase III, which is the final stage of clinical trials. We invested approximately 6 billion yen through third-party allocation in Adlai Nortye, which is

developing this drug, and received a priority right for acquiring sales license in Japan. It has the potential to be the first standardized secondary treatment for recurrent and metastatic head and neck cancers, and it has been given Fast Track—a process designed to expedite the review of drugs to treat serious conditions and fill unmet needs—designation by the U.S. Food & Drug Administration (FDA).

**Taletrectinib** is a drug candidate for ROS1 positive non-small-cell lung cancer, which makes up a low frequency of approximately 2% of lung cancer in total. The current Phase II is in the final stages of clinical trials. Using approximately 6 billion yen, we acquired licensing rights for priority sales in Japan from AnHeart Therapeutics, which is

developing this drug. There are limited options for treating ROS1 positive non-small-cell lung cancer, and it has been given Breakthrough Therapy—a process designed to expedite the development and review of new drugs that are intended to treat serious conditions and life-threatening diseases—designation by the U.S. FDA.

Both **Buparlisib** and **Taletrectinib** aim to be launched by March 2026, and clinical trials are smoothly underway. After sales have stabilized, we expect at least 10 billion yen in sales for both drugs together, contributing to treatment in the area of cancer—in which we are strong in—while sufficiently recovering our investments including those made in the initial phases.

## TOPICS 2 Capital investment in Takasaki Plant—Initiative toward stable supply of high-quality pharmaceuticals

In Japan, a new system for co-payment of drugs (selective treatment of existing drugs [long-term listed items] with new comparable drugs) was introduced in October 2024. If a patient chooses prescription of a long-term listed drug when a generic drug is available, except in cases when medically required, the patient will need to co-pay an additional amount equal to a quarter of the price difference as selective treatment. It is expected that the introduction of this system will further encourage the use of new comparable drugs.

In addition, the shortage of new comparable drugs is being prolonged and supply concerns are becoming a social issue. The Nippon Kayaku Group is working on new comparable drugs for which stable supply has become difficult as well as the supply for replacing existing drugs being discontinued with new comparable drugs. There will be increased requirement for supply of our products in the future, and in anticipation of supply consolidation at Nippon Kayaku, we are planning to enhance the production capabilities of Takasaki Plant, which manufactures pharmaceuticals. For FY2024, we have

set aside a budget of 20 billion yen as part of this capital investment plan. Through large-scale investment, besides the stable supply of generic drugs, we also plan to add facilities for the manufacturing of biosimilars within Japan, including biosimilars that are currently dependent on imports, and we expect to contribute to their stable supply in the future.

Furthermore, to improve the efficiency and sophistication of quality assurance operations at Takasaki Plant, we have also embarked on the construction of a new integrated quality assurance building scheduled for completion in FY2026. Through initiatives to enhance production and quality at Takasaki Plant, the Nippon Kayaku Group will maintain stable supply of high-quality pharmaceuticals in Japan and contribute to medical treatment.



No. 3 Pharmaceutical Plant of Takasaki Plant

## TOPICS 3 Lineup of flometoquin-based products —Promoting expanded sales of products, from FINESAVE® to Gladius®

Flometoquin is a new active ingredient that obstructs the breathing of pests. It shows excellent effects against thrips and rust mites and is also effective against pests that have resistance against existing insecticides. Another feature is that it has little impact on helpful organisms such as honeybees. Nippon Kayaku has launched insecticides containing flometoquin in Japan. We launched FINESAVE® Flowable for citrus fruits and vegetables in 2018 and FINESNIPER® insecticide for cucumbers in 2022, gaining a good reputation.

Since 2020, we have also been focusing on selling flometoquin-based products overseas. We are selling Gladius® as an insecticide for roses and other cut flowers for export to countries where horticultural products are key exports, such as Kenya. Going forward, we intend to

expand the countries where Gladius® is used, centered on countries\* like Kenya, where high-quality flowers can be grown throughout the year and there are high needs for agrochemicals for export of cut flowers. We will further expand sales to countries in the Middle East, Africa, and Asia as, similar to Japan, there is strong demand for Gladius® for vegetables such as tomatoes, eggplants, and bell peppers. We hope to support agriculture around the world using Gladius®, which can be widely used, from flowers to vegetables.

\* Regions near the equator with high elevations have ideal environments that can grow high-quality flowers throughout the year, including stable temperatures, consistent sunshine, a certain number of sunlight hours, and little strong winds. It is expected that the export of cut flowers to countries such as the Netherlands—the biggest importer of cut flowers—will remain prominent.







Chapter

# 3

---

## **Management Foundation to Support Sustainable Growth**

Aiming for the evolution of sustainable management



## CONTENTS

	Research & Development .....	69
	Environmental Initiatives .....	73
	DX .....	82
<b>Focus</b>	Human Resources and Creation of a Comfortable Workplace Environment .....	<b>85</b>
	Respect for Human Rights .....	91
	Supply Chain Management .....	93
	Quality Management .....	95
	Contributing to Local Communities .....	97
	Corporate Governance .....	99
	Directors, Audit & Supervisory Board Members, and Executive Directors .....	103
	Outside Directors Roundtable .....	110
	Compliance .....	115
	Risk Management .....	117
	Information Security .....	120

# Research & Development



Senior Director, In charge of Technology Unit

## Yasuhito Kato

The mission of the Technology Unit is to launch new products and businesses that are essential to the company's growth. We plan research and development themes, taking into account factors such as social significance, market size and growth rate, and the competitive advantage of the company's technologies. In **KV25**, we have been actively promoting open innovation and the utilization of data science, such as machine learning, to transform ourselves into the future image of research and development. We will continue to focus on expanding our core business and developing new businesses while removing the boundaries of segments and organizations to generate synergy and bring together the technologies of the Nippon Kayaku Group.

## Research and Development Policies

### Vision of R&D

Increase our corporate value by creating new businesses and products through R&D

The role of the R&D division is to create new businesses and products through R&D activities and increase our corporate value.

We want to be an R&D division that can create and increase corporate value.

R&D activities that simultaneously expand existing core businesses and develop new businesses to continuously increase corporate value

R&D to put "ambidextrous management" into practice

## Research and Development Strategies

R&D to put "ambidextrous management" into practice

Selection of themes based on marketing

Active use of open innovation

## Four Areas Targeted to Contribute to Realization of a Sustainable Society

### Mobility

- Active use of open innovation (partnerships with industry and academia, collaboration and alliance with and investment in venture firms, venture capital, business acquisitions, etc.)
- Selection and planning through marketing and IP landscape

- Emergency parachute for drones used in industrial applications
- Safety devices for flying cars (corporate research theme)
- Optical films for windshields, for head-up displays (HUD)

### Environment and Energy

- Development of AZUL Catalyst\*
- Anion exchange membrane used in water electrolysis for green hydrogen production equipment
- Biomass epoxy resins
- Catalysts that contribute to a decarbonized society

### Electronics

- Organic Electronics Materials (corporate research theme)

Will also continue to collaborate with the fine chemicals business unit on planning and marketing

### Life Science

- About Biostimulants

Will also continue to collaborate with the pharmaceuticals group and agrochemicals group on planning and marketing

\* Initiatives of business alliance with AZUL Energy Inc.

## TOPICS 1 Aiming for new products and businesses that contribute to the environment and energy field

The Group aims to create new products and businesses that solve future issues in the environment and energy field.

In 2023, AZUL Energy Co., Ltd., with whom we have formed a close business alliance, developed AZUL catalyst, which has an organic dye structure in its active center and exhibits higher activity than the platinum-based catalysts conventionally used in fuel cells. This material also boasts superior cost competitiveness, performance, durability, and

other properties. The Nippon Kayaku Group is responsible for pilot production, taking advantage of its expertise in precise organic synthesis and material dispersion, and has begun providing samples to customers dealing with next-generation energy devices such as air batteries, water electrolysis for hydrogen production, and fuel cell applications.

In addition, to realize a hydrogen energy society, we are participating in a consortium for the development of water



electrolysis technology centered on the Yamaguchi · Kuroki Laboratory of the Institute of Science Tokyo, with the aim of developing a water electrolysis system that does not use precious metals such as platinum. We will contribute to the realization of a hydrogen society through the development and practical application of highly durable anion exchange membranes by utilizing our technologies cultivated in our functional materials business and Polatechno business, including the synthesis of monomers and polymers, which are the materials for membranes, their formation into films, and precision film conversion.



Anion exchange membrane



Water electrolysis equipment

#### VOICE Message from open innovation representative

The New Business Planning Group is promoting open innovation to create new products and businesses.

In addition to having staff participate in lively information exchange by occupying the Cambridge Innovation Center Tokyo (<https://jp.cic.com/>), which supports many organizations including startups, companies, local governments, and universities, the company also aims to create specific themes, such as investing in venture capitals, participating in and holding pitch events, conducting training to foster an entrepreneurial mindset, and holding monthly meetings with staff in charge of collaborations with startups from each business unit, the Corporate Planning Division, and the Intellectual Property Division.

As one of the results of these activities, in August 2024, we were able to start a collaboration with iPEACE223 Inc., a venture company that aims to realize carbon neutrality through catalysis technologies. The zeolite catalysis technologies that iPEACE223 owns can produce propylene and its derivatives from ethylene derived from bioethanol, which not only achieves a higher level of yield than conventional production methods but can also reduce energy equivalent CO<sub>2</sub> emissions emitted throughout the process to about one-third that of petroleum. Taking advantage of Nippon Kayaku's catalyst evaluation technology, know-how in production scale-up and mass production, and connections with the acrylic acid and methacrylic acid production industries, we plan to promote development with the aim of bringing products to market around 2030.

Promoting open innovation requires constantly acquiring new knowledge, and it is difficult because there are no existing theories. However, it is also rewarding because we are in a position to open up new possibilities for the company. We would like to work with enthusiasm to create the second and third themes following zeolite catalysis.

New Business Planning Group, R&D Planning Division, Technology Unit  
Makoto Furue (left), Yukihiro Hara (right)

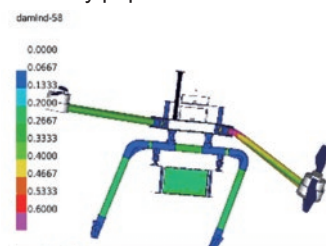


## TOPICS 2 Development of safety device technology for Computer Aided Engineering (CAE)

In the field of the automobile industry, safety components will require even higher performance due to changes such as larger airbags and stronger assessments as the interiors of electric vehicles (EVs) expand. In addition, the early popularization and standardization of safety components to ensure public safety is one of the important items for the social implementation of next-generation mobility such as drones and flying cars.

To quickly respond to these issues, the Group has begun considering the establishment of Computer Aided Technology (CAE) technology. CAE is a system that can predict results by conducting various simulations on a computer. It has a wide range of applications, and in the field of the automobile industry, it is being utilized for vehicle body design.

By applying CAE to the development of safety components, we can conduct fluid calculations related to the gas flow inside inflators and airbags and crash calculations in the unlikely event of a flying car crash and obtain the results in the form of images and quantified numerical data. By sharing the results of such highly accurate CAE with airbag module manufacturers and manufacturers of drones and flying cars, we believe we can strengthen our ability to propose solutions to common issues required in the industry. While advancing these studies, we aim to establish CAE technology at a level that can be utilized in practice by around 2026.



# Research & Development

## Initiatives to Strengthen Intellectual Property

### Intellectual Property Policy

The Nippon Kayaku Group has positioned intellectual property as a business resource for sustained development of the Nippon Kayaku Group. We actively create and utilize intellectual property while respecting the intellectual property of other companies.

### Intellectual Property Strategy

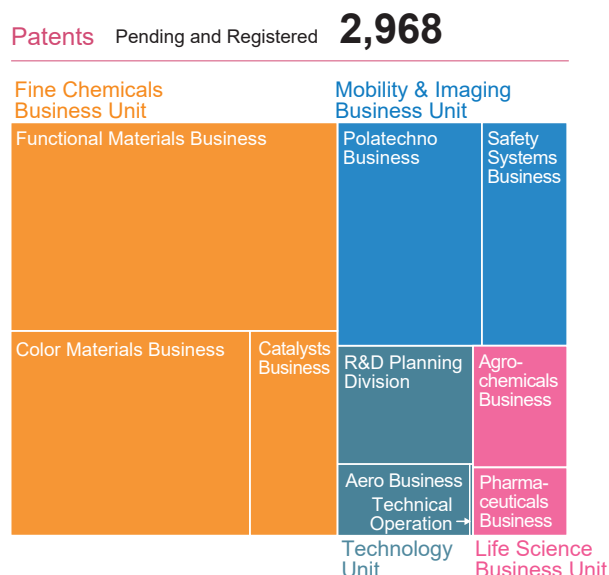
**1 Work together with business divisions and laboratories on creating and utilizing intellectual property.**

**2 Use information to create new knowledge and strategies.**

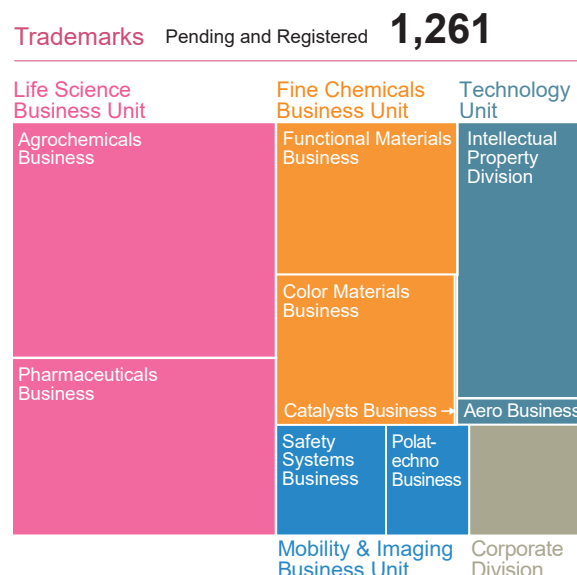
We formulate our intellectual property strategy and pursue intellectual property activities based on the business strategy of each business and the R&D strategy.

The Nippon Kayaku Group possesses extensive intellectual property across its three business units through continuous applications from research and development, production sites, and business units.

Global Patent Application Tree Map (as of March 31, 2024)



Global Trademark Application Tree Map (as of March 31, 2024)



### VOICE Message from patent application award winner\*

The Functional Materials Business has a large number of patents held and patent applications each year. In addition to substance patents for developments and products of epoxy/maleimide resins, including the company's representative epoxy resin NC-3000, which has a distinct phenol aralkyl structure, we are also pursuing multifaceted applications, including for parameter patents that suppress peripheral applications such as compound compositions and the characteristics of processing samples for electronics applications, as well as patents related to biomass epoxy resin technology, which is expected to contribute to the environment in the future.

From the time I joined the company until 2022, I was a member of the Fine Chemicals R&D Laboratories, where I contributed to intellectual property through filing applications for the application of new resins for next-generation communications with low inducement and excellent heat resistance. Currently, I belong to the Technical Dept. of the Head Office, where I manage patent strategies for the entire business, including the optimization of rights maintenance costs and the consideration of global application policies that are important for overseas expansion. Although my position will change, I would like to make use of my industry experience as both an application practitioner and overall manager to focus on the optimization of intellectual property that comprehensively increases the added value of products.

\* FY2022 Ranked first for cumulative contribution



Functional Materials Group,  
Fine Chemicals Business Unit  
Technical Dept.  
Masanori Hashimoto

### TOPICS 3 Increasing the number of patents held by the company in the semiconductor market

For the global semiconductor market, which continues to boom worldwide, the Nippon Kayaku Group offers a wide range of products, including resin materials such as epoxy resins, hydrocarbon resins, and maleimide resins, compositions such as resist materials for MEMS and cleaners for LCDs and semiconductors, as well as organic semiconductor-related products, and continues to develop new applications and fields.

As of March 31, 2024, the number of patents held by the company\*<sup>1</sup> related to these semiconductor products is approximately 300. In addition to epoxy resin technology, which the company holds the most patents for, the number of patents held related to low-inducement maleimide resin, a product and development used for 5G and 6G devices in recent years, has increased approximately sevenfold in the past six years, and the company is strengthening the acquisition and expansion of intellectual property related to next-generation communications.

In addition to resin materials, we are actively promoting

applications for semiconductor manufacturing process equipment such as semiconductor cleaners\*<sup>2</sup> and laminators to strengthen our intellectual property network. With the aim of commercializing new electronic devices, we are also steadily building up intellectual property in organic semiconductors that apply colorant technology.

\*<sup>1</sup> The number of patents held refers to the number of patent family units of published patents under application and examination and registered patents with existing rights.

\*<sup>2</sup> Cleaners for semiconductors are organic liquid materials such as developers and resist strippers used in the semiconductor wiring process.



### TOPICS 4 Strengthening the collaboration between intellectual property and business activities

The Intellectual Property Division is working to strengthen collaboration with business activities by stationing employees at business divisions, etc.

In April 2024, a department specializing in intellectual property was established within the Safety Systems Group, with a member of the Intellectual Property Division stationed there. In the automotive safety components industry, intellectual property is playing an increasingly important role, not only in the possession and defense of core technologies but also in patent strategies in each country where customer bases are located and the estimation and research of future products that will be realized by automated driving and other means.

Utilizing this strengthened structure, we intend to engage in even more proactive intellectual property

activities, including filing timely and comprehensive patent applications in line with development and sales plans for cylinder-type inflators used in side airbags and knee airbags, which are expected to expand in the future.

In addition, we are working to strengthen intellectual property activities in line with each site by assigning employees to the Fine Chemicals R&D Laboratories to support applications and research as needed, as well as increasing the number of research specialists in the pharmaceutical field to back up the laboratories, which are involved in everything from new drug development to generic biosimilar development.



### TOPICS 5 R&D Research training —Developing self-motivated R&D human resources

We provide R&D Research Training with the aim of improving young researchers' research skills, logical thinking, and ability to propose research and development themes.

In this training program, young researchers work closely with advisors in the same department for a significant period of time, or around ten months, to search for research and development themes and conduct research to solve issues. In the process of research, they are given opportunities to look outside their own departments, such as by gathering primary information through conducting interviews with internal and external experts and participating in exhibitions.

Through the training, the participants verify hypotheses

established from the perspectives of the theme's marketability, technological feasibility, and intellectual property advantage, and finally propose a persuasive theme to officers and the general manager of the laboratories, giving presentations to increase the company's options for action.

Every year, about 10 to 20 young researchers take this training program, devoting themselves to becoming the human resources that can realize the corporate slogan "Global 'sukima' ideas."





## Environmental Initiatives

Senior Director, In charge of Technology Unit

### Yasuhito Kato

As a company that aims to realize a sustainable society, the Nippon Kayaku Group recognizes climate change as an important issue facing the international community and believes that we should actively fulfill our responsibility for the global environment. In April 2022, we announced our endorsement of the TCFD\* in conjunction with the start of **KV25**, our Medium-term Business Plan to further promote sustainable management. In April 2024, we revised our Medium-Term Environmental Targets to take into account the 1.5°C limit set by the Paris Agreement.

With the basic policy of achieving carbon neutrality by 2050, we have organized four operational teams in Technology Unit to address each of the disclosure items recommended by the TCFD. We are working together as a whole company to achieve this goal, in cooperation with not only our business groups but also with back-office divisions related to purchasing and information disclosure. Currently, in addition to deepening our existing energy conservation activities, we are systematically and steadily implementing environmental investments to introduce new distributed power generation and technical studies for energy conversion.

\* The Task Force on Climate-related Financial Disclosures (TCFD) established by the Financial Stability Board (FSB) in 2015.

## Environmental Management

### Policy and Basic Approach

#### Our Declaration on the Environment, Health, Safety and Quality Established: 1995; Revised: January 31, 2024

Under the **KAYAKU spirit** and the spirit of Responsible Care\*, we have established our “Declaration on the Environment, Health, Safety and Quality,” which is geared towards guaranteeing environmental protection, safety and health, while maintaining and improving product quality. We shall show a united front in promoting these activities, and this declaration shall apply to every employee working for the Nippon Kayaku Group, including temp staff and subcontractors.

We, the Nippon Kayaku Group, based on the **KAYAKU spirit** of “Continuously providing society with the best products through ceaseless progress and the combined forces of our consciences,” shall conduct business as a company which contributes to the achievement of a sustainable society that “safeguards the life and health of consumers and supports comfortable living.”

#### Fundamental policies

- 1 We will strive to maintain and improve the environment, people's health, and safety across the entire product lifecycle, from R&D to production, distribution, sales, recycling, and disposal.
- 2 We will strive to prevent pollution, protect biodiversity, and conserve the environment by promoting reduction and proper disposal of waste, reduction of resource consumption (of energy, water, and raw materials), and Climate change measures (toward reduction of greenhouse gas emissions).
- 3 We will actively provide business partners with information needed for the safe usage and handling of our products and for conserving the environment.
- 4 We will enhance the quality of not only products, but operating processes as well, and also work to enhance customer satisfaction.
- 5 We will heighten employee knowledge and skills through education and training and achieve our goal of zero pollution, zero disasters, zero accidents and enhanced quality.
- 6 We will disclose information so that stakeholders correctly understand our business activities and also strive to engage in dialogue with local communities and government authorities.

\* Responsible Care: Refers to companies which either produce or handle chemical substances proactively taking measures which show consideration for the environment, safety, and health, in every process extending from development, sale and use to disposal. Since its launch in Canada in 1985, Responsible Care has gained prominence worldwide, not least in Japan.

#### Nippon Kayaku Group's Responsible Care

All Directors and employees share the common understanding that safety takes precedence above all else, and in line with the Declaration on the Environment, Health, Safety and Quality, the Nippon Kayaku Group complies with laws and regulations not only in Japan but overseas, striving to prevent accidents related to the environment and safety. “The Nippon Kayaku Group's Responsible Care Policy” is based on the policies we should continue to

work on from FY2019 onward. Each fiscal year, in order to ensure “environment, safety, and health,” Nippon Kayaku's non-consolidated business and domestic group companies confirm and formulate targets that complement the key sustainability issues and initiatives to achieve them. Going forward, the Nippon Kayaku Group aims to continue advancing its Responsible Care Activities in line with this policy.

## The Nippon Kayaku Group's Responsible Care Policy Excerpt from the FY2024 edition

Targets	Serious accidents and hazards: 0    Serious environmental accidents: 0    Serious traffic accidents: 0		
Key Responsible Care Issues	<ul style="list-style-type: none"> <li>Total group Scope 1+2 CO<sub>2</sub> emissions to exceed no more than 111,838 tons (Total group CO<sub>2</sub> emissions to fall at least 15% from FY2019 levels)</li> <li>Domestic zero-emission rates of 1% or less</li> </ul>		
Promoting Activities Aimed at Achieving Environmental Goals	<ul style="list-style-type: none"> <li>Improved practices for climate-change-related disclosures to external sources               <ul style="list-style-type: none"> <li>Clarification of risks and impacts, and the setting of targets for TNFD disclosures</li> <li>Quantification of TCFD risks (flooding) and proposals for future measures</li> </ul> </li> <li>Appropriate operation of a cloud-based environmental data aggregation system (groupwide)</li> <li>Every business site to aim for a 3% annual reduction in Scope 1+2 CO<sub>2</sub> emissions (a groupwide challenge, not a binding target)</li> <li>Bolstering the system for calculating individual product emissions (exploring potential systems)</li> <li>Plastic waste recycling rates of 80% or more; final disposal rates of 1% or less</li> </ul>		

## Environmental Management System Certification Status

Our current efforts to retain our certification status for ISO14001, the internationally recognized environmental management standard, see us consider the environment during the development and manufacture of products and the provision of services.

Having first gained ISO14001 Certification for Environmental Management Systems in 1998, we have now

achieved certification for all seven of our domestic plants and seven overseas group companies. We will continue, going forward, to explore new ISO14001 certification options for group companies, including for those based overseas.

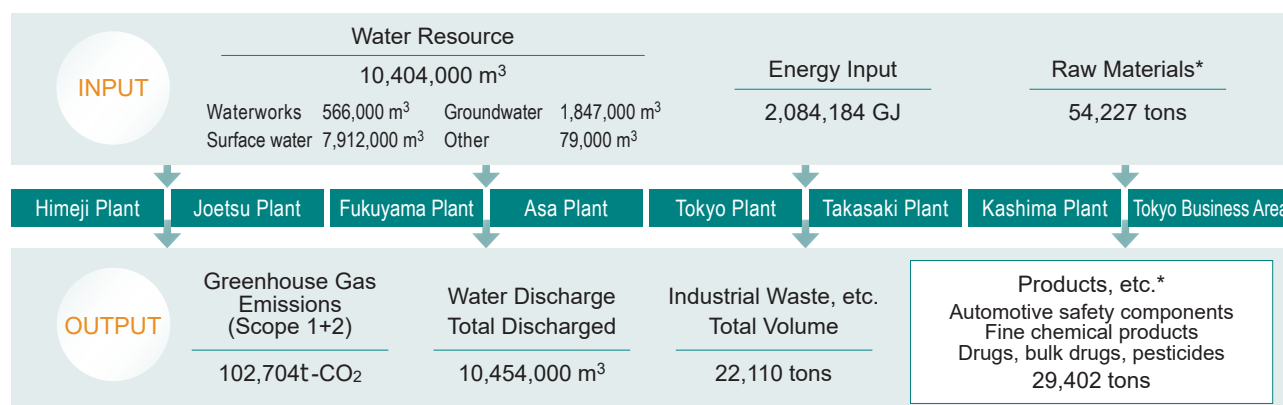


### Acquisition status of ISO 14001 certification

<https://www.nipponkayaku.co.jp/english/sustainability/other/data/#h-01-08-01>

## Material Flow of Business Activities

The material flow of business activities for FY2023 is as described below.



\* Nippon Kayaku non-consolidated (Items listed without additional notes represent combined domestic and overseas values.)

## Use of LCAs (Life-Cycle Assessments)

We are also working to maintain and improve the environment, health, and safety at every step of the product life cycle, from the research and development stage right the way through production, distribution, sale, recycling, and disposal.

We are trialing the design of a process which allows us to visualize the value of every group product or service by assessing and analyzing environmental impacts and potential environmental contributions at every stage of the life cycle.

Part of these activities involves promoting calculation of

the carbon footprint (CFP)\* of every Nippon Kayaku product, which allows us to not only grasp its environmental impact but also improve the accuracy of our LCA calculations for customer products. We are presently proceeding with such calculations for certain product lines, and are looking at how to systematize this process to enable emissions calculations to be made for every company product.

\* An indicator of the total amount of greenhouse gases a product or service emits during the entire process from production to disposal

# Environmental Initiatives

## Mitigation of Climate Change

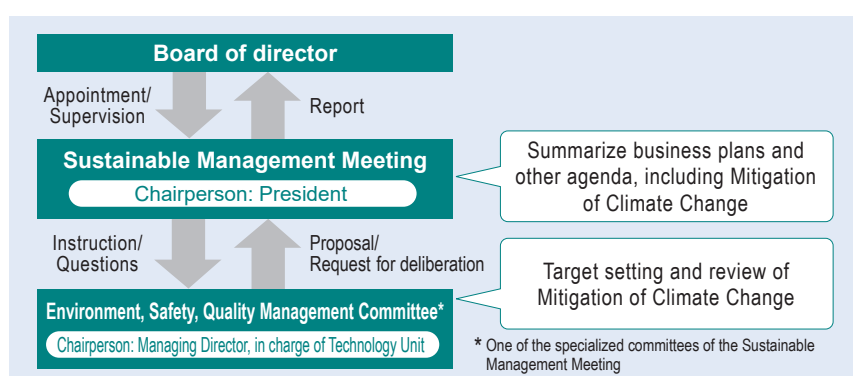
The Nippon Kayaku Group has revised its FY2030 Medium-Term Environmental Targets, which were established in 2020 at the 2°C level, to the 1.5°C level. Looking further into the future, our group has set its ultimate goal the achievement of carbon neutrality by FY2050. We will deliver products geared towards a decarbonized society and, through supplier engagement, aim for decarbonization across the entire value chain.



### Information Disclosure on TCFD Recommendations

#### Governance

The Nippon Kayaku Group is addressing climate change from a company-wide perspective through the collaboration of the Board of Directors, the Sustainable Management Meeting (Chairperson: President), and the Environment, Safety, Quality Management Committee (Chairperson: Managing Director, In charge of Technology Unit).



#### Strategy — Climate-related Risks and Opportunities —

The Nippon Kayaku Group operates multiple businesses globally and various risks and opportunities accompany each business area. We evaluated climate-related risks for the entire group based on the TCFD recommendations to specify the impact of climate change on each business and considered the opportunities for each business area.

We have defined the timeframe for the materialization of risks as follows when specifying climate-related risks and opportunities.

	Period	Reason
Short-term	Four years up to FY2025	Set the period for the <b>KAYAKU Vision 2025 (KV25)</b> Medium-term Business Plan which began in FY2022
Medium-term	Through FY2030	Aligned with the FY2030 target specified in the Medium-term Environmental Targets of the Nippon Kayaku Group
Long-term	Through FY2050	Referred with Nationally Determined Contribution (NDC) determined by the Japanese government

#### Climate-related Risks

Business risks related to climate change are based on Representative Concentration Pathway (RCP) 2.6, 8.5 scenarios by the United Nations Intergovernmental Panel on Climate Change (IPCC), Sustainable Development Scenario (SDS) by the International Energy Agency (IEA), and the Stated Policies Scenario (STEPS) for both the 1.5°C and 4°C scenarios.

■ Risks in Transitioning to a Decarbonized Economy for the 1.5°C Scenario

Category	Major Risks	Period of Risk Emergence	Financial Impact*1	Major Countermeasures
Policies & Regulations	Increased operating costs from tighter emissions regulations*2	Short to long term	Medium	<ul style="list-style-type: none"> <li>Implement distributed power sources for each site, such as solar power and high-efficiency cogeneration power generators</li> <li>Reduce material loss by utilizing material flow cost accounting (MFCA) and implement comprehensive energy-saving activities</li> </ul>
	Rising price of electricity, LNG, etc.	Short to long term	Medium	
	Increased raw material costs from tighter emissions regulations	Short to long term	Large	<ul style="list-style-type: none"> <li>Encourage suppliers to reduce emissions through engagement activities</li> </ul>
Market & Reputation	Increased costs from disclosure of environmental information, life cycle assessment (LCA) calculations, etc.	Medium to long term	Small	<ul style="list-style-type: none"> <li>Streamline the emissions calculation method at each site and systemize the LCA calculations</li> </ul>



## Physical Risks from the 4°C Scenario

Category	Major Risks	Period of Risk Emergence	Financial Impact*1	Major Countermeasures
Acute & Chronic Physical Risks	Increased costs from flood damage caused by typhoons, heavy rain, high tides, etc.	Short to long term	Medium	<ul style="list-style-type: none"> <li>Based on the results of flood simulations, quantify financial impact and implement flood countermeasures</li> </ul>
	Impact on operations due to water shortage	Medium to long term	Small	<ul style="list-style-type: none"> <li>Strengthen efforts to save water used during production, and consider reusing and recycling water</li> </ul>
	Reduced labor productivity due to increased temperatures	Medium to long term	Small	<ul style="list-style-type: none"> <li>Enhance the work environment by improving air-conditioning, promoting the automation of high-temperature work processes, etc.</li> </ul>

\*1 Financial impact: Large = 2 billion yen or more; Medium = 0.5 to 2 billion yen; Small = 0 to 0.5 billion yen

\*2 Based on carbon tax and energy price projections under the IEA's Net Zero Emissions (NZE) scenario, we have also calculated the risk impact under the 1.5 degree scenario and are considering disclosing information based on the 1.5 degree scenario.

## Opportunities in Each Business Area in Transitioning to a Decarbonized Economy for the 1.5°C Scenario

We aim to achieve sustainable growth by creating new businesses and products that solve future social issues, such as environment-related products, while promoting measures to address transition and physical risks related to climate change.

\* Financial impact: Large = 2 billion yen or more; Medium = 0.5 to 2 billion yen; Small = 0 to 0.5 billion yen

Business Area		Business Environment		Opportunity		Period of Opportunity Creation	Financial Impact*
Mobility & Imaging Business Unit	Safety Systems	Tightened regulations against greenhouse gas emissions in various countries & regions	<ul style="list-style-type: none"><li>● Global expansion of demand for mobility/transport methods that have relatively low emissions</li><li>● Significant restrictions on sales of internal combustion engine vehicles, depending on the region</li></ul>	<ul style="list-style-type: none"><li>● Rise of EV and automated driving brings increased diversification in smallness of size, lightness of weight, and shape to automotive safety components</li><li>● Expansion of safety devices for unmanned aircraft such as drones</li></ul>	Short to long term	Large	
	Polatechno		<ul style="list-style-type: none"><li>● Expansion of sensors, HUD, and other safety display device components, brought on by the development of EV and automated driving</li><li>● Expansion of polarizing plates that help reduce energy consumption of display devices</li></ul>	Short to long term	Medium		
Fine Chemicals Business Unit	Functional Materials	<ul style="list-style-type: none"><li>● Advances in social changes, such as growth of smart cities</li><li>● Heightened demand for increased energy efficiency of electronics products</li><li>● Increased demand for storage batteries that are able to handle large output fluctuations in response to expansion of renewable energy</li><li>● Global expansion of demand for mobility/transport methods that have relatively low emissions</li></ul>	<ul style="list-style-type: none"><li>● Expansion of semiconductor-related products from growth of smart cities and DX</li><li>● Expansion of functional materials that help reduce energy consumption of display devices</li><li>● Expansion of low-emission materials due to the increased shift toward use of biomass for raw materials</li><li>● Expansion of resin materials that help make mobility frames more lightweight</li></ul>	Medium to long term	Large		
	Color Materials		<ul style="list-style-type: none"><li>● Expansion of ink for digital on-demand printing that enables low-carbon printing</li><li>● Expansion of dimming glass/film that controls incident sunlight</li></ul>	Short to long term	Large		
	Catalysts		<ul style="list-style-type: none"><li>● Expansion of catalysts for producing green energy, such as hydrogen</li><li>● Expansion of catalysts for promoting the use of biomass-derived raw materials</li></ul>	Medium to long term	Large		
Life Science Business Unit	Pharmaceuticals	<ul style="list-style-type: none"><li>● Direct impact is limited</li></ul>	<ul style="list-style-type: none"><li>● Reducing greenhouse gas emissions by reviewing packaging formats</li></ul>	Short to medium term	Small		
	Agrochemicals		<ul style="list-style-type: none"><li>● A certain level of temperature increase is expected even for the 2°C scenario, thus expanding the use of biostimulants that help maintain and improve agricultural productivity</li><li>● Expanded use of existing agrochemicals to deal with new problems with pests</li></ul>	Medium to long term	Small		

Tightened regulations against greenhouse gas emissions in various countries & regions

- Global expansion of demand for mobility/transport methods that have relatively low emissions
- Significant restrictions on sales of internal combustion engine vehicles, depending on the region

# Environmental Initiatives

## TOPICS 1 Business opportunities arising from the mitigation of climate change

The Nippon Kayaku Group is working to create new business opportunities through environmentally friendly products and research and development.

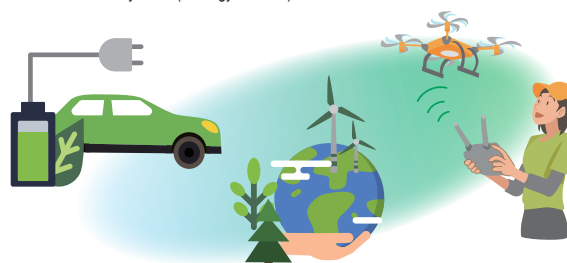
In recent years, the automotive industry has been accelerating its transition from gasoline and other internal combustion engine vehicles to electric vehicles (EVs), which do not emit CO<sub>2</sub> that causes global warming as well as other harmful gases. Currently, the shift to EVs is progressing mainly in China and Europe, and countries around the world are setting very high targets for the percentage of EVs in future automobile production. Automotive safety components in the Mobility & Imaging Business Unit support an environmentally friendly mobility society through the provision of reliable safety for EVs, just like for gasoline vehicles.

Industrial inkjet inks provided by the Fine Chemicals Business Unit are suitable for small- to medium-volume printing where ink can be used without waste and contribute to a low-carbon society as environmentally friendly materials by reducing wastewater. In addition, the Fine Chemicals R&D Laboratories will actively promote the research and development of catalysts for hydrogen production and themes related to energy conservation and biomass raw materials, aiming to solve future social issues

such as the realization of a green energy society.

Even in the 1.5°C scenario, which will gradually suppress global warming, a certain rise in temperature and change in climate are expected, which is predicted to impose significant environmental stress on agricultural crops. In the agrochemicals business of the Life Science Business Unit, we provide “biostimulants,” a new agricultural material that listed in the government’s “Strategy MIDORI.”\* Biostimulants are environmentally friendly materials that activate the natural functions of plants and relieve environmental stress. By helping to increase production and the reduce the use of chemical fertilizers, we will contribute to both a decarbonized society and environmental safety.

\* The official name of the Japanese government’s global warming countermeasure is “Strategy for Sustainable Food Systems (Strategy MIDORI).”



## Risk Management

We have specified “Reducing Energy Consumption and Greenhouse Gas Emissions” as a climate-related key sustainability issue\*<sup>1</sup>.

Our M-CFT Climate Change Response Team has come to play a core role under our governance system\*<sup>2</sup> comprised of the Board of Directors, the Sustainable Management Meeting, and the Environment, Safety and Quality Management Committee. Established together with the launch of **KV25**, this team both specifies and assesses climate change risks, and implements specific plans to proactively promote energy-saving and green investments.

\*<sup>1</sup> KV25 Materiality [p.34](#)

\*<sup>2</sup> Information Disclosure on TCFD Recommendations: Governance [p.75](#)

### Key sustainability issues Reduction of Energy Consumption and Greenhouse Gas Emissions

#### Environment-related KPIs for KV25 Targets

Greenhouse gas emissions (Scope 1+2)	FY2030 Target: 46% reduction or higher compared with FY2019 (70,598 tons or less)
Goal setting in line with SBT* and consideration and implementation of specific measures	Disclose progress
Disclosure in line with TCFD recommendations	Disclose progress
Develop products and technologies with consideration for environmental issues	Disclose progress

\* Science Based Targets: Greenhouse gas emission reduction targets set by companies, consistent with the Paris Climate Agreement

## TOPICS 2 Countermeasures for flood risks in the 4°C scenario

The Nippon Kayaku Group has sites in regions where flooding is likely to occur, such as in the area of Kita Ward, Tokyo\*<sup>1</sup> where a Class A river flows. For this reason, in our climate change risk and opportunity analysis, we assumed a physical risk from the 4°C scenario of “Increased operating costs from flood damage caused by typhoons, heavy rain, high tides, etc.” and predicted a medium financial impact\*<sup>2</sup> if flood damage actually occurs. Since this risk can occur over a wide range of

periods and has a relatively large financial impact, in FY2023 we began working on more detailed risk quantification in the event of floods and efforts to reduce them.

An analysis\*<sup>3</sup> of the possibility of flood damage at 17 of the group’s production sites in the event of a flood of a certain scale or greater\*<sup>4</sup> under the current climate revealed that four sites are at risk. In addition, an analysis of the situation in the 4°C scenario showed that some sites

may have an increase in flood area and depth due to the overall rise in water levels caused by global warming.

Based on the results of these analyses, we investigated the impact of damage to annual sales and assets held by each site in the current climate, the 1.5°C scenario, and the 4°C scenario\*5. We found that although some sites will not be suffering financial damage in any scenario, as global warming becomes more severe, such as in the 4°C scenario, the financial impact will increase from at least several billion to 10 billion yen per year. To reduce these financial impacts, we plan to continue working on flood risk

#### Five sites at high risk of flooding

Tokyo Research Administration Office Area	Including Fine Chemicals R&D Laboratories. Pharmaceutical Research Laboratories, Tokyo Plant (color materials manufacturing) (Kita Ward and Adachi Ward, Tokyo)
Two sites at Asa Plant	Functional materials and catalyst manufacturing; two sites in the Kawahigashi and Kawanishi areas (Sanyo-onoda City, Yamaguchi Prefecture)
Wuxi area	Three companies that manufacture functional materials, color materials, and Polatechno products respectively (Wuxi, Jiangsu Province, China)

\*1 Tokyo Research Administration Office, Fine Chemicals R&D Laboratories, and Pharmaceutical Research Laboratories are located in Kita Ward, Tokyo, and Tokyo Plant is located in Adachi Ward, Tokyo.

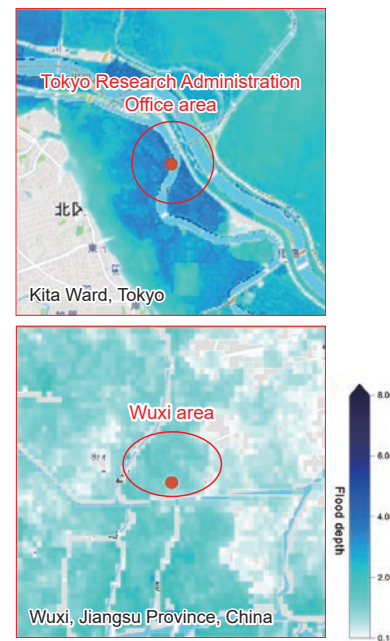
\*2 Medium financial impact: Impact on operating income of 500 million to two billion yen per year; relatively large impact among the Nippon Kayaku Group's climate change risks

\*3 Using Gaia Vision's proprietary high-precision flood simulation system "Climate Vision"

\*4 Analysis of 10-year (large-scale floods that have a probability of occurring approximately once every 10 years), 100-year, and 1,000-year floods; generally, the scale of damage is 1,000-year flood > 100-year flood > 10-year flood.

\*5 Domestic calculations are based on the damage rate data provided in the Ministry of Land, Infrastructure, Transport and Tourism's 2020 document "Manual for Economic Evaluation of Flood Control Investment," while overseas calculations are based on the damage rate by flood depth provided in the technical report "Global flood depth-damage functions" published by the European Commission's Joint Research Centre in 2017.

reduction in FY2024 and onward by preparing a roadmap that includes a survey of actual conditions at sites where damage is expected, the setting of targets to assess the degree of damage control, the formulation of specific countermeasures, and implementation timing.



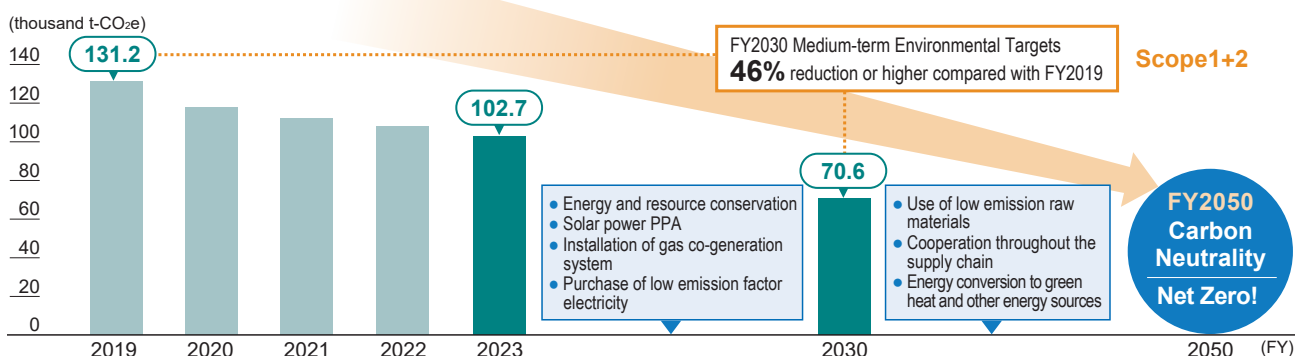
Simulation results of the flood depth of a 1,000-year flood in the 4°C scenario according to "Climate Vision"\*4 (top: Tokyo Research Administration Office, bottom: Wuxi area)

## Metrics and Targets

As our climate change risk indicator, the Nippon Kayaku Group has set the target of shaving at least 46% off FY2019 Scope 1+2 greenhouse gas emission levels by FY2030. To achieve this goal, we will first aim to reduce greenhouse gas emissions by 3% each year during the **KV25** period. Reaching Scope 1+2 carbon neutrality by FY2050, meanwhile, involves conducting preliminary investigations on switching to green energy sources such as hydrogen and ammonia. Moreover, in order to set future

targets which also include Scope 3, we have implemented improvements to our Scope 3 calculation and aggregation method with a view to calculating the emissions (carbon footprint) of each individual product. Our aggregate calculations for Scope 1+2+3 from FY2022 onwards are currently undergoing third-party verification. We will therefore make concerted efforts to link up with suppliers and reduce the environmental burden across the entire supply chain to ensure Scope 3 reductions are delivered.

#### Roadmap for Carbon Neutrality



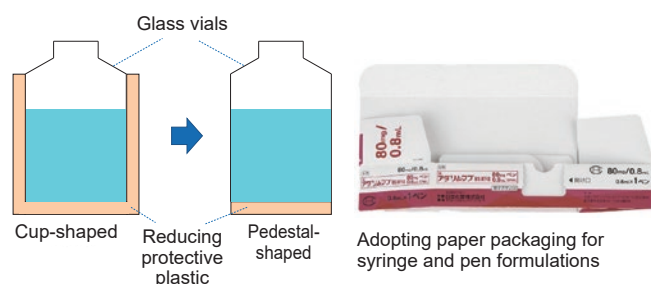


# Environmental Initiatives

## TOPICS 3 Environmental initiatives in the pharmaceutical business

In the pharmaceutical business, we are striving to reduce greenhouse gas emissions generated by our business activities and protect the environment by devising materials for product packaging and information materials for patients.

Some of our liquid pharmaceutical products use cup-shaped plastic packaging for the glass vials containing the products. As part of our environmental initiatives, we have converted the cup-shaped packaging to pedestal-shaped packaging for some products, significantly reducing the total amount of plastic used in our products. This measure is also expected to curb the waste of petroleum raw materials, which are a finite resource, and reduce greenhouse gas emissions from plastic production, as well as reduce the energy used for transportation by minimizing the weight of products. Going forward, we will consider gradually converting similar cup-shaped packaging to pedestal-shaped packaging for other products.



In addition, instead of the conventionally used blister packaging, syringe and pen formulations are packaged in paper, which does not contain plastic. The outer box can be folded compactly after use, eliminating the need to separate paper and plastic and making it more convenient for disposal and recycling.

In addition to gradually converting the paper in individual packaging boxes for pharmaceuticals, cardboard boxes used in shipping, and other information materials for patients to FSC®-certified paper, we are also gradually expanding the use of environmentally friendly inks that contain almost no volatile organic compounds (VOCs). Of these, we plan to replace 30% of our information materials with environmentally friendly printing products in the three years leading up to FY2026 by proactively replacing them at the right time, such as during reprinting.

\* Forest Stewardship Council: An independent, non-profit organization that aims to popularize responsible forest management worldwide and operates an international forest certification system.



## TOPICS 4 Aggregation of CO<sub>2</sub> emissions data throughout the supply chain (Scope 3)

In a report published in 2021, the United Nations Intergovernmental Panel on Climate Change (IPCC) sounded the alarm on the frequency and intensity of heat waves, torrential rains, and events caused by global warming judged to be the result of human activities. We must reduce greenhouse gases substantially by acting in cooperation with the chemical industry, which has prospered while using fossil fuels, in order to mitigate global warming and achieve carbon neutrality. The Nippon Kayaku Group calculates CO<sub>2</sub> emissions in our supply chain (Scope 3) in order to ascertain the total volume of greenhouse gas emissions generated in corporate activities and formulate a plan for reducing emissions in the entire supply chain.

From FY2021, we have improved the accuracy of calculations by using more appropriate emissions base units and improved efficiency and reduced the amount of labor involved by automating part of the aggregation work. We also implemented independent verification\* of aggregation results. In FY2022, the accuracy of the tabulation of Category 5 "Waste generated in operations"

was improved, resulting in even more precise tabulation method. In FY2023, specific initiatives to reduce emissions included switching to low emission factor electricity and utilizing non-fossil certificates in overseas sites such as China. In addition, reduced operation at domestic plants due to the recession in epoxy resins for semiconductors and other factors also contributed to a temporary decrease in emissions.

From FY2024 onwards, we will work to optimize energy across multiple sites, including the utilization of electricity generated by the Takasaki Plant's cogeneration system at other sites, and deepen internal and external discussions to set targets that encompass the entire supply chain.

Scope 1: Direct emission of CO<sub>2</sub> from emission source that the business owns or manages (emissions from fuel use, manufacturing process, etc.)

Scope 2: Indirect emission from the use of electricity, heat, and steam supplied by another company (use of purchased electricity, etc.)

Scope 3: Indirect emissions outside of scope 2 (procurement of raw materials, employees' commute, business trips, waste treatment consignment, use of products, disposal, etc.)

\* Calculation results for FY2021 onward were independently verified by Sustainability Accounting Co., Ltd.


Category		Emissions (thousand tons-CO <sub>2</sub> /year)				
		2019	2020	2021	2022	2023
1	Purchased products and services	243.6	237.3	294.5	275	241.8
2	Capital goods	42.7	42.9	26.8	29.6	33.4
3	Fuels and energy related activities not included in Scope 1 and 2	22.4	21.2	22.3	21.0	20.5
4	Transportation and distribution (upstream)	19.0	17.6	22.3	19.7	16.6
5	Waste generated in operations	26.5	28.8	31.8	16.2	10.8
6	Business travel	0.8	0.8	0.8	0.8	0.8
7	Employee commuting	2.5	2.4	2.4	2.4	2.4
8	Leased assets (upstream)	Not calculated as included in Scope 1 and 2				
9	Transportation and distribution (downstream)	1.0	1.0	1.6	1.5	1.2
10/11	Processing/use of sold products	-	-	-	-	-
12	End-of-life treatment of sold products	15.4	23.2	26.4	23.0	17.6
13	Leased asset (downstream)	0.4	0.4	0.4	0.4	0.4
14/15	Franchise/investment	-	-	-	-	-
Scope 3 total		374.3	375.6	429.3	389.6	345.5
Scope 1		36.2	35.3	37.5	35.5	30.2
Scope 2		94.7	82.5	74.7	72.6	72.5
Total of Scopes 1+2+3		505.2	493.4	541.5	497.7	448.7

Calculation method: As a rule, the amount of CO<sub>2</sub> emitted is calculated based on the General Guidelines on Supply Chain GHG Emission Accounting issued by the Ministry of the Environment and the Ministry of Economy, Trade and Industry, and the emission coefficient listed by the IDEA Research Laboratory at the National Institute of Advanced Industrial Science and Technology's Research Institute of Science for Safety and Sustainability

## Consideration for Biodiversity

At the Nippon Kayaku Group, we recognize that biodiversity forms an important base for a sustainable society. However, such biodiversity is currently being lost, in large part due to environmental pollution and deforestation. Thanks to the Nippon Kayaku Group's Responsible Care Policy, environmental considerations, efficient use of resources, climate change initiatives, and preventing pollution of water and air are forever in our minds when we conduct our business activities.

### Air pollution prevention and reduction of wastewater and industrial waste

Indicators (KPI)	FY2025 Targets	Results	
		FY2022	FY2023
VOC*1 emissions	(Non-consolidated) Disclose results	(Non-consolidated) 38.7 tons	(Non-consolidated) 32.9 tons
COD*2 emissions	(Non-consolidated) Disclose results	(Non-consolidated) 171.8 tons	(Non-consolidated) 210.9 tons
Total waste output	(Non-consolidated) Disclose results	(Non-consolidated) 27,621 tons	(Non-consolidated) 20,974 tons
Waste recycling rate	(Non-consolidated) 80% or higher	(Non-consolidated) 86.8%	(Non-consolidated) 83.8%
Waste zero emission rate	(Non-consolidated) 1% or less	(Non-consolidated) 0.8%	(Non-consolidated) 0.7%
Develop products and technologies with consideration for environmental issues	Disclose progress	 <b>The Products and Technologies Creating a Sustainable Future</b> <a href="https://www.nipponkayaku.co.jp/english/sustainability/highlight/innovation/">https://www.nipponkayaku.co.jp/english/sustainability/highlight/innovation/</a>	

\*1 Volatile organic compounds \*2 Chemical oxygen demand

# Environmental Initiatives

## TOPICS 1 Color Materials Group, Fine Chemicals Business Unit

### Developing water-based inkjet inks for package printing that contribute to safe and environmentally-friendly printing solutions

Our Color Materials Business is developing a revolutionary primer-less (without the need of pretreatment agent) water-based pigment ink which can be printed directly on non-absorbent media.

Our newly developed ink can be printed directly on non-absorbent substrates without the use of primers, making for shorter printing processes while contributing towards reduced energy use. An additional advantage of using water-based inks is being able to significantly reduce the generation of volatile organic compounds (VOCs) while drying. As many

inks currently used on non-absorbent media (such as films) are solvent-based, the impact of the high levels of VOCs contained in such inks has become a real issue for user safety and for the environment.

By decreasing those VOCs by switching to printing with water-based inks, we can present a solution beneficial to both user safety and environmental protection.



## TOPICS 2 Total waste output: approximately 24% reduction (compared to the previous year)

The total volume of waste produced by the Nippon Kayaku Group in FY2023 ran to 22,030 tons, which was 24% down from the 28,934 tons produced in FY2022. In our non-consolidated business, we have also been promoting the recycling of waste previously landfilled or incinerated. Our continued efforts at reducing the environmental burden in this way have yielded a 143-ton (39%) year-on-year reduction in landfilled waste, and a further 0.1% year-on-year fall in zero-

emission rates from 0.8 to 0.7%.

We will continue working towards environmental conservation and a sustainable society by promoting waste volume reduction and the effective use of waste and easing the heavy environmental burdens posed by landfilled waste.



## TOPICS 3 Fukuyama Plant Initiatives aimed at reducing water use

The Fukuyama Plant has been producing inkjet printer dyes since the year 2000 and has consequently invested effort into improving wastewater treatment methods, looking into individual processes tailored to production type and examining numerous ways of altering production processes to lower environmental burdens.

The fruits of such activities can be seen in the form of phased reductions in contracted industrial water amounts, which fell from 24,000 m<sup>3</sup> to 23,000 m<sup>3</sup> per day in FY2015, and to 22,000 m<sup>3</sup>

per day in FY2018. Thanks to further polishing of its wastewater treatment methods, the plant is now able to produce more on the same amounts of industrial water. It is also working on reducing the amounts of regular water used for both production and equipment cleaning.



Fukuyama Plant wastewater treatment facility

## TOPICS 4 Takasaki Plant Plant operations in harmony with the natural environment

From the outset, the Takasaki Plant aimed for "coexistence with nature," and secured the ISO 14001 certification in January 2001. Under the slogan, "The Takasaki Plant: Continuing to Protect Life and the Environment," the plant has fixed its environment policy as: "Each and every person here shall be sufficiently conscious of working in an industry connected to human life, and, based on such consciousness, work towards promoting environmental conservation and plant harmony with the abundant natural environment."

The Takasaki Plant's environmental conservation initiatives include measures such as the discharge control of the site's treated wastewater. As a method of controlling

the discharge of treated wastewater from the plant, we have built a dam to divide our on-premises creek into two areas. The first creek temporarily pools plant wastewater which has been detoxified via an activated sludge process. The second creek's water quality is measured daily and, subject to levels being confirmed as normal, has its sluice gate opened to allow for water discharge of into the river. We are thereby taking every possible measure to prevent environmental pollution.



The site of Takasaki Plant in harmony with nature



# DX

Representative Executive Vice President

Representative Director, In charge of Corporate Planning Division, Corporate Communications Division, Finance & Accounting Division, Information Systems Division and Purchasing Division

## Yoshitsugu Ishida

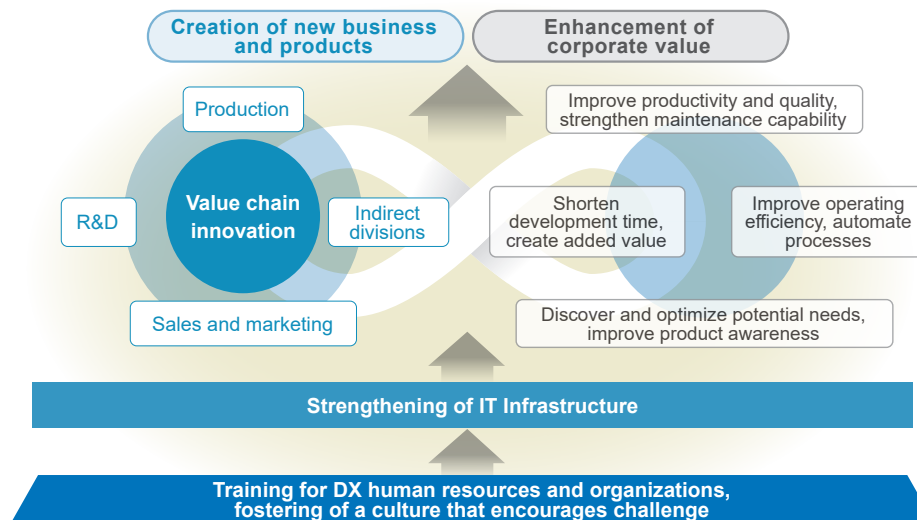
We have positioned DX as a company-wide material issue. We have formed a DX Promotion Team anchored by the Information Systems Division and are continuing activities to make steady progress on developing the groundwork for that challenge by FY2025, the final fiscal year of the Medium-term Business Plan (**KV25**).

In addition to improving each employee's literacy and building IT / network environment, we have begun to make changes happen steadily in each area, such as DX initiatives in manufacturing and R&D, which require speed to keep up with the competition.

We will steadily advance the **KV25** plan toward the ultimate goal of creating new products and services and providing new value to our customers by transforming the entire value chain.

## DX Initiatives and Vision of the Nippon Kayaku Group

In anticipation of changes in the value chain of the company as a whole, we have begun to strengthen and establish IT infrastructure and implement production DX linked to workplaces. In research, an informatics environment has begun to be built and used, and progress is being made in initiatives led by researchers and engineers as well as projects.



## Strengthening of IT Infrastructure / Cybersecurity

### FY2024 Themes for Strengthening IT Infrastructure

Initiatives to improve utilization of the IT environment

- Strengthening of security measures
- Company-wide education to improve IT skills / literacy

DX education and initiatives to improve IT skills

- Implementation of DX education for all employees
- Consideration of development of specialized human resources

Renewal of core operating systems

- Renewal of operating systems centered on ERP

We have almost achieved our immediate goal of establishing a company-wide IT environment that enables secure and speedy communication "anytime, anywhere, and with anyone."

In this fiscal year, we are continuing our initiatives to strengthen cyber security measures. By further improving the company-wide utilization of communication tools and business applications that we have introduced so far, we have also begun initiatives to improve skills to increase work productivity.

We will take sufficient time, including the period of **KV25**, for studying the next core operating system, enterprise resource planning (ERP) so that data from various business activities can be accumulated and used for speedy management decision-making.

In addition, to promote DX company-wide, we have gradually started implementing DX literacy education for all employees and initiatives for the development of specialized human resources.

## Production DX — DX Linked to Workplaces

### FY2024 Themes for Supporting Digital Utilization of Production Operations

Support for smart factory development

Consideration of automation of production processes

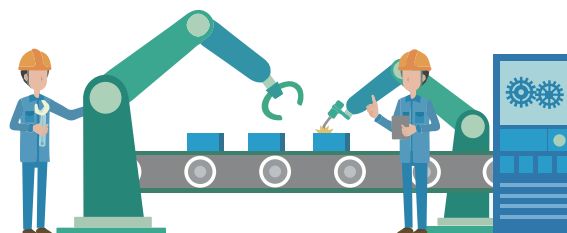
Operational technology (OT) network development

- Fukuyama Plant: System redesign of existing facilities
- Asa Plant: Digitalization of new building operations
- Fostering of factory scientists from frontline personnel
- Automation of inspection process by image recognition, and manpower saving
- Consideration of application to automotive safety components, functional chemicals, pharmaceuticals, and agrochemicals
- Development of a network for integrated control and operation of the plant hardware

### Promotion of Smart Factory Development

As part of production DX aimed at improving process efficiency and cost competitiveness, we are promoting smart factory development starting with new plants and facilities that have expanded due to the booming economy. At the new plant for the increased production of epoxy resin, which is scheduled to start operation in 2025 within the Asa Plant, as well as at the Fukuyama Plant in conjunction with the new industrial inkjet ink plant scheduled to start operation in the same year, we are preparing to introduce new digital tools and automation equipment that will help improve productivity, save manpower, reduce labor, and strengthen

quality and safety management. Utilizing our know-how in these smart factory developments, we plan to work on not only introducing new facilities but also improving efficiency and reducing labor at existing plants from FY2025.



New plant facility AK-11 (in Asa Plant)

#### Measures for new plant facility AK-11 (in Asa Plant) for epoxy resin production

- Production scheduler ①
- Semi-automation of the reaction process (raw material filling and transportation) for improved efficiency ①
- Automatic electronic recording of analog measuring instruments by remote monitoring system ① ②
- Visualization of data collected by automatic recording, trend analysis, and quality control ① ②
- Digitalization of production records ①
- Video manuals to supplement standard operation documents and help improve work uniformity ① ②

#### Measures for new plant facility A-I-1 (in Fukuyama Plant) for industrial inkjet ink production

- Introduction of automatic product transfer equipment ①
- Automatic ink blending equipment ① ②
- Introduction of various BI tools to promote process improvement and energy saving ① ②
- Video manuals to supplement standard operation documents and help improve work uniformity ① ②
- Remote monitoring and process control using explosion-proof tablets ①



New plant facility A-I-1 (in Fukuyama Plant)

① Improvement of productivity, manpower saving and reduction of labor ② Strengthening of quality and safety control (Includes schedule)

## Fostering of Factory Scientists

In terms of human resources, we are working on developing factory scientists, who drive digitalization of manufacturing sites and serve as the right-hand persons of the plant supervisors. In FY2023, we completed basic lecture training for nine participants from plants in Japan. In the future, we will develop and utilize a community of factory scientists to actively exchange information, such as by horizontally sharing their respective issues and initiatives. We will also promote specialized education and measures, including acquiring knowledge about digitalization in line with the operations of each plant and considering automation of production using robots and other tools, as well as promote the digitalization of indirect division operations.



## R&D DX — Improvement and Utilization of the Environment for Informatics

### FY2024 Three Major Initiatives for R&D DX

Accumulation of digital data

- Verification of the introduction of electronic laboratory notebooks
- Establishment of OT network of each research laboratory

Utilization of digital data

- Introduction of digital tools for R&D
- Data analysis support (resident dispatch, external agency collaboration)

Education to improve literacy and skills

- Provision of training and materials to improve DX literacy and skills for researchers

## Promotion of DX Support Tailored to R&D Sites — Research Strategy Group, R&D Planning Division

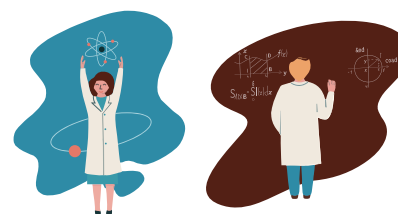
As part of the Nippon Kayaku Group's activities to promote DX in research, the Research Strategy Group of the R&D Planning Division is playing a leading role in creating an environment where researchers and engineers can freely verify machine learning and cloud computing for informatics. In addition, to enable efficient and speedy research and development, we are providing comprehensive support tailored to the challenges of each business unit and specialized field.

Following the establishment of a system for the utilization of digital tools in FY2022, we focused on sharing education and knowledge in FY2023. Specifically, we introduced multiple data analysis lectures by invited lecturers and computational chemistry exercises through a graduate school program for working professionals. We are also conducting community activities so that those interested can be actively involved in fostering the group's DX culture.

In addition, as a practical initiative in the research field, a representative from the Research Strategy Group of the R&D Planning Division was dispatched to Agrochemicals Laboratories, which is responsible for research and development of agrochemicals, for one year from January 2023 to establish a system to utilize data science in daily research. This activity was shared as a case study with research departments at the KAYAKU Technology Forum

2023, an internal event for research and development and technology exchange.

Since we started promoting DX company-wide during the **KV25** period, the number of research DX issues and discussions within the group has continued to increase gradually. Currently, we are working on the support for introducing advanced informatics and considering future laboratory automation to support changes that will enable each laboratory's research and development to continue demonstrating their competitiveness.





# Human Resources and Creation of a Comfortable Workplace Environment

Member of the Board

Managing Director, In charge of Human Resources Division, Legal Affairs Division, General Affairs Division, Secretarial Division, and Internal Control Management Division

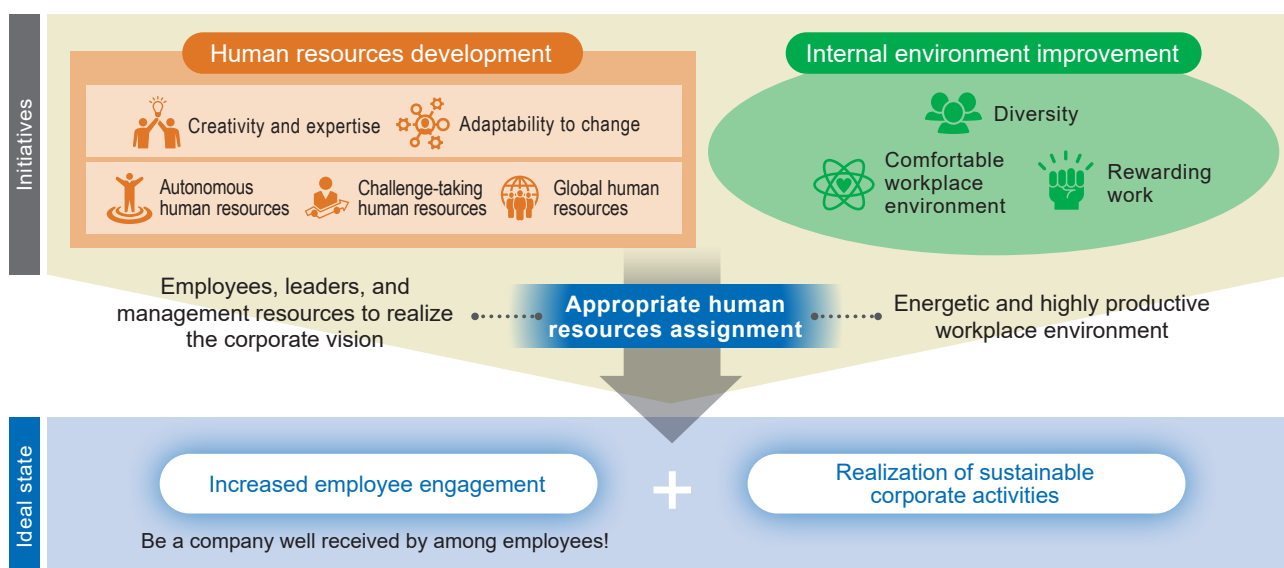
## Makoto Takeda

The Nippon Kayaku Group wants to be a corporation where all employees derive a sense of happiness from their work by practicing the **KAYAKU spirit**, its corporate vision. To achieve this, we need to link the dynamism of every employee to the growth of the company and become a good, strong, energetic company. We will strive to expand our human capital by implementing various measures to create an environment where all employees can work with dynamism.

The growth of the Nippon Kayaku Group will only be achieved through the active roles of every employee. By promoting the active roles of our human resources, we aim to transform the group into a “platinum corporation” that is comfortable and rewarding to work at.

## Human Resource Utilization Initiatives and Vision of the Nippon Kayaku Group

The Nippon Kayaku Group is committed to improving employee engagement and achieving sustainable corporate activities by appropriately assigning human resources capable of realizing the corporate vision in a highly productive workplace environment.



## Human Resource Development Policy

Under our corporate vision, the **KAYAKU spirit**, we aim to create environmental, social, and economic value by engaging in sustainable management, create a sustainable environment and society, and increase our corporate value.

We have established the human resource development policy shown at right to help realize the **KAYAKU spirit**.

To realize our human resource development policy, we have prepared various training programs such as grade/level-based group training and e-learning, and are working to enhance human resource development.

### Human Resource Development Policy



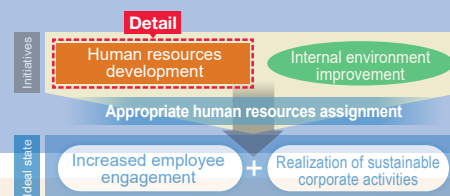
Fostering autonomous human resources who can increase their creativity and expertise, and act autonomously



Fostering human resources who can boldly attempt new challenges in response to environmental changes without fear of failure



Fostering human resources who can play active roles with a global perspective



### TOPICS 1 Human Resources Development

#### Education for creativity, expertise, and responsiveness to change

The Nippon Kayaku Group implements many training programs with the aim of developing human resources who have creativity and expertise as well as can respond flexibly to environmental changes.

For example, the Career Presentation for new graduate hires with a university degree or higher who have been with the company for five years provides an opportunity for employees to analyze their own careers and contributions to the company and give presentations to officers. Through the Q&A session, we aim to discover and address new issues and encourage independent action.

The mandatory training for technical and research staff includes Marketing Training for learning basic marketing frameworks and analysis methods and understanding their importance in research and development, as well as Research and Development Staff Development Training for learning and practicing skills to research, study, and propose next-generation research themes. Through these programs, participants can learn

how to demonstrate the collective strength of the team based on research in order to efficiently advance research and development.

In addition, the Business Leader Development Course for employees who aspire to be leaders, such as for the promotion of internal projects, and are recommended by their supervisors aims to develop transformational leaders with an entrepreneurial spirit who can take action with a vision of the near future, while learning skills that link core competencies and ideas to the creation of customer value.

We have also prepared a number of other employee training programs based on job type and grade/level with a view to developing outstanding human resources who can carry the next generation.



**[Key Sustainability Issues] Maintaining and Expanding Employment, Developing Human Resources**

<https://www.nipponkayaku.co.jp/english/sustainability/social/human-resource/>

### TOPICS 2 Human Resources Development

#### Always conscious of 3% cost reduction—A3 activities (KAIZEN)

The term “A3 activities (KAIZEN)” derives from our intention to be always conscious of 3% cost reduction. All employees are working to routinely and actively increase operational efficiency and productivity and engaging in awareness reform activities to firmly instill the values of always being conscious of eliminating difficulty, waste, and inconsistency (referred to as the 3Ms (Muri, Muda, Mura) in Japanese) to reduce cost. Multilateral activities, such as communicating information, conducting campaigns, and holding information exchange meetings, are led by the secretariat.

In November 2023, the 63rd A3 activities (KAIZEN) presentation meeting was held at a venue in Tokyo, with approximately 800 participants from domestic and overseas group companies, who participated on-site or online. A total of

21 cases of various A3 activities from various countries and business locations were shared through active questioning and information exchange, providing clues to each activity.

We will continue to foster a corporate culture that will make strong divisions and a strong companies, by working to make sure that everyone is mindful of A3 through various A3 activities and by having each employee proactively enhance his or her KAIZEN awareness.



### TOPICS 3 Human Resources Development

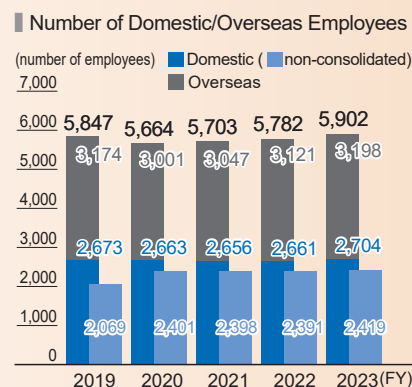
#### Strengthening of global human resources

The Nippon Kayaku Group has business locations in a total of 12 countries and regions, and overseas employees constitute the majority. To further the progress of global management in the future, it will be important to develop core human resources that can play active roles overseas.

To strengthen language skills, we are implementing training to raise the level of English conversation skills for young employees who have a strong desire to work overseas. We are also selecting candidates for the next generation of global human resources and providing scenario-based practical English training to strengthen their ability to promote business operations, such as negotiating costs overseas.

Furthermore, for expatriates and seconded staff, we are providing programs to develop skills other than language skills that are important for playing active roles locally, such as fostering a global mindset and acquiring cross-cultural management skills. In addition, we plan to support necessary human resources development measures by making sure locally hired employees of overseas group companies know and understand management policies and conducting surveys to analyze their career intentions.

In addition to strengthening global human resources by such as combining on-the-job training, location rotation, and multiple overseas assignments, we are also proactive in hiring new graduates who have a strong desire to work overseas.



# Human Resources and Creation of a Comfortable Workplace Environment

## TOPICS 4 Human Resources Development

### Development of next-generation management candidates: Nippon Kayaku Business Academy

The Nippon Kayaku Business Academy (NBA) was initiated in 2000 by Teruo Nakamura, the seventh president of Nippon Kayaku, as a program designed to develop leaders from various divisions into candidates for next-generation management executives, with a focus on mid-career human resources. With the Corporate Planning Division and Human Resources Division serving as the secretariat, trainees are selected from all divisions, including those of overseas group companies, and monthly group training is provided to them over a period of approximately one year.

The program includes lectures by titled executive directors with official posts and outside directors, providing a valuable opportunity for employees to learn about management know-how and philosophy based on experience, as well as the perspectives and leadership of objective experts. In the workshop portion of the program, participants develop business plans for new businesses and new products that leverage the company's strengths

and foundational technologies, including their profitability and growth, by backcasting from future social issues, and they aim to reflect these plans in the next Medium-term Business Plan.

In FY2024, as the 14th year of NBA, we will continue to introduce more effective business leader development methods, such as customizing the skills to be acquired to suit each individual's background and aspirations, in addition to the above content.

The program has produced a large number of management executives (most of the current executive directors and higher-ranked officers have participated in NBA), and we plan to continue the program as an effective education program for the development of human resources to be involved in management.



## Internal Environment Improvement Policy

We place an emphasis on ensuring diversity, fostering a comfortable and rewarding work culture and increasing employee engagement, so that employees can work with motivation and enthusiasm, while empathizing with the **KAYAKU spirit** and developing a relationship of mutual trust with senior management.

In terms of our personnel system, we have established a "position class (job grade) system" that enables appropriate assignment and treatment irrespective of age,

gender, career background, educational background, nationality, etc., and a system based on roles and responsibilities that allows employees to voluntarily take on challenges in promotion to managerial positions.

In human resource development, we encourage the autonomous growth of each employee by supporting employees who want to grow and learn for themselves; and support the formation of diverse careers in line with the wishes of individual employees.

## TOPICS 5 Internal Environment Improvement

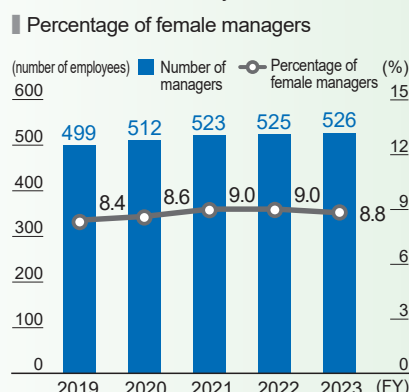
### Diversity, equity, and inclusion

The Nippon Kayaku Group embraces diverse human resources and work styles, creating a workplace in which employees work with real vitality and demonstrate their various abilities to the fullest. We respect diversity in terms of gender, age, nationality, ethnicity, religion, disability, skin color, culture, beliefs, ideologies, political opinions, and sexual orientation, and provide support from the perspective of diversity, equity, and inclusion so that employees can play an active role at various life stages, such as childcare and nursing care. We also promote the utilization of human resources with different backgrounds to incorporate diverse perspectives in our decision-making processes.

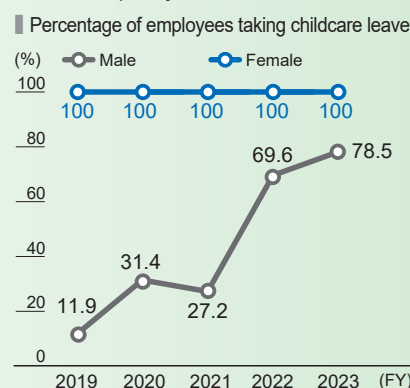
The percentage of female managers, a KPI for diversity promotion, was 8.8% in FY2023, while the target for FY2024 is 10.0% or higher. In addition, the percentage of

male employees taking childcare leave reached 78.5% in FY2023 as a result of continuous encouragement. Going forward, we will develop an environment in which women have the opportunity to take on the challenge of becoming managers, by implementing cross-industry exchanges and training to promote the active participation of women and continuously reviewing our work system.

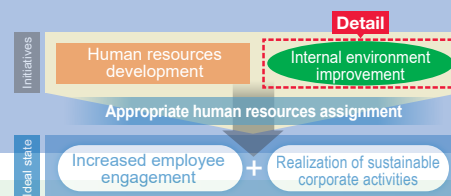
#### Promotion of Diversity



#### Gender Equality







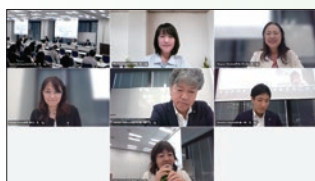
## KAYAKU-ZenKatsu Kickoff Event Promotion of Active Roles of All Employees

With the formulation of the third action plan based on the Act on Promotion of Women's Participation and Advancement in the Workplace, the Nippon Kayaku Group launched the KAYAKU-ZenKatsu\* activity to further promote the active roles of all employees as an important issue to be addressed by the entire group. In addition to increasing the percentage of female managers to 10% or higher by the end of 2026, the action plan includes selecting candidates at each business location, conducting systematic human resources development, increasing the percentage of women in the recruitment quota, and expanding the telecommuting system.

In August 2024, a kickoff event KAYAKU-ZenKatsu was held with the active participation of women and childcare leave as the main themes. It was attended by approximately 200 employees, mostly women, from various business locations in Japan. At the event, President Wakumoto was also in attendance, and the general manager of the Human Resources Division made a kickoff declaration, which was followed by an explanation of the current situation and the targets of the action plan. There was also a panel discussion with current female officers, female managers, and male employees taking childcare leave. Through the Q&A session, the panelists presented role models for female managers and conveyed the group's serious efforts to promote the active participation of women.

Starting with the kickoff event, we will further promote the active participation of women, improve the internal environment by enhancing personnel systems and other measures, and foster a comfortable and rewarding work culture.

\* The name derives from the concept of promoting the active roles of all employees in the Nippon Kayaku Group, including female employees. ("Zen" means "all" and "Katsu" means "active" in Japanese.)



KAYAKU-ZenKatsu panel discussion

## Promotion of Flexible Work Styles

In response to the spread of the COVID-19 in 2020, we implemented a telecommuting system and expanded the scope of application of the staggered work hours system, which has diversified not only work hours but also work locations and environments. The introduction of remote work has also made it possible to hold meetings and business negotiations flexibly according to their purpose. By working flexibly according to individual needs and lifestyles, rather than being restricted to conventional, standard work styles, we have increased productivity.

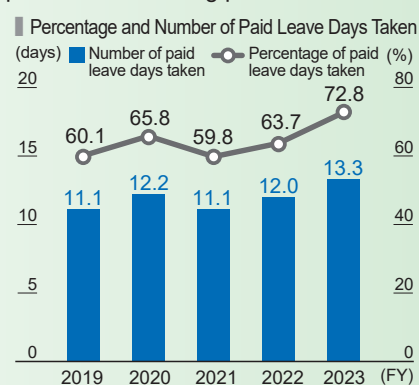
We will continue to promote flexible work styles as appropriate and provide an environment where each employee can perform to the fullest.

## Work-life Balance

The percentage of paid leave taken, a KPI for achieving good work-life balance, reached 72.8% in FY2023, compared with the target of 70% or higher. The current issue is that take-up rates for paid leave among managers are low.

To address this issue, we are working on an initiative where each individual creates a plan to take five or more days of paid leave and shares it within the workplace. We also aim to increase take-up rates among managers by making use of internal company bulletins and the intranet to call for periodical promotions of taking paid leave.

We will continue initiatives to enhance work-life balance, as we seek to improve employee productivity and motivation and attract outstanding human resources.



## TOPICS 6 Internal Environment Improvement

### Reform of position class and management promotion systems

Under the position class (PC) system, the Nippon Kayaku Group clarifies duties and responsibilities, sets goals, and evaluates them in accordance with one's abilities, instead of simply determining positions based on seniority or other attributes. In addition to the usual evaluation, in which the organization's mission is incorporated into the individual's targets, there is also a challenge-based evaluation, in which individuals set their own targets, and a process evaluation, in which the process of work execution is evaluated. In the evaluations, emphasis is placed on dialogue through 1-on-1 meetings with supervisors to ensure that the company's growth is aligned with each employee's personal fulfillment.

We then motivate them to do their jobs, aiming to increase employee engagement. We have a variety of job types within

the group, and the Human Resources Division will track and adjust the operational situation to ensure there is no discrepancy between positions and the scope of roles and responsibilities.



Employees to be promoted to managerial positions are judged based on whether they have worked on challenging themes of their own choice in a well-planned manner and produced results appropriately as managers of the group. While it is an effective way to demonstrate creativity, the time taken to screen applications is an issue. To respond to rapid environmental changes in the business field, we will continue to review the system appropriately, such as by implementing a mechanism that will enable the prompt completion of the screening process.

# Human Resources and Creation of a Comfortable Workplace Environment

## TOPICS 7 Internal Environment Improvement

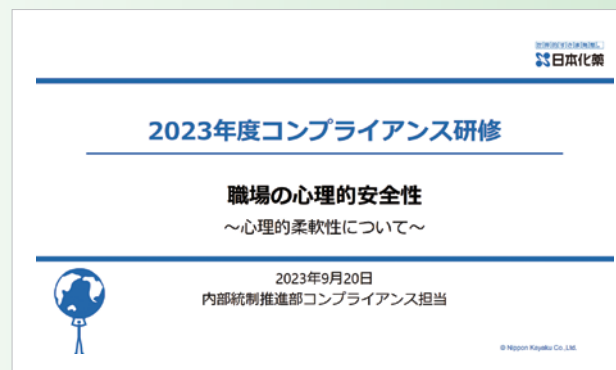
### Initiatives aimed at enhancing psychological safety

At the Nippon Kayaku Group, we believe that a healthy workplace that allows employees to speak to each other and discuss their ideas frankly will ensure psychological safety and enhance organizational productivity. A important issue shared by all directors and employees is to deepen their understanding of power harassment and other forms of harassment and continuously reduce them through ongoing compliance activities, such as group-wide compliance awareness surveys, seminars at each business location, and education through e-learning.

In the compliance education program led by the Internal Control Management Division, all employees learned about “understanding what a workplace with high psychological safety is” in FY2022 and the “individual psychological flexibility necessary to increase psychological safety in the workplace” in FY2023, and the program received a lot of positive feedback.

Ensuring psychological safety is also an important

element in our aim to increase employee engagement. We will continue to foster a workplace culture that enables employees to work with peace of mind while having good understanding of internal issues in each workplace and learning practically useful actions through seminars, training, and other opportunities.



Compliance training materials (Japanese)

## TOPICS 8 Internal Environment Improvement

### Health management

#### Health Management Competition

Since FY2018, Nippon Kayaku and a section of its group companies have been working on health improvement initiatives by holding the Companywide Health Management Competition. A total of 2,444 employees from across the Nippon Kayaku Group got involved in FY2023, making for a participation rate of 70.0%.

The Companywide Health Management Competition is held in March of each year. Employees track their daily health activities over the period of one month and convert them into points. The scores for each business location and group company are then compiled by the Environmental Safety Division, before being aggregated and analyzed by the Environmental Protection & Safety Division. Among the various matters to be logged are: morning and lunchtime exercise, daily diet, brushing of teeth, sleep, number of paces walked, leisure, and sports activities. Employees can choose to participate individually or in a team.

We will keep going with the Companywide Health Management Competition in order to help employees maintain and improve their health.

■ Number of Participants and Participation Rate in the Health Management Competition

		Unit	2019	2020	2021	2022	2023
Nippon Kayaku	Participants	Persons	1,349	1,566	1,976	2,105	2,096
	Participation rate	%	49.5	51.4	65.1	69.2	70.1
Group companies	Participants	Persons	280	263	82	317	348
	Participation rate	%	32.5	57.0	32.4	65.0	69.6
Nippon Kayaku Group overall	Participants	Persons	1,629	1,829	2,058	2,422	2,444
	Participation rate	%	45.4	52.1	62.6	68.6	70.0

#### External Evaluations

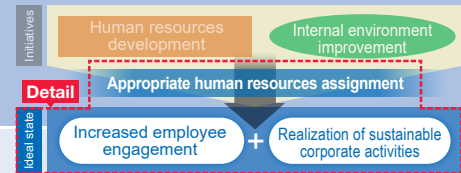
Nippon Kayaku has been evaluated by the Ministry of Economy, Trade and Industry and the Nippon Kenko Kaigi as an enterprise that thinks about employee health management from a managerial perspective and tackles the issue strategically. We have therefore been recognized as a 2024 Certified Health & Productivity Management Outstanding Organization in the Large Enterprise Category\*.

This is testament to our vast number of initiatives on maintaining and improving employee health, including preserving a 100% take-up rate of periodical health checks, the introduction of stress checks and mental health training. We also attribute the recognition to our series of policies including extracting health improvement issues to be tackled, coming up with relevant initiatives to improve health check results, introducing passive smoking measures, and setting up health-themed events for all employees.

Nippon Kayaku views employee health improvement as essential to increasing corporate prosperity and stakeholder satisfaction, and will therefore continue proactively engaging in health management activities.

\* The category for large-scale enterprises and medical corporations within the Certified Health & Productivity Management Outstanding Organizations Recognition Program created in 2016 by the Ministry of Economy, Trade and Industry





## Appropriate Human Resources Assignment

### Appropriate Human Resources Assignment (Talent Management, Internal Recruitment System, Transfer Request Sheet)

Along with human resources development and workplace environment improvement, the Nippon Kayaku Group aims to visualize human resources information to enable the timely and appropriate assignment of human resources.

The talent management system, which has been in place since September 2022, has become widely known, and most employees have registered their data. This system has enabled easy and quick access to necessary information on human resources, such as job history, work interests, qualifications, experience, skills, and knowledge, and is expanding its application to human resources-related activities as appropriate. For example, there are an increasing number of cases where the career vision described by the individual is used as a reference when deciding personnel transfers. We believe that centralized management of personnel information will enable smooth linkage with strengthening the development of global human resources and improving workplace environment.

In addition, to respond quickly to changes in the business environment, we are using the internal

recruitment system, which matches departments in need of personnel with employees who have the willingness and skills to play an active role in that department, and the transfer request sheet, which allows employees to express their desire to transfer to an appropriate position or department where they can utilize their own skills and career to further their growth, activating the mobility of human resources within the group.

We will continue to promote the appropriate assignment of human resources to ensure productive and sustainable corporate activities, as well as aim to increase employee engagement within the group.



## Employee Engagement Survey

### First Employee Engagement Survey Results

In FY2023, the Nippon Kayaku Group conducted its first engagement survey of approximately 2,000 employees of Nippon Kayaku on a non-consolidated basis. The survey questions comprehensively included both "BIRD'S VIEW" (engagement factors desired from the company) and "INSECT'S VIEW" (engagement factors desired from

supervisors and workplaces). The aggregation results showed that the deviation score for employee engagement status was **47.1**, slightly lower than the national average of **50**. We will continue conducting the survey with the aim of increasing employee engagement.



Member of the Board  
Managing Director,  
In charge of Human  
Resources Division  
**Makoto Takeda**

### Commitment to Increasing Employee Engagement Based on the Survey Results

From a group-wide perspective, items related to a comfortable workplace environment and items related to support from supervisors and a sense of unity in the workplace were cited as strengths, indicating that relationships within the workplace are relatively good, and many organizations are comfortable places to work. On the other hand, the survey also revealed that items related to the group-wide openness and the future of the business were cited as weaknesses, indicating that there is a sense that the organizations have not yet become strong enough to compete in the product market.

We take these survey results seriously, and by, firstly, getting management to show their commitment to enacting change, we will work together to improve the organization and become a **company well received** by employees.



# Respect for Human Rights

Human rights are essential to the pursuit of happiness and plentiful lives for everyone, hence protecting fundamental human rights must be absolutely prioritized.

As we develop our business activities on a global scale, we view respect for human rights, in line with international human rights norms, as the foundation of sustainable management. We have therefore explicitly stated this respect for human rights in the Nippon Kayaku Group Charter of Conduct and Code of Conduct, as well as in the Nippon Kayaku Group Human Rights Policy, and promoted relevant initiatives.

## Nippon Kayaku Group Charter of Conduct and Code of Conduct

The Nippon Kayaku Group Charter of Conduct and Code of Conduct\*1 was established in reference to international standards\*2 as a guide to realize the **KAYAKU spirit** corporate vision. In those, "Respect for Human Rights" has been clearly stated and translated into the six languages in which the Nippon Kayaku Group has bases, and all executives and employees of the Nippon Kayaku Group are informed that it is applicable to them.

\*1 Nippon Kayaku Group Charter of Conduct / Code of Conduct  
<https://www.nipponkayaku.co.jp/english/company/vision/conduct.html>

\*2 ISO 26000 (Guidance on social responsibility)  
 OECD: Guidelines for Multinational Enterprises  
 ILO: Declaration on Fundamental Principles and Rights at Work



## Participating in the United Nations Global Compact

The Nippon Kayaku Group signed the United Nations Global Compact (UNGC), which is sponsored by the United Nations, and was registered as a participating company in September 2021. We will observe the Ten Principles in the four areas of

Human Rights, Environment, Labour, and Anti-Corruption and aim to achieve targets set under the Sustainable Development Goals through business activities.



## Revision of the Nippon Kayaku Group Human Rights Policy

February 2024 saw us rethink our Human Rights Policy initially fixed in 2022, and enact revisions following Board approval, including additional items on appropriate working hours and fair and impartial remuneration. With human rights being internationally spotlighted as a major social issue, the importance of respecting them continues to rise. In response to such changing human rights environments

around all our corporate activities, we have altered our Policy so it reflects the need to further strengthen our human rights initiatives.

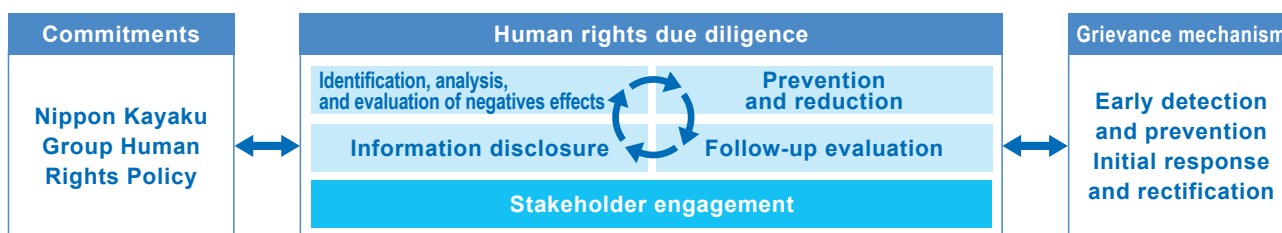


**Nippon Kayaku Group Human Rights Policy**  
<https://www.nipponkayaku.co.jp/sustainability/pdf/social/human-rights/human-rights-policy-en.pdf>

## Human Rights Due Diligence

In line with its Human Rights Policy, the Nippon Kayaku Group perceives respect for human rights as a Key Sustainability Issue and has set up a related Action Plan. By administering and disclosing the status of progress on an annual basis, we are taking a group-wide approach towards constructing and promoting a due diligence process. Starting in FY2021, we have conducted human rights assessment surveys of our primary and secondary suppliers. In FY2022, we held two workshops for all executives and managers of relevant departments aimed

at developing understanding of "Business and Human Rights." And FY2023 saw us conduct an internal survey which enabled us to grasp both the evident and latent human rights-related risks as perceived by employees, and thereby identify the priority themes for stemming related negative effects. We thus plan to strengthen our measures through reflecting stakeholder opinions while periodically reviewing our human rights risk assessments and the risks requiring priority measures.



## Extraction of the Human Rights Risks

Based on the “Survey Research on Business and Human Rights” by the Human Rights Bureau of the Ministry of Justice we conducted an internal survey of our Complaints Board, which includes both company and union members. The survey saw us quiz Nippon Kayaku Group employees on both the evident and latent human rights-related risks as perceived by employees, then assign levels relating to “likelihood of occurrence” and “degree of seriousness”—the higher the levels assigned, the higher the levels of risk.

Our survey results were then used by our Corporate Planning Division’s Sustainability Promotion Department, who serves as our Human Rights Due Diligence Office, to compile a Human Rights Risk Map, and confirm likelihood of occurrence, degrees of seriousness, and low-to-moderate risks. Among all those, the human rights risks requiring priority measures were identified by the Sustainable Management Meeting as: **(1) Power harassment, (2) Excessive overtime and long working hours, and (3) Right to privacy.**

## Enactment of Measures to Prevent, Reduce, and Correct Risks Requiring Priority Measures

For the risks requiring priority measures identified by Nippon Kayaku Group employees through the impact assessments of human rights-related risks, we have implemented the preventive, reduction, and corrective measures listed on the right to forestall any negative effects on human rights.

Human Rights Risks Requiring Priority Measures Identified by Nippon Kayaku Group Employees	Preventive, Reduction, and Corrective Measures to Forestall Negative Effects
Power harassment	<ul style="list-style-type: none"> <li>• Instillation of the Nippon Kayaku Group Charter of Conduct and Code of Conduct and Nippon Kayaku Group Human Rights Policy</li> <li>• Compliance consciousness survey</li> <li>• Education and training</li> </ul>
Excessive overtime and long working hours	<ul style="list-style-type: none"> <li>• Optimization of working hours and reduction of long working hours</li> </ul>
Right to privacy	<ul style="list-style-type: none"> <li>• Information security initiatives</li> <li>• Instillation of the Nippon Kayaku Group Privacy Policy and Personal Information Protection Policy</li> <li>• Education and training</li> </ul>

### TOPIC Education and training in FY2023

The Nippon Kayaku Group offers yearly human rights issue training to all executives, employees (including contracted and part-time employees) and temp staff, in order to achieve shared awareness of the importance of respecting the human rights of all corporate activity stakeholders. The contents of such sessions are based on human rights policies, harassment prevention, revisions to the law, and compliance consciousness survey results.

Our training program for FY2023 marked the establishment of our Nippon Kayaku Group Human Rights Policy, and consisted of e-learning modules on the

context to the Policy, explanations of Policy specifics, and human rights due diligence. Furthermore, to coincide with the launch of our **KAYAKU Vision 2025** Medium-term Business Plan did we compile a brochure which included explanations of our Group Human Rights Policy, and translate it into the languages of the six countries in which we have production bases (Japanese, English, China, Spanish, Malay and Czech). We are currently distributing the brochure to all group executives and employees as part of efforts to raise policy awareness.

## Establishment of Reporting and Consultation Service

So as to uncover legal and human rights violations at early stages, take preventative measures, and increase management transparency and fairness, the Nippon Kayaku Group has established both a Compliance Hotline and a Compliance Hotline for Suppliers.


Both forms of consultation service guarantee confidentiality and anonymity, meaning that no report or consultation will result in blowback against the whistleblower.

# Supply Chain Management

Our efforts towards realizing a sustainable society have seen us establish guidelines for each of the Nippon Kayaku Group Charter of Conduct and Code of Conduct, the Basic Procurement Principles, the Basic Procurement Policies, and the Responsible Mineral Procurement Policy, and compile them into a Sustainable Procurement Guidebook, promoting sustainable procurement with all suppliers across the entire supply chain, spanning research and development, raw material procurement, manufacturing, sales, and distribution. FY2024 has seen us provide every

new supplier (raw materials manufacturer) with a copy of our Sustainable Procurement Guidebook, and collect sustainable procurement surveys filled out by each supplier to check the status of their initiatives.

## Sustainable Procurement Guidelines

 Nippon Kayaku Group Charter of Conduct and Code of Conduct

 Basic Procurement Principles

 Basic Procurement Policies

 Responsible Mineral Procurement

## Initiatives

Major Activities	Activity Details	Assessment Frequency
Sustainable Procurement Survey	Sending Sustainable Procurement Surveys to domestic suppliers (specifically, suppliers in the top 90% of our raw materials purchases and new suppliers) to confirm the status of their initiatives for the Nippon Kayaku Group Sustainable Procurement Guidebook.	<ul style="list-style-type: none"> <li>As appropriate, for existing suppliers inside Japan</li> <li>Whenever a new domestic supplier registers</li> </ul>
Supplier Audit	Conducting paper or field audits of supplier manufacturing bases (quality-centered supplier audits)	Yearly
BCP Procurement	<ul style="list-style-type: none"> <li>Working towards gathering information on supply chain hazards and accidents, and sharing such information on internal company databases</li> <li>Strengthening moves towards multiple procurement</li> </ul>	<ul style="list-style-type: none"> <li>As appropriate, whenever hazards or accidents occur</li> <li>Quarterly status confirmations</li> </ul>
Responsible Mineral Procurement	Conducting surveys on applicable minerals (gold, tantalum, tungsten, tin, cobalt, natural mica) using CMRT and EMRT provided by RMI	Whenever a new supplier registers, or as needed and appropriate
Financial Evaluation	Assessing new suppliers' finances based on information provided by external credit agencies	Whenever a new supplier registers

## Sustainable Procurement Surveys

Nippon Kayaku has conducted sustainable procurement surveys for all new and existing suppliers. FY2023 saw us survey the suppliers who made up the top 90% of our raw materials purchases in FY2021, as well as new suppliers who registered in FY2022 and FY2023, a total of 371 companies. As a result, we gained the consenting agreement of 338 companies (91%) over the two years spanning FY2022 and FY2023. The survey also enabled us to confirm that 353 company respondents (95%) were not causing negative environmental or social impacts with respect to human rights and worker safety and health. The future will see us continue our joint efforts with suppliers to aim for a sustainable society across the entire supply chain.

### Sustainable Procurement Surveys

**FY2023 survey participants:**  
Total of **371** companies

Results over the two years spanning FY2022 to FY2023

 Response rate: **95%**  
Agreement rate: **91%**

**Confirmation of no negative environmental or social impacts**

## Supplier Audit

The Nippon Kayaku Group conducts annual audits of suppliers with the aim of promoting and properly achieving sustainable procurement. These audits see the managers of Nippon Kayaku plants check and assess their suppliers against various management criteria with respect to plant facilities, processes, health and safety,

production and more. We conducted 101 supplier audits in FY2023 (and, as of June 2024, are still awaiting document responses from four of them). In some cases, as a result of confirmations and findings in audits, we provided feedback to the suppliers in question and requested them to make improvements, but no serious violations were found.



Our Fine Chemicals Business Unit is referring to the RBA Code of Conduct when confirming the status of supplier initiatives in the five key areas: Labor (Human Rights), Safety & Health, Environment, Ethics and

Management Systems. FY2023 saw 71 supplier companies undergo such audits (on-site for 16 companies, online for 1 company, and via document submission for 54 companies – with 4 companies yet to respond as of June 30 2024).

## Initiatives in Each Business Unit

### Mobility & Imaging Business Unit Purchasing Briefing Sessions

The Safety Systems Group holds a yearly Purchasing Briefing Session for its suppliers.

Within the automotive industry supply chain, the Nippon Kayaku Group must, in tandem with its suppliers, rapidly respond to an external environment filled with dizzying changes in domestic and international affairs, raw material market prices, and exchange rate fluctuations, all while ensuring that customers suffer no delays and that high-quality low-cost products continue to be supplied. Our Purchasing Briefing Sessions see us cover the group's expected results, the business plan for the next financial year, production system status, development plans, medium-to-long-term visions,

product quality policies and purchasing policies, with the aim of providing information which suppliers can feed into their own business plans. These sessions also allow us to hand out Outstanding Partner Company Awards to suppliers who are model examples in quality, cost and respecting of deadlines.

We will work to ensure that future briefing sessions continue to serve as valuable information-sharing outlets for the group and its suppliers and that beneficial information continues to be presented.



### Fine Chemicals Business Unit Response to an RBA Audit

The Responsible Business Alliance (RBA) is a corporate alliance which promotes social responsibility within the global supply chain. The RBA Code of Conduct lays down the necessary standards for certifying that companies are providing safe supply chain working conditions, treating workers with dignity and respect, and showing consideration for the environment in their business activities.

January 2022 saw our Fukuyama Plant undergo a third-party RBA audit (Validated Assessment Program

(VAP) audit). The plant was recognized for its appropriate management in the five survey areas of Labor, Safety & Health, Environment, Ethics and Management Systems, and duly gained a Silver Certification. The audit findings have been earnestly addressed in line with the Corrective Action Plans (CAP), all of which were approved in January 2023.

Going forward, we will ensure that RBA audit standards are maintained by performing yearly internal audits, the most recent of which in October 2023 confirmed these standards are indeed being met.

## Participation in Initiatives

### UN Global Compact: Supply Chain Subcommittee

Since 2022, the Nippon Kayaku Group has sat on the Supply Chain Subcommittee of the UN Global Compact. The knowledge and information gained from such meetings has been shared with our internal purchasing managers and used to update the survey questions we ask of suppliers.

### Partnership-building Declaration

Nippon Kayaku has signed up to the Paving Our Future Partnership-Building Promotion Meeting, which counts among its members: the Chair of the Japan Federation of Economic Organizations, the Head of the Japan Chamber of Commerce and Industry, the Chair of the Pension Fund Association, and related ministers from the Cabinet Office, the Ministry of Economy, Trade and Industry, the Ministry of Labor, the

Ministry of Agriculture, Forestry and Fisheries, and the Ministry of Land, Infrastructure, Transport and Tourism. We released our own Partnership-building Declaration in 2023.

This Declaration constitutes a vow to build fresh partnerships through links and prosperous coexistence with all suppliers and value-creating business operators within our supply chain.

Participation in this Declaration will help us build the sustainable relations which allow us to prosperously coexist with suppliers.



**[Key Sustainability Issues] Environmental and Social Considerations in the Supply Chain**

<https://www.nipponkayaku.co.jp/english/sustainability/social/supply-chain/>

# Quality Management

The Nippon Kayaku Group aims to strengthen its Quality Management System (QMS) to prevent the occurrence of abnormalities in the products and production processes and complaints by customers as much as possible and to be able to respond strictly in the event of such occurrences. To achieve this, we believe it is important not only to have necessary procedures and appropriate equipment in place but also to promote daily communication with an awareness of quality management so that each employee involved in production and quality notices casual changes and thinks about inferences and the prevention of events linked to quality risks. The

Quality Management Division of the Technology Unit, a head office organization, and the quality departments established in each business group are focusing on quality management—the former from a company-wide perspective and the latter from specialized perspectives.



## Key Areas for Promoting Company-wide Quality Management in FY2023

### 1 Promotion of visualization for quality improvement

#### — Sharing company-wide quality targets and targets for each business unit

We set the number of serious complaints by customers and the number of serious/quality process abnormalities as company-wide quality targets for FY2023, and the number of complaints by customers, the number of quality abnormalities, and the amount of losses as targets for each business unit.

Owing to successful daily quality improvement initiatives throughout the entire Nippon Kayaku Group, the company-wide quality targets were achieved with zero cases in each item.

The targets for each business unit were set in accordance with each plant's form of business and customer requests, and the target achievement results were shared throughout the group. We reviewed improvement methods for unachieved items and used them to set targets for the next fiscal year.

Quality Targets (Non-consolidated)			Results		
	Items	Targets	2021	2022	2023
1	Number of serious complaints by customers	0	0	1	0
2	Number of serious/quality process abnormalities	0	2	1	0

### 2 Response to issues and requirements in view of changes in the business environment

#### — Steadily responding to the establishment of increased production facilities, etc.

We are developing facilities at the Asa Plant and Fukuyama Plant respectively to increase the production of epoxy resins and industrial inkjet ink materials in the Fine Chemicals Business Unit, which is expected to expand in the future. Production at the new facilities will require the recertification of quality by customers as part of the 4M change\* in production. The Quality Management Division and the business unit are sharing information on various changes and working to ensure that the recertification can be completed smoothly without missing any important points.

\* A change in one or more of the four Ms in the production of a product: Man (workers involved in production), Machine (production equipment), Method (production method such as manufacturing conditions), and Material (raw materials, intermediates, etc.)



New facility AK-11 for epoxy resin production (Asa Plant)



New facility A-I-1 for industrial inkjet ink production (Fukuyama Plant)

### 3 Strengthening of quality assurance system

#### — Aiming to improve the promotion of essential quality management

Measures to combat human error, one of the causes of quality/process abnormalities, are extremely important. No matter how highly automated a process may appear, the possibility of human error cannot be eliminated as long as even a small portion of human judgment and work is involved. The Nippon Kayaku Group is working to eliminate human error by investigating products and processes prone to human error as well as specific operations and backgrounds that lead to errors at each production site from many perspectives, including the objective perspectives of other divisions, as well as the perspectives of on-site personnel, continuously improving its ability to promote quality management.

In addition, the Quality Management Division plays a central role in strengthening relationships with and the thorough management of suppliers and manufacturing contractors, enhancing the skills of internal auditors, and continuing quality education for employees, thereby improving our ability to promote essential quality management.



**TOPICS 1 Mobility & Imaging Business Unit****Quality improvement activities conducted with suppliers**

To rapidly deliver high-quality products to market, continuous quality improvement activities based on relationships of mutual trust with suppliers is essential.

**Implementation of quality education**

In the Safety Systems Group, the quality control department gets involved from the initial supplier selection stage, conducting process audits, confirming quality situations, and offering education sessions to provide advice on quality improvement.

**Approval of quality manual content / implementation of regular audits**

Nippon Kayaku Group Quality Manuals are distributed to all suppliers, who must sign a form confirming their acceptance of manual stipulations.

The Planning & Coordination Division and the

Purchasing Division conduct regular audits of suppliers according to the type and importance of materials purchased. During regular audits, we confirm the Nippon Kayaku Group's basic approach to quality assurance and quality management standards, check the quality status of suppliers, and provide advice on how to improve quality.

Regular Audits in FY2023	
Survey Participants	major 9 suppliers (on-site audits for 5 and documentary audits with check sheets for 4)
Results	<ul style="list-style-type: none"> <li>There were no cases leading to serious problems.</li> <li>Where points of issue arose, the suppliers in question were made to submit a Process and Product Audit Improvement Plan with Relevant Measures Form, and we confirmed whether those remedial measures were enacted.</li> </ul>

**TOPICS 2 Fine Chemicals Business Unit****Initiatives to prevent quality fraud and data falsification**

Our Fine Chemicals Business Unit has set up an independent Quality Assurance Division to carry out quality management and quality assurance work on each product produced by the three domestic plants (Fukuyama, Asa and Tokyo) which support the three business groups of Functional Materials, Color Materials and Catalysts. The Quality Assurance Division also links up with the quality coordinating body for all business units, the Quality Management Division, to work on strengthening divisional quality assurance systems.

As an initiative to tackle quality fraud and data falsification, we have deployed resident bodies of Quality Assurance Division to each plant to help deliver reinforced governance on the ground and link up with each plant's quality management department to promote quality patrols and the fostering of

quality cultures. At our Fukuyama and Asa plants, we have introduced the LIMS (the Laboratory Information Management System which helps prevent quality falsification through automatic recording of inspection results etc.) to reduce human interventions in the processing of product inspection data wherever possible and aim for improving data integrity.

Moving forward, we will continue to pursue the relevant improvements

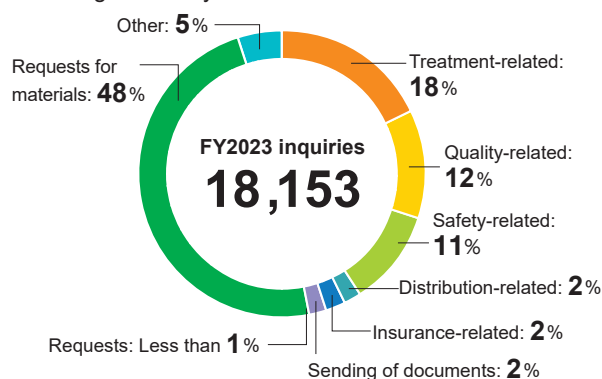
as we aim for quality assurance systems that is trusted by customers and wider society.

**TOPICS 3 Life Science Business Unit****Responses to inquiries from patients and medical professionals**

Our Medical Information Service Center has a toll free number for fielding all kinds of inquiries from patients and medical professionals on Nippon Kayaku pharmaceutical drugs and medical devices, including anti-cancer drugs, autoimmune disorder drugs, and endovascular embolization materials. The center handled 18,153 inquiries in FY2023, and with the aim of providing better products for our customers, the center's staff members endeavor to handle each inquiry with speed, accuracy, and politeness. We also strive for daily service improvements through surveying our customers on whether our Center's answers have met their expectations.

In addition to linking up with our pharmaceutical information officers visiting medical institutions to provide information that will be helpful to patients, the Center also relays the requests and opinions of customers to relevant

internal departments along with its own suggestions. Under its slogan of "All for the promotion of proper use of pharmaceuticals and improvement of customer satisfaction", the Medical Information Service Center is contributing towards yet better medical care.





## Contributing to Local Communities

With business sites positioned all over the world, the Nippon Kayaku Group plays an active role as a member of multiple local communities. As a good citizen-company wherever we are, we aim to coexist with surrounding regions by effectively utilizing our resources and valuing

communication with local people. We are also deploying our technologies and products on CSR activities such as next-generation development support and disaster recovery support, thereby contributing to healthy and sustainable local community development.

### Formulation of Action Plan for Next-generation Development Support Measures

Based on the Act on Advancement of Measures to Support Raising Next-Generation Children, the Nippon Kayaku Group is promoting various initiatives, including improving its internal work environment and formulating an

action plan for the next-generation development support measures, which includes goals for supporting the active role and development of children and young people in local communities.

#### Next-generation Development Support Measures: Action Plan 4 (Only community-related themes selected)

##### Target 4: Initiatives for local communities regarding next-generation development support measures

Details of  
specific  
initiatives

- 1 Welcoming local children for tours of company facilities
- 2 Setting up a young person's internship program
- 3 Exploring the possibility of Children's Observation Days

FY2023  
progress  
report

- 1 Each year sees us invite local citizens to interactive events at certain business sites.
- 2 We have also set up, at certain business sites, internship programs aimed at junior high school students.
- 3 Certain business sites have already set up such open days.

### Creation of a Society Where People Can Lead Healthy and Affluent Lives

#### TOPICS 1 Asunaro House: Facility for terminally-ill children and their families

Under the motto of "Helping terminally-ill children and their families," 1998 saw Nippon Kayaku mark the 80th anniversary of its foundation with the opening of Asunaro House, an accommodation facility for children undergoing hospital treatment and the family members who accompany them. The facility, which we operate ourselves, is in Saitama City, Saitama Prefecture. Asunaro House aims to be a reassuring place to stay for children undergoing either outpatient or inpatient treatment for cancer and other incurable diseases, and their accompanying family members. It welcomed 203 families and a total of 2,522 people in 2023 alone.

Nippon Kayaku and affiliated companies periodically send volunteers from among employees and retired employees to clean the premises and cut the grass. While

protecting the privacy of families who use Asunaro House, we are working to make the facility a place where families can interact, and which helps alleviate some of the mental and financial burdens of sick children and their families.

**2,522**  
Total annual\* users  
203 families annually

\* January–December 2023



Employee volunteers at Asunaro House

### Next-Generation Development Support

#### TOPICS 2 Head Office Support for lessons at kudan secondary school

As it used to be headquartered in Tokyo's Kudanshita district, Nippon Kayaku has been helping Kudan Secondary School with its general studies program on "Understanding Local Area." We are currently continuing this support as part of our local community contributions.

A class on advertising was given by members of our public relations department, who produce advertisements, and the students shared ideas and deepened discussions in their groups on "how" to effectively communicate "what" and "to whom" in advertising. They gave an interim report one month later and a final report using a PowerPoint presentation one month after that. We will continue this initiative to assist students in their learning in the future.



"Understanding Local Area" education in FY2023

## TOPICS 3 Research Lab

**Exhibition at the “Summer Holiday Science Experiments for Kids 2023” staged by the Yume Kagaku 21 Committee (chemistry makes our dreams come true)**

During two days in August 2023, Nippon Kayaku exhibited at the Yume Kagaku 21\* Committee-sponsored science experiment event for elementary school kids: “Summer Holiday Science Experiments for Kids 2023.” This event was held at the Science Museum at Takeshiba, Tokyo, and over 200 children took part in our exhibition program.

We conducted a handicraft activity using the photocurable resin known as acrylic resin, and the completion of our totally one-off key ring was marked by cheers of delight from the children present.

\* A campaign jointly set-up by The Chemical Society of Japan, The Society of Chemical Engineers, Japan, and the Japan Association for Chemical Innovation, aimed at promoting understanding of scientific enlightenment and the science industry's contribution to society



## TOPICS 4 Asa Plant

**Activities for the local community: a university open day**

September 2023 saw Sanyo-Onoda City University hold an Open Day event. For the purpose of introducing our local business and getting children more interested in chemistry, we elected to set up a chemical experiment booth.

We wanted the children to enjoy chemistry visually, so we chose this experiment that consisted of placing the anthocyanin found in red cabbages into various solutions to see how its color changed. We received an enthusiastic response from the children present.

**Initiatives in the Local Community**

## TOPICS 5 Takasaki Plant

**Digging for sweet potatoes**

October 2023 saw us dig for sweet potatoes just outside our company dorm on a fine autumn day with children from Iwahana Nursery and Konan Kindergarten.

The preschoolers dug into the earth with their own bare hands and, when uncovering potatoes the size of their own faces, smilingly exclaimed: “I got a big one!” The smile-filled activity was also a source of pleasure for our staff members present. Once digging had finished, we loaded many harvested potatoes to the nursery and kindergarten with the help of Gunnan Sangyo.



## TOPICS 6 Kayaku Safety Systems Europe (KSE)

**Charity activities**

Every year sees KSE throw its energy into charity activities as it offers support to local nonprofit organizations, self-defense fire brigades, children's sports teams, the elderly, and underprivileged persons. 2023 saw KSE lend support to the construction of a foodbank warehouse facility in the environs of its head office. Foodbanks are institutions which gather large volumes of discarded food approaching its expiry date and redistribute them, along with sanitary items, to people in need (for example, the homeless, single mothers, and refugees, etc.)

The past nine years have also seen KSE engaged in Pink Ribbon Activities, training its focus on breast cancer prevention, gradually raising awareness of the issue. In addition to our long-term links with a non-profit organization that brings together local medical students and Vsetin-area

cancer patients, we have also forged links with the Czech Republic's biggest public health insurance provider.

KSE is involved in charity activities related to donations of blood and plasma. It was specially commended by the Mayor of Vsetin for its charitable donations and support for non-profit groups in 2023.



# Corporate Governance

## Policy and Basic Approach

The Nippon Kayaku Group recognizes that, under its Basic Policy on Corporate Governance, delivering timely and fair information disclosure to all shareholders and investors, as well as ensuring management transparency through enhanced oversight mechanisms, are critical issues. Furthermore, we have judged that management functions can be most effectively demonstrated through

decision-making via a Board of Directors council system and corporate governance via an Audit & Supervisory Board system. Currently, our Corporate Governance Report explicitly states that all principles of the Corporate Governance Code are being implemented. In the future, we will continue to tackle the expansion and reinforcement of corporate governance as a key managerial issue.



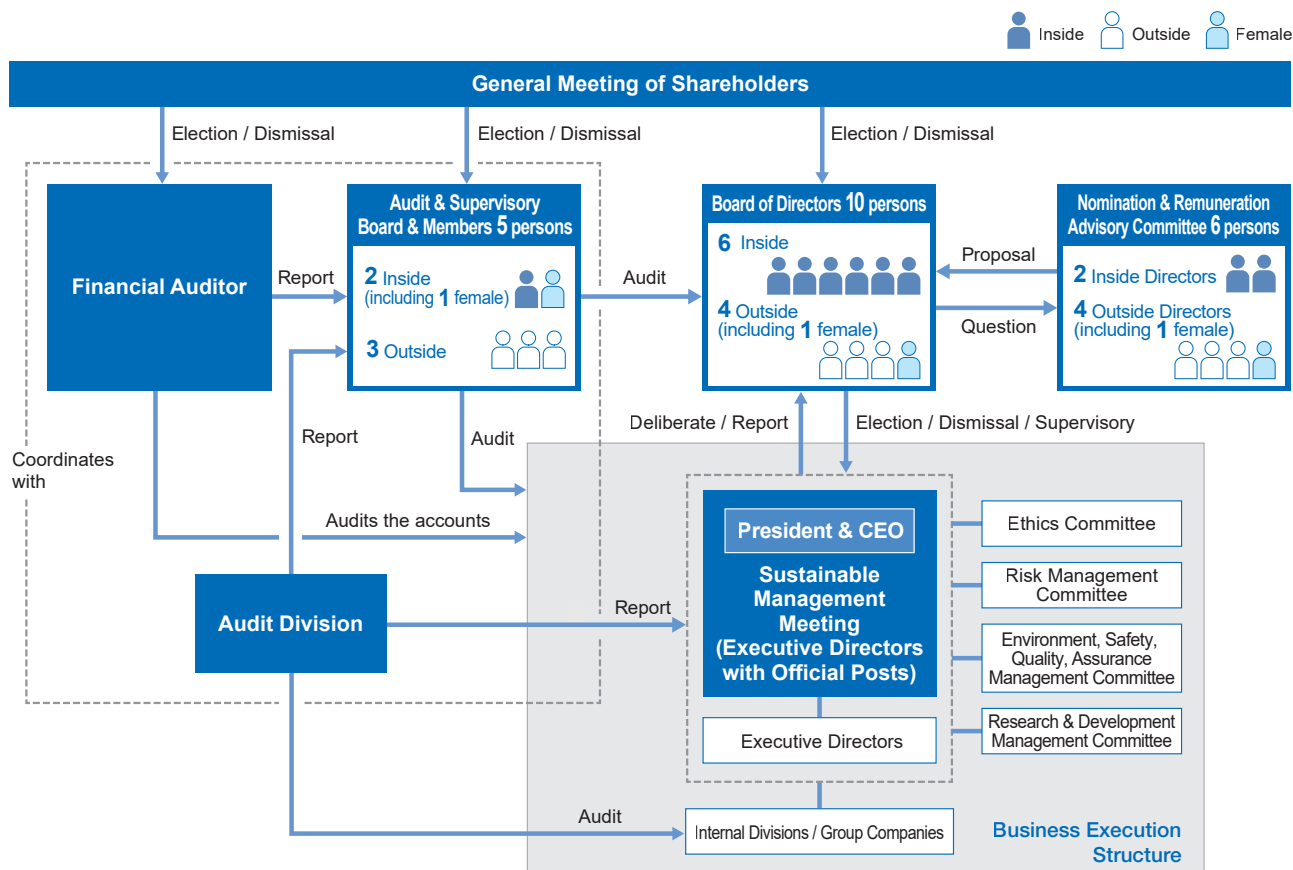
**[Key Sustainability Issues] Strengthening Corporate Governance**

<https://www.nipponkayaku.co.jp/english/sustainability/governance/corporate-governance/>

## Corporate Governance System

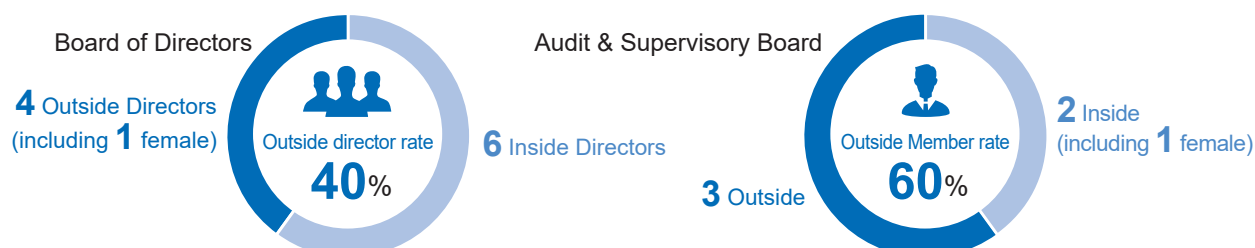
Nippon Kayaku is a company with an Audit & Supervisory Board. Furthermore, in order to rapidly respond to changes in the business environment and achieve flexible business execution, we have introduced an Executive Director System. We have clarified the separate managerial roles of “decision-making and supervisory functions” centered

on the Board of Directors and “business execution functions” centered on the Sustainable Management Meeting strengthening each of these functions to ensure appropriate decision-making and rapid execution of business.





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



### Board of Directors

FY2023  
14<sup>th</sup> meeting  
(monthly)

To ensure rapid implementation of management decision-making, we have set the maximum number of Directors at 10, and are working to further strengthen our supervisory functions so that all decisions regarding important operational issues are made based on the rules and policies of the Board of Directors, in accordance with the law and the Articles of Incorporation. In the 167th fiscal year, discussions have focused mainly on management strategies, business plans, financial strategies, financial closing-related and personnel-related matters, as well as strategies for business units and initiatives, and progress on company-wide material issues.

### Nomination & Remuneration Advisory Committee

FY2023  
6<sup>th</sup> meeting

The Nomination & Remuneration Advisory Committee is comprised of at least three(3) Directors (with the majority of these being those who are independent and from outside of the company) selected by the Board of Directors. The aim of this is to further enhance corporate governance by strengthening the fairness, transparency and objectivity of the procedures relating to the nomination and remuneration of Directors. This committee deliberates the selection and dismissal of Directors and Audit & Supervisory Board Members, the selection and dismissal of Representative Directors, the remuneration (e.g., the remuneration structure) of Directors and Audit & Supervisory Board Members, and other matters deemed necessary by the Board of Directors in response to inquiries from the Board of Directors. The committee then reports its findings to the Board of Directors.

### Sustainable Management Meeting

FY2023  
47<sup>th</sup> meeting  
(weekly)

We have established a Sustainable Management Meeting, chaired by the President, to implement sustainability initiatives throughout the group. In principle, Sustainable Management Meetings are held on a weekly basis to discuss and report on all matters relating to the sustainability of the corporate group, society, and the environment. Important agenda items are approved by the Sustainable Management Meeting before presenting and reporting at the Board of Directors meetings.

Under the umbrella of the Sustainable Management Meeting, we have established four subcommittees: the Ethics Committee, the Risk Management Committee, the Environment, Safety, Quality Management Committee, and the Research & Development Management Committee. The committees hold meetings on a regular basis and discuss and report to the Sustainable Management Meeting to ensure the transparency and fairness of management.

### Directors Meeting

FY2023  
4<sup>th</sup> meeting  
(quarterly)

The Directors Meeting is composed of Executive Officers (up to thirty (30)) who are responsible for the execution of operations, and are appointed by the Board of Directors. Chaired by the company president, the meeting serves as a platform for reporting on the status of operational execution entrusted to them by the Board of Directors and the company president, as well as on other necessary matters. In addition, four (4) Outside Directors and five (5) Audit & Supervisory Board Members attend these meetings as observers.

### Management Strategy Meeting

FY2023  
2<sup>th</sup> meeting

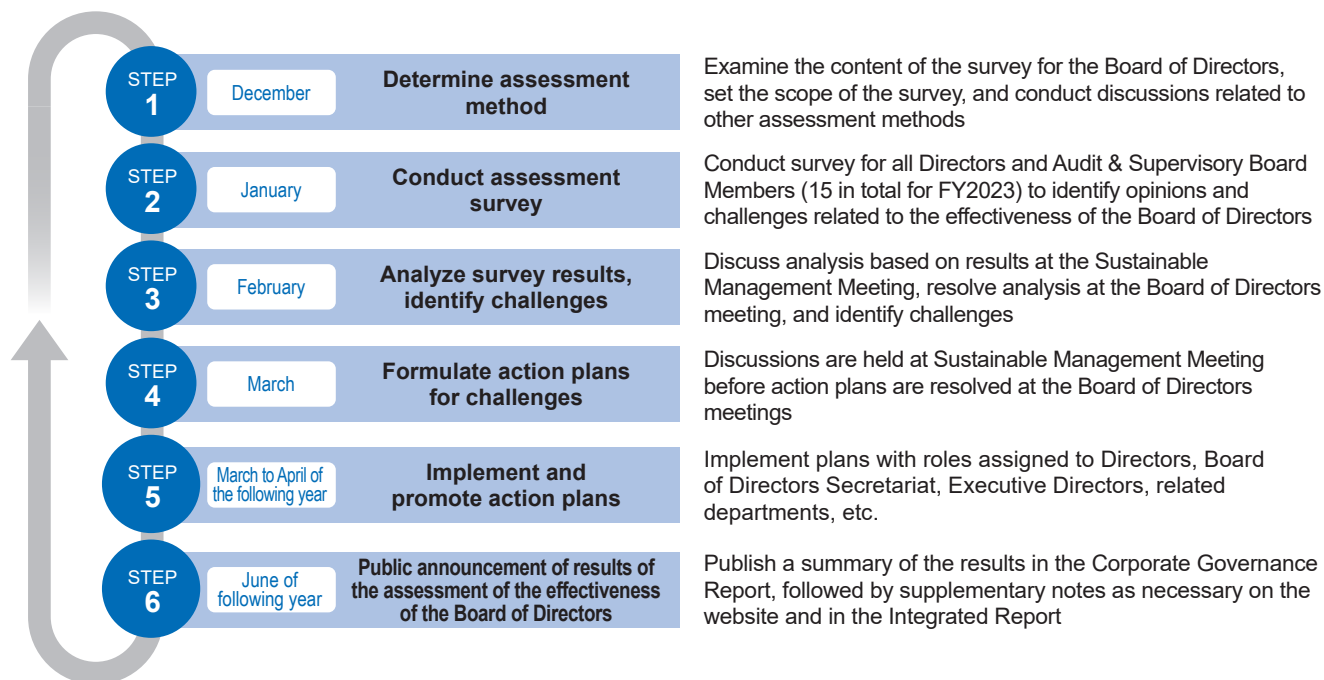
The Nippon Kayaku Group business policies and business strategies decided by the Board of Directors, as well as other important items related to general management are communicated at this meeting to management personnel to ensure that everyone in the group is well informed. The meeting is held twice a year, in May (medium-term management strategies meeting) and November (group business management meeting), where executives from Group companies gather either at a venue or online to unify the will of the entire Group through presentations and exchanges of opinions on management issues, business promotion, topics, etc. and ensure Group governance.

# Corporate Governance

## Assessment on the Effectiveness of the Board of Directors

As part of the PDCA process for improving effectiveness, each year, we conduct a questionnaire to evaluate the effectiveness of the Board of Directors, identify current conditions and issues, and formulate action plans to implement a cycle of improvement.

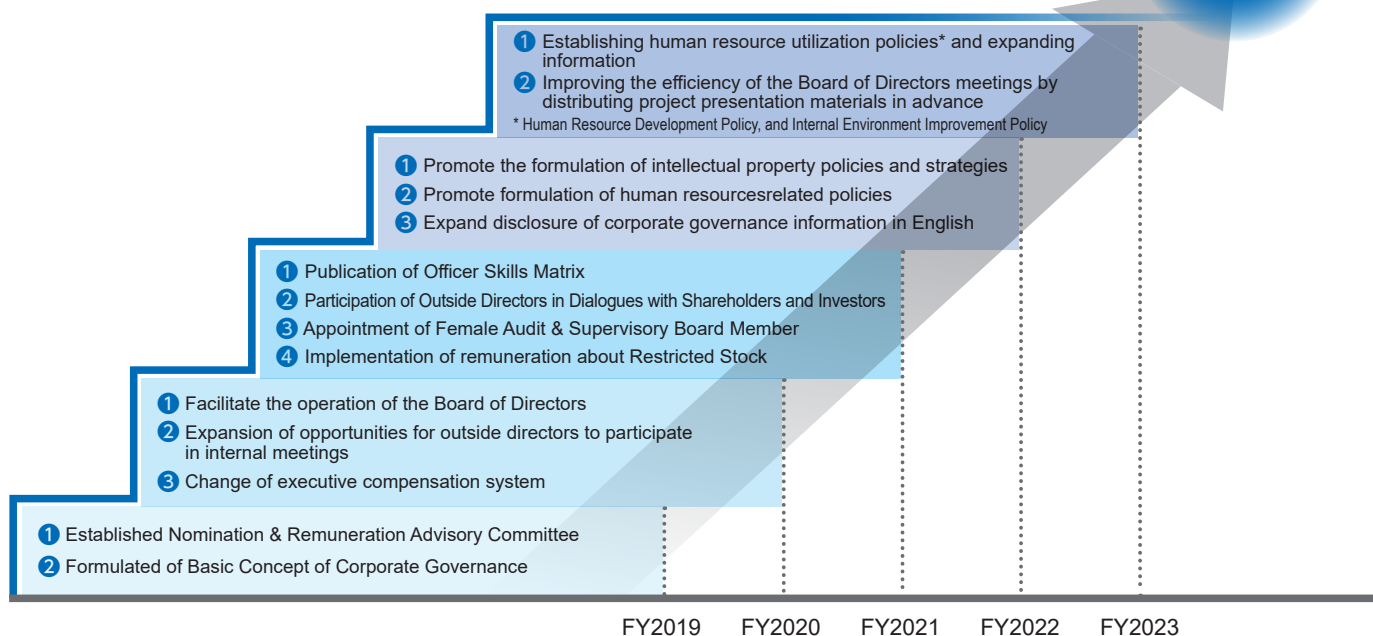
### Board Effectiveness Assessment Process Held annually from FY2017



### Matters Achieved to Date Through Assessment of the Effectiveness of the Board of Directors

Every year, using each director's self-assessment as a reference, the Nippon Kayaku Group analyzes and evaluates the effectiveness of the Board of Directors as a whole and strives to improve it. The following is a list of matters that have been achieved through our initiatives to date.

Continuous evolution of corporate governance



## Content of the FY2023 Assessment Survey of the Effectiveness of the Board of Directors

Content	Details
Scope	15 people in total, including all Directors and Audit & Supervisory Board Members
Assessment format	In the online survey, participants are asked to rate each item on a five-point scale (5: Strongly agree, 4: Agree, 3: Neutral, 2: Disagree, 1: Strongly disagree) and freely write their opinions.
Assessment items	<p><b>1 Composition of the Board of Directors</b> Diversity and skills required of Directors</p> <p><b>2 Operation and support system of the Board of Directors</b> Promotion of sufficient discussion, securing of time, essential improvement of effectiveness, etc.</p> <p><b>3 Content of discussions at the Board of Directors</b> Whether necessary and timely discussions* are being held</p> <p><b>4 Monitoring function of the Board of Directors</b> Whether monitoring, such as that of management and company-wide project promotion and of the entire Group, are functioning appropriately</p> <p><b>5 Others</b> Constructive dialogue with shareholders and the status of expected roles of Outside Directors, etc.</p> <p>* Management strategies that contribute to enhancing corporate value, company-wide risk management, development of corporate governance (succession plans, executive compensation, expected roles of Outside Directors, human resource utilization), etc.</p>

## Issues of Assessment and Future Initiatives

Assessment period	Issues	Results or action plans
FY2023 [ 2022/12 } 2023/11 ]	<p>Utilization of human capital</p> <p><b>Discussions on ensuring diversity in the recruitment of Core Personnel, Human Resource Development Policy, and Internal Environment Improvement Policy</b></p> <ul style="list-style-type: none"> <li>Work on the development of human-capital-related policies requested by the TSE and organize the various existing mechanisms for ensuring diversity and the content of public announcements regarding human resources</li> </ul>	<p>Results Development of policies, etc. and public announcement of results</p> <ul style="list-style-type: none"> <li>Establish Human Resource Development Policy and Internal Environment Improvement Policy (March 2023) and publicly announce them through the Annual Securities Report and Corporate Governance Report</li> <li>Introduce a talent management system to visualize internal human resources</li> <li>Expand human-resource-related data and information to be published on the website and in the Integrated Report</li> </ul>
	<p>More effective discussions</p> <p><b>To enhance the effectiveness of discussions on management strategies, consider responses to proposals necessary for business execution outside the Board of Directors meetings</b></p> <ul style="list-style-type: none"> <li>For the above purposes, we distribute materials and accept questions in advance up to four days before the Board of Directors meetings, but measures still need to be taken for situations where it is difficult to understand the discussion content and projects where details need to be known.</li> </ul>	<p>Results Development of support structure to improve effectiveness</p> <ul style="list-style-type: none"> <li>Utilize the cloud to share Board of Directors meeting materials in advance and add new PowerPoint materials to deepen understanding</li> <li>Provide opportunities for Outside Directors to participate in important company meetings and events so that the Board of Directors meetings can function as a forum for sharing and discussion execution issues</li> </ul>
FY2024 [ 2023/12 } 2024/11 ]	<p>Utilization of human capital</p> <p><b>Enhance discussions and monitoring of human-capital-related policies, including ensuring diversity in the recruitment of Core Personnel, Human Resource Development Policy, and Internal Environment Improvement Policy</b></p> <ul style="list-style-type: none"> <li>Deepen the Board of Directors meeting discussions on future necessary measures in line with the established policies and conduct appropriate monitoring</li> <li>Work on improving employee engagement, etc. by utilizing the system introduced and clarify human capital strategies with a sense of unity by linking them to existing human-resource-related information</li> </ul>	<p>Action plans Explore and implement human capital management</p> <ul style="list-style-type: none"> <li>Deepen discussions at the Nomination and Remuneration Advisory Committee to consider more appropriate human-capital-related public announcement content based on human-capital-related measures, etc. implemented to date</li> <li>Publicly announce and explain medium- and long-term human capital strategies, roadmaps, etc. through various media</li> </ul>
	<p>Discussions on measures to increase corporate value</p> <p><b>Enhance discussions on measures and monitoring focused on business portfolio strategy and PBR improvement</b></p> <ul style="list-style-type: none"> <li>Organize issues and measures to respond to the TSE's request for "Action to Implement Management that is Conscious of Cost of Capital and Stock Price" and announce them as the company's action plan and policy</li> </ul>	<p>Action plans Clarify corporate value enhancement story</p> <ul style="list-style-type: none"> <li>At the Board of Directors meetings, discuss a rational corporate value enhancement story, including the review of the business portfolio strategy in light of the June 2023 business unit reorganization and the elimination of the PBR below 1, and promote the public announcement of the results of those discussions</li> </ul>



# Corporate Governance

## Directors, Audit & Supervisory Board Members, and Executive Directors (As of March 31, 2024)

### Directors



Member of the Board President  
Representative Director  
**Atsuhiko Wakumoto**  
Date of Birth March 15, 1957  
Attendance at Board of Directors meetings: **14/14 (100%)**  
Number of the company's shares held: **76,555**  
Tenure as Director: **8 years**

1979 Joined the Company  
2008 General Manager of Global Business Division, Safety Systems Group  
2010 General Manager of Marketing Division, Safety Systems Group  
2012 Director  
2016 Member of the Board  
2018 Member of the Board, Head of Safety Systems Group  
2019 President, Representative Director (current)



Member of the Board  
Representative Executive Vice President  
**Yoshitsugu Ishida**  
Date of Birth September 8, 1958  
Attendance at Board of Directors meetings: **14/14 (100%)**  
Number of the company's shares held: **58,505**  
Tenure as Director: **5 years**

1981 Joined the Company  
2010 General Manager of Planning & Coordination Division, Safety Systems Group  
2016 Director  
2018 General Manager of Strategic Planning Division, Safety Systems Group  
2019 Member of the Board, Head of Safety Systems Group  
2021 Member of the Board, Head of Financial Group, Head of Information Systems Division (In charge of Safety Systems Group)  
2021 Member of the Board, Head of Financial Group  
2023 Member of the Board, In charge of Corporate Planning Division, Corporate Communications Division, Finance & Accounting Division, and Information Systems Division  
2024 Representative Executive Vice President, In charge of Corporate Planning Division, Corporate Communications Division, Finance & Accounting Division, Information Systems Division, and Purchasing Division (current)



Member of the Board  
Managing Director  
**Shigeyuki Kawamura**  
Date of Birth June 30, 1963  
Attendance at Board of Directors meetings: **11/11 (100%)**  
Number of the company's shares held: **16,037**  
Tenure as Director: **1 year**

1987 Joined the Company  
2016 Chairman & General Manager of Kayaku Safety Systems (Huzhou) Co., Ltd.  
2020 Director  
2021 Deputy Director, General Manager of Strategic Planning Division, Safety Systems Group  
2021 Senior Director  
Head of Safety Systems Group  
2022 Managing Director  
2023 Member of the Board, In charge of Mobility & Imaging Business Unit, Head of Safety Systems Group (current)



Member of the Board  
Managing Director  
**Hiroshi Shimada**  
Date of Birth June 4, 1965  
Number of the company's shares held: **16,022**  
Tenure as Director: **—**

1989 Joined the Company  
2018 President, Representative Director of NIPPONKAYAKU FOOD TECHNO CO.,LTD.  
2020 General Manager of Specialty Chemicals, International & IVD Division, Pharmaceuticals Group  
2021 Executive Director, General Manager of Planning & Coordination Division, Pharmaceuticals Group  
2023 Managing Director, In charge of Life Science Business Unit, Head of Pharmaceuticals Group  
2024 Member of the Board, In charge of Life Science Business Unit, Head of Pharmaceuticals Group (current)



Member of the Board  
Managing Director  
**Shinji Inoue**  
Date of Birth February 6, 1966  
Number of the company's shares held: **27,249**  
Tenure as Director: **—**

1988 Joined the Company  
2011 Chairman & General Manager of Shanghai KAYAKU International Trading Co., Ltd.  
2018 General Manager of Color Materials Division, Functional Chemicals Group  
2020 Executive Director  
2023 Head of Functional Materials Group, Fine Chemicals Business Unit  
2024 Member of the Board Managing Director, In charge of Fine Chemicals Business Unit (current)



Member of the Board  
Managing Director  
**Makoto Takeda**  
Date of Birth July 17, 1964  
Number of the company's shares held: **8,402**  
Tenure as Director: **—**

1988 Joined the Company  
2013 General Manager of Secretarial Division, Strategic Corporate Planning Group  
2020 General Manager of Human Resources Management Division, Administration Group  
2021 General Manager of General Affairs & Human Resources Division, Administration Group  
2022 Executive Director  
2023 Senior Director, General Manager of Human Resources Division  
2024 Member of the Board, Managing Director, In charge of Human Resources Division, Legal Affairs Division, General Affairs Division, Secretarial Division, Internal Control Management Division (current)



Outside Director  
**Yo Ota**  
Date of Birth October 3, 1967  
Attendance at Board of Directors meetings: **13/14 (92%)**  
Number of the company's shares held: **0**  
Tenure as Director: **8 years**

1993 Registered lawyer. Joined Nishimura Tokiwa Law office  
2001 Registered lawyer in New York State, USA  
2004 Outside Audit & Supervisory Board Member of the Company  
2005 Outside Director, Denki Kogyo Co., Ltd.  
2007 Partner of Nishimura & Asahi Law Office (Gaikokuho Kyodo Jigyō) (current)  
2016 Member of the Board, Outside Director (current)  
2017 Outside Audit & Supervisory Board, Ricoh Co., Ltd. (current)



Outside Director  
**Yasuyuki Fujishima**  
Date of Birth March 25, 1947  
Attendance at Board of Directors meetings: **14/14 (100%)**  
Number of the company's shares held: **7,000**  
Tenure as Director: **8 years**

1969 Joined the Ministry of International Trade and Industry (currently the Ministry of Economy, Trade and Industry)  
1997 Representative of the Economic Planning Agency to the Policy Board of Bank of Japan  
1998 Japan Ambassador Extraordinary and Plenipotentiary to Panama, Ministry of Foreign Affairs  
2002 Outside Director, Wacom Co., Ltd.  
2005 Representative Director and Senior Managing Executive Officer, Sojitz Corp.  
2008 Executive Vice President, Sojitz Corp.  
2010 President & Representative Director, Mutual Service Aid Guarantee Corporation  
2016 Member of the Board, Outside Director (current)  
2017 President & Representative Director, Ceremonial Occasions Research Institute, Inc.  
2018 Director, Human Resources Development & Employment Organization (current)



Outside Director

**Seiichi Fusamura**

Date of Birth March 18, 1947

Attendance at Board of Directors meetings: **12/14 (85%)**Number of the company's shares held: **0**Tenure as Director: **4 years**

1971 Assistant judge of Kyoto District Court

1998 General Manager of Judicial Research Department, Ministry of Justice

2001 Director-General of the Civil Affairs Bureau, Ministry of Justice

2006 Chief of Saitama District Court

2009 Chief of Sendai High Court

2011 Chief of Nagoya High Court

2012 Outside Audit &amp; Supervisory Board, Nippon Paper Industries Co., Ltd. Lawyer registration

2013 Chairman of Public Security Examination Commission

Chairman of Tokyo Metropolitan Labor Relations Commission

2016 Outside Audit &amp; Supervisory Board, The Bank of Yokohama, Ltd.

2020 Outside Audit &amp; Supervisory Board, Concordia Financial Group, Ltd. (current)

Member of the Board, Outside Director (current)



Outside Director

**Ikuko Akamatsu**

Date of Birth February 27, 1968

Attendance at Board of Directors meetings: **11/11 (100%)**Number of the company's shares held: **0**Tenure as Director: **1 year**

1995 Joined Showa Ota &amp; Co. (presently Ernst &amp; Young ShinNihon LLC) (Left in October 2010)

1997 Registered as Certified Public Accountant

2008 Registered as Certified Fraud Examiner

2010 Chief Researcher, Management Training and Consulting Division, Institute of Management, SANNO University

2019 Senior Researcher, Management Training and Consulting Division, Institute of Management, SANNO University  
Board Director, The Japanese Institute of Certified Public Accountants (current)

2020 Outside Director of CAWACHI LIMITED

Outside Audit &amp; Supervisory Board Member of Toyo Seikan Group Holdings, Ltd. (current)

2022 Outside Director of Mitsubishi UFJ Securities Holdings Co., Ltd. (current)

2023 Member of the Board, Outside Director (current)

## Audit & Supervisory Board Members



Standing Audit &amp; Supervisory Board Member

**Megumi Machida**

Date of Birth March 26, 1961

Attendance at Board of Directors meetings: **14/14 (100%)**Attendance at Audit & Supervisory Board meetings: **12/12 (100%)**Number of the company's shares held: **7,500**Tenure as Audit & Supervisory Board Member: **3 years**

1985 Joined the Company

2015 Manager of Development Management Department, Pharmaceuticals Group

2018 Manager of R&amp;D Management Department, Pharmaceuticals Group

2020 General Manager of Regional Administration Division, Administration Group  
General Manager of Tokyo Research Administration Office

2021 Audit &amp; Supervisory Board Member (current)



Full-time Audit &amp; Supervisory Board Member

**Yoichiro Wada**

Date of Birth February 18, 1962

Attendance at Board of Directors meetings: **11/11 (100%)**Attendance at Audit & Supervisory Board meetings: **10/10 (100%)**Number of the company's shares held: **17,800**Tenure as Audit & Supervisory Board Member: **1 year**

1984 Joined the Company

2017 Managing Director of Kayaku Safety Systems Malaysia Sdn.Bhd.

2019 General Manager of Purchasing Division, Administration Group

2022 General Manager of Audit Division

2023 Audit &amp; Supervisory Board Member (current)



Outside Audit &amp; Supervisory Board Member

**Ichiro Wakasa**

Date of Birth January 1, 1955

Attendance at Board of Directors meetings: **14/14 (100%)**Attendance at Audit & Supervisory Board meetings: **12/12 (100%)**Number of the company's shares held: **0**Tenure as Audit & Supervisory Board Member: **2 years**

1977 Joined Meiji Life Insurance Company (currently Meiji Yasuda Life Insurance Company)

2014 Member of the Board and Deputy President of Meiji Yasuda Life Insurance Company

2018 Outside Director of The Hyakugo Bank, Ltd.

2021 Representative Director and Chairman of Meiji Yasuda System Technology Company Limited

2022 Audit &amp; Supervisory Board Member of the Company (current)



Outside Audit &amp; Supervisory Board Member

**Atsushi Iwasaki**

Date of Birth January 9, 1959

Number of the company's shares held: **0**Tenure as Audit & Supervisory Board Member: **—**

1990 Joined Century Audit Corporation (currently Ernst &amp; Young ShinNihon LLC) (Left in August 2005)

1991 Registered as Certified Public Accountant

1997 Registered as Real Estate Appraiser

2005 Director of Iwasaki Certified Public Accountant Office (current)

2013 Outside Director, ISEKI &amp; CO., Ltd. (current)

2015 Outside Audit &amp; Supervisory Board Member of NH Foods Ltd.

2016 Outside Audit &amp; Supervisory Board Member of Olympus Corporation

2019 Outside Director of NH Foods Ltd. Outside Director of Olympus Corporation

2024 Audit &amp; Supervisory Board Member of the Company (current)



Outside Audit &amp; Supervisory Board Member

**Kyoichi Toriyama**

Date of Birth May 15, 1958

Number of the company's shares held: **0**Tenure as Audit & Supervisory Board Member: **—**

1988 Assistant Professor, School of Law, Waseda University








1993 Professor, School of Law, Waseda University

2004 Professor, Waseda Law School, Waseda University

2024 Audit &amp; Supervisory Board Member of the Company (current)







# Corporate Governance

## Officer Skills Matrix

Name	Position	Gender	Corporate Management	International Experience	Finance, Accounting, Tax	Legal Compliance
 Atsuhiko Wakumoto	Member of the Board President, Representative Director	male	○	○		
 Yoshitsugu Ishida	Member of the Board Representative Executive Vice President	male	○	○	○	
 Shigeyuki Kawamura	Member of the Board Managing Director	male	○	○		
 Hiroshi Shimada	Member of the Board Managing Director	male	○	○		
 Shinji Inoue	Member of the Board Managing Director	male	○	○		
 Makoto Takeda	Member of the Board Managing Director	male	○			
 Yo Ota	Outside Director	male		○	○	○
 Yasuyuki Fujishima	Outside Director	male	○	○		
 Seiichi Fusamura	Outside Director	male				○
 Ikuko Akamatsu	Outside Director	female	○		○	○
 Megumi Machida	Standing Audit & Supervisory Board Member	female				
 Yoichiro Wada	Full-time Audit & Supervisory Board Member	male	○	○		
 Ichiro Wakasa	Outside Audit & Supervisory Board Member	male	○			
 Atsushi Iwasaki	Outside Audit & Supervisory Board Member	male	○		○	
 Kyoichi Toriyama	Outside Audit & Supervisory Board Member	male		○		○





\* Skills possessed based on each person's expertise, knowledge, experience, and abilities are indicated with ○, and skills with more than three years of practical experience are indicated with ◎.

## Content of Skills

Universally necessary core skills — qualities that are fundamental to ensuring the effectiveness of the monitoring and decision-making functions of corporate management		Number of relevant officers (number of Board Members)
 Corporate Management	Practical experience and expertise in management necessary to promote the medium- to long-term growth of the company	11 (8)
 International Experience	Overseas business experience and management experience in a global company or business	9 (7)
 Finance, Accounting, Tax	Expertise related to finance, accounting, and taxation to enhance corporate value and practical management experience in developing such policies and strategies	4 (3)
 Legal Compliance	Expertise and practical experience in legal and compliance matters necessary for understanding and complying with laws and regulations when expanding globally and establishing a new business, as well as auditing and monitoring corporate activities to minimize legal risks in corporate activities	4 (3)
 Risk Management	Expertise necessary for corporate risk management, including identification and assessment of potential risks in corporate activities, measures to monitor and minimize those risks, etc.	2 (0)
 Business Strategy Marketing	Comprehensive business knowledge and practical experience of business planning based on the market, competitors, and the company's strengths, resource management, promotion, supply chain management, etc.	6 (6)
 Manufacturing Quality Management	Knowledge and practical experience related to comprehensive manufacturing and quality management, including establishing effective production processes, reducing costs, maximizing production capacity, formulating and improving quality standards, increasing customer satisfaction, etc.	1 (0)



Risk Management	Business Strategy Marketing	Personnel Labor Affairs Human Resources Development	Research & Development	Manufacturing Quality Management	ESG Sustainability	IT・DX (Digital Transformation)	Nomination & Remuneration Advisory Committee member
	○				○		■
	○					○	
	○						
	○						
	○						
		○					■
					○	○	■
	○					○	■
		○					■
					○		■
		○	○	○			
		○					
○		○			○		
○					○		
					○		

Specialized skills necessary for the promotion of company-wide material issues — skills necessary for M-CFT* activities that form the cornerstones of <b>KV25</b>			Number of relevant officers (number of Board Members)
 Personnel Labor Affairs Human Resources Development	Expertise and practical experience in personnel labor affairs and human resources development related to creating a workplace environment that is both comfortable and rewarding, and training and promoting human resources that are close linked to increasing corporate value		5 (2)
 Research & Development	Knowledge and practical experience related to research and development necessary for proposing themes compatible with corporate strategies through technology exploration and application, market research, external collaboration, etc., as well as for business model creation and project management		1 (0)
 ESG Sustainability	Knowledge and practical experience necessary for promoting corporate activities related to the environment, society, and governance in order to realize a sustainable society, as well as dialogue and quality communication with each stakeholder		6 (3)
 IT・DX (Digital Transformation)	Expertise in promoting DX, including the knowledge necessary for strengthening the corporate IT infrastructure, training DX human resources and organizations, and fostering a challenge-oriented culture that embraces new tools and mechanisms		3 (3)

\* M-CFT (Materiality Cross-Functional Team)

Project teams to promote company-wide material issues to focus on during the Medium-term Business Plan (**KV25**) period  p.35

# Corporate Governance

## Topics of Discussion at the Board of Directors Meetings

The themes presented, discussed, and resolved at the Board of Directors meetings held in FY2023 are listed on the right. The Board of Directors actively discussed a wide range of management-related issues from corporate and business strategies to sustainability, including the financial management of global group companies.

### Aggregation of themes presented, discussed, and resolved at the Board of Directors meetings held in FY2023

#### Financial policy

28

- Of these, 19 involved fund management, including subsidiaries, affiliated companies, and joint ventures.
- Others included financial-related matters such as the sale of idle assets, review of cross-shareholdings, fundraising, etc.

#### Corporate/business strategies

11

- Matters related to the Nippon Kayaku Group's corporate/business strategies, including business and financial plans for the current fiscal year, reorganization into the three business units implemented in June 2023, the introduction of new drugs that will contribute to the growth of the pharmaceutical business, etc.

#### Promotion of corporate governance

5

- Promotion of corporate governance for healthy and transparent management, including the introduction of an incentive-based restricted stock compensation system for executive remuneration, assessment of the effectiveness of the Board of Directors, etc.

#### Financial results and business reports

5

#### Executive personnel changes, etc.

20

- Remuneration, appointment, division of duties, etc. of Directors, Audit & Supervisory Board Members, and Executive Directors

#### Capital investments, etc.

5

- Discussions and resolutions related to capital investment such as investment in increased production in growth fields

#### Sustainability, etc.

5

- Matters related to sustainability activities aimed at the realization of a sustainable society, such as revisions to the Nippon Kayaku Group Human Rights Policy, applications for the Tax System(s) to Promote Investment Toward Carbon Neutrality, and revisions to the Declaration on the Environment, Health, Safety and Quality

#### Others

3

## TOPICS 1 Initiatives to deepen Board of Directors' understanding and discussion of business execution

In addition to discussions and resolutions based on the Board of Directors regulations, we regularly provide opportunities to explain the status of each business and company-wide material issues as an initiative to deepen the understanding of Directors, including Outside Directors, regarding the Nippon Kayaku Group's business execution. This initiative began in 2022 and was implemented as a

report item within the Board of Directors until September 2023. Since October 2023, based on the content of previous reports, the Board of Directors have been discussing the concept of the Nippon Kayaku Group's long-term portfolio, etc. and deepening discussions on issues, how to address them, and how to explain them to shareholders, investors, and other stakeholders in a way that is highly convincing.

## TOPICS 2 Assessment of the effectiveness of the Audit & Supervisory Board

At the end of each fiscal year, Nippon Kayaku's Audit & Supervisory Board prepares a "Confirmation Document of Audit & Supervisory Duties" for each Audit & Supervisory Board Member to review their activities. Furthermore, at the end of FY2023, we conducted a new survey on the effectiveness of the Audit & Supervisory Board.

Based on the assessment results, it was determined that the effectiveness of the Audit & Supervisory Board in FY2023 has been basically ensured.

While the assessment results showed that the Audit & Supervisory Board is sufficiently fulfilling its functions as required by the Corporate Governance Code, some issues were identified. We will reflect the issues identified in the

Content	Details
Implementation period	April 1 to April 15, 2024
Scope	Five Audit & Supervisory Board Members
Assessment format	In the online survey, participants are asked to rate each item on a five-point scale (5: Strongly agree, 4: Agree, 3: Neutral, 2: Disagree, 1: Strongly disagree).
Assessment items	Based on the Audit & Supervisory Board's audit standards, 39 items have been set regarding the composition, functions, and operation of the Audit & Supervisory Board, the monitoring system for the function of the Board of Directors, the establishment and operation of the internal control system, the effectiveness of the corporate group, etc.

assessment in the audit activities for the current fiscal year. For example, in terms of the effectiveness of the corporate group, we plan to continue holding the Group Company Audit & Supervisory Liaison Meeting this year, which was held in FY2023 as one of the measures to strengthen group governance.

We plan to continue the assessment of the effectiveness of the Audit & Supervisory Board. We will improve the implementation method, including the assessment items and format, as necessary, and will strive

to improve the effectiveness of the Audit & Supervisory Board by appropriately formulating plans to address the issues identified in the assessment and reevaluating the execution status of those plans to ensure they lead to improvements.



## Remuneration to Directors and Audit & Supervisory Board Members

### Matters Relating to the Determination Policy on the Content of Individual Remuneration, etc., for Directors

To ensure the appropriateness of matters discussed and transparency in the decision-making process, the Nomination & Remuneration Advisory Committee - the majority of whose members is comprised of independent Outside Directors - deliberates matters relating to the Director remuneration in response to inquiries from the Board of Directors, and reports back to the Board. Such a process enabled the Board Meeting of June 25, 2021 to finalize Nippon Kayaku's policy regarding the individual Director remuneration (hereinafter referred to as the determination policy).

With a view to achieving our **KAYAKU spirit** corporate

vision, in addition to sufficiently functioning as an incentive to sustainably improve corporate value and share that value with shareholders, Director remuneration shall also be structured at a competitive level to help us secure excellent personnel. Specifically, Director remuneration pertaining to the execution of business activities shall consist of basic remuneration and incentive remuneration (performance-linked bonuses and stock remuneration). The remuneration of Outside Directors, with their standpoints independent from business execution, shall be limited to basic remuneration.

#### Remuneration Structure for a Member of the Board Managing Director

Type of remuneration	Overview	
Base Remuneration	The amount shall be determined according to the total standard amount for each objective element, such as their duties and rights to represent. This amount shall be paid in the form of monetary remuneration on a monthly basis.	
Incentive Remuneration	Performance-linked bonus	The amount of the bonus of a Member of the Board & Managing Director is calculated based on the degree of achievement of consolidated operating incoming target and ROE set at the beginning of the fiscal year, the performance of the division in charge, and the degree of achievement of the medium- to long-term priority issue targets. This amount shall be paid as monetary remuneration at a specific time after the fiscal year ends.
	Stock remuneration	<ul style="list-style-type: none"> <li>A Member of the Board &amp; Managing Director shall be awarded transfer-restricted stock, with a fixed transfer-restriction period attached, at a certain time every year. The aim is to motivate Directors to contribute to improving medium- to long-term corporate and shareholder value under the wider aim of sharing value with shareholders.</li> <li>Monetary remuneration credits equivalent to the stock remuneration and the number of shares to be awarded shall be determined based on the Director's position and responsibilities, as well as our stock price and other factors.</li> </ul>

\* Outside Directors receive only base remuneration.

Regarding decisions on the content of individual remuneration for Directors, the Nominations & Remuneration Advisory Committee will consider a draft from various perspectives, such as consistency with the determination policy, and report back to the Board of Directors. The Board of Directors then deliberates the Committee's report and decides the content of individual Director remuneration.

Remuneration for Audit & Supervisory Board Members is fixed remuneration only, in consideration of their responsibility to audit the execution of Members of the Board, and the amount of remuneration for each Audit & Supervisory Board Member is determined through discussions among Audit & Supervisory Board Members within the annual remuneration limit.

#### Guideline for Composition of "Members of the Board & Managing Directors" Remuneration





# Corporate Governance

## Matters Relating to Resolutions at the General Meeting of Shareholders Regarding Remuneration for Directors and Audit & Supervisory Board Members

The 149th Ordinary Annual General Meeting of Shareholders on August 30, 2006 saw Nippon Kayaku determine annual upper limits of Director (Board Member) remuneration at 360 million yen for fixed remuneration and 200 million for bonuses. As of the end of that Ordinary AGM, the Board was comprised of eight members, with zero Outside Directors. The 164th Ordinary AGM of June 25th 2021, meanwhile, saw a 100-million-yen annual limit voted through on Restricted Stock Transfer Monetary

Remuneration, applying to the relevant Directors and running separately to existing Director remuneration arrangements. As of the end of that Ordinary AGM, the Board was comprised of 9 members, of which three were Outside Directors.

The 149th Ordinary AGM also set annual limits on Audit & Supervisory Board Member remuneration at 90 million yen. There were five Audit & Supervisory Board Members as of the end of that meeting.

## Matters Relating to the Delegation of Determination on the Content of Individual Remuneration, etc., for Directors

Regarding decisions on the content of individual remuneration for Directors, based on the aforementioned determination policy, the Board of Directors deliberates the Nomination & Remuneration Advisory Committee's report and decides the content of individual Director remuneration.

However, with regard to performance-linked bonuses, the Board of Directors meeting held on May 21, 2024, saw

the Board of Directors delegate the decision of the specific details of the individual remuneration amounts for Directors to Representative Director Atsuhiko Wakumoto for the current fiscal year. The reason for this delegation is that the Representative Director is best suited to assess each Director while overseeing the company's performance as a whole.

## Total Amount of Remuneration, etc., by Executive Officer Category, Total Amount of Remuneration, etc., by Type of Remuneration, and Number of Eligible Officers

Executive officer category	Total amount of remuneration, etc. (million yen)	Total amount of remuneration, etc., by type of remuneration			Number of eligible officers
		Fixed remuneration	Performance-based remuneration	Non-monetary remuneration, etc.	
Member of the Board (excluding outside members)	349	232	62	54	8
Audit & Supervisory Board Member (excluding outside members)	45	45	—	—	3
Outside member	71	71	—	—	7

Note 1 Performance-linked bonuses are paid to Directors and include a provision for director retirement benefits during that period.

2 The total amount of performance-linked bonuses calculated this fiscal year for the previous one comes to two million yen.

3 Stock remuneration is paid to Directors as non-monetary remuneration, etc. The details of the stock remuneration and the issuance status are as described in "Matters relating to the policy for determining the content of remuneration, etc. for each individual Director" on P.108.

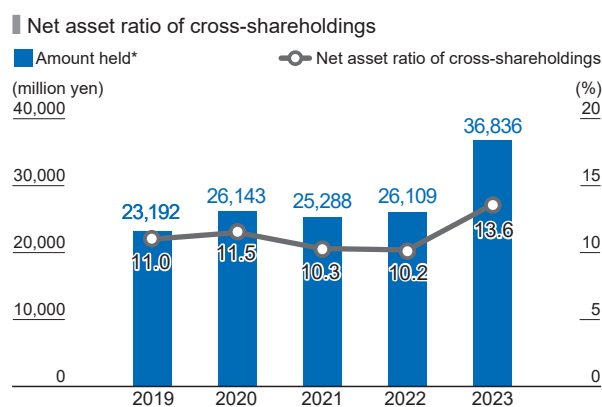
## Total Consolidated Remuneration, etc., for Each Officer

This information is not listed because there are no individuals whose total consolidated remuneration, etc. exceeds 100 million yen.

## Trends in Cross-shareholdings

The Nippon Kayaku Group engages in cross-shareholdings for the purpose of maintaining and strengthening de facto relationships with its business partners from the perspective of enhancing corporate value over the medium to long term. Every year, the Board of Directors reviews individual cross-shareholdings from the perspective of improving corporate value over the medium to long term, and sells those deemed no longer needed while taking the impact on the market into consideration.

The net asset ratio of cross-shareholdings at the end of FY2023 was 13.6%, an increase of 4.2 percentage points from the end of FY2022.



\* Total value of unlisted and non-unlisted shares

## Outside Directors Roundtable

After the end of the second year of the **KAYAKU Vision 2025 (KV25)** FY2022-2025 Medium-term Business Plan, our three Outside Directors engaged in an exchange of opinions on the matters discussed at the FY2023 Board of Directors meetings and the issues facing the Nippon Kayaku Group.



### Diversity of Board of Directors

#### Moderator:

Thank you for your time today. I would like to hear your honest thoughts and opinions on the matters discussed at the FY2023 Board of Directors meetings and the Nomination and Remuneration Advisory Committee, as well as any issues you think are facing the Nippon Kayaku Group.

#### Director Fujishima

The Nippon Kayaku Group has a history of over 100 years, and as stated in our Corporate Vision, we place great importance on “the combined forces of our consciences.” Our tradition of ensuring compliance and never making mistakes gives us a sense of security in terms of defensive governance. With regard to the “comply or explain” approach to the Corporate Governance Code, we are now able to fully comply with all practices in the Corporate Governance Report.

#### Director Ota

I feel that we have accelerated our efforts on governance reform over the past several years. At the same time, as we are expected to increase our essential corporate value such as through efforts to improve the effectiveness of the Board of Directors, we need to deepen our discussions even further.

#### Director Akamatsu

I have only been on the Board of Directors for a short

period of one year, but I sensed a traditional and—in a positive sense—well-organized atmosphere. However, if we can take a step further to break out of our shells and exchange frank opinions with each other, I think there will be room for deeper discussions.

#### Director Fujishima

That’s right. If we are traditional and therefore too cautious, we may not be able to move swiftly and meet the demands of society. First, let’s take this roundtable discussion one step further.

Looking at the composition of the Board of Directors, we welcomed our first female director, Director Akamatsu, in FY2023, and the percentage of Outside Directors has increased to 40%, improving diversity.

#### Director Akamatsu

In the Board of Directors, which is the highest decision-making body in the company, it is very important to be able to discuss various viewpoints based on experience and skills, as well as gender diversity, to improve effectiveness. Since women are still a minority on our Board of Directors, I think it is also important keep the flow of diversity moving by, for example, adding another woman to the Board of Directors next time to deepen gender diversity, followed by another person with different experience and skills. I would also like to deepen my understanding of our company and offer my thoughts from a woman’s standpoint, as well as participate in discussions to increase corporate value from management and financial accounting perspectives.

# Corporate Governance

## Director Ota

The issues that companies face in aiming for sustainable growth are becoming more sophisticated every year, and the information required by society is becoming more extensive and detailed. To appropriately address these matters, the Board of Directors needs to have a more diverse range of perspectives.

### Improvement of management indicators ROE and ROIC in the Medium-term Business Plan (KV25)

#### Moderator:

The management issues that the group shares with shareholders and investors include improving the operating income margin and realizing management with high capital efficiency. For this reason, in the current Medium-term Business Plan (KV25), we have incorporated ROE and ROIC as management indicators, in addition to net sales and operating income. We also aim to improve PBR, which is currently less than 1. Please give us your advice on how to achieve these goals.



Director Fujishima

#### Director Fujishima

Until around 2016, ROE remained above 8%, the minimum target set by the Professor Ito's Report, but it has been stagnant for some time due to factors in each of the businesses. ROIC, which

promotes management by division, is also currently below the company-wide target of 10%. However, the group's business environment is expected to recover from FY2024, mainly in semiconductors, which had deteriorated in FY2023. We would like to use this external environment as a tailwind, turning it into an opportunity to improve figures in conjunction with the promotion of our financial policy.

## Director Ota

As a measure to strengthen the company-wide awareness of improvement, ROE was linked to the calculation of performance-linked remuneration for senior management, and ROIC was linked to the calculation of employee bonuses. The establishment of a "rational story for increasing corporate value" has also been raised as a key area for improving effectiveness in FY2024, and the Board of Directors intends to deepen discussions that will lead to specific measures.

## Director Akamatsu

Due in part to the changes in the business environment, the gap between the actual results and the target has now widened. At the financial results briefing in May 2024, we explained that in addition to strengthening

earning power, we will strive to make improvements in conjunction with efforts to improve capital efficiency, including treasury share acquisitions and cancellations. Shareholders and investors will be paying close attention to the progress of these efforts going forward.

## Director Ota

To achieve capital efficiency in the short to medium term, it is important to concentrate and secure resources. Like leading companies in ROIC management, we would like to see the company clarify the situation by utilizing an ROIC tree and implement improvements tailored to its business type, such as reducing inventories, accounts receivable, and cash and equivalents.

In addition, in relation to aiming for a PBR of 1 or above, stock prices are only as good as the recognition they receive from the market evaluating them. I think it is also necessary to make efforts to enhance the market's evaluation of corporate value by effectively utilizing intangible assets, such as strengthening our intellectual property strategy and corporate branding, including easy-to-understand company explanations and advertisements.

### Business portfolio strategy

#### Moderator:

As an explanation for switching to a medium-term profitable structure, we have announced our business portfolio strategy, which is characterized by "technology integration and niche strategies" and consists of diversified product groups. In response to the statement that we will fully consider revitalizing unprofitable product groups, shareholders and investors have expressed that it is difficult to understand our selection and concentration and that they would like to see the withdrawal criteria. Please give us your advice and opinions regarding how to explain and improve this.

## Director Ota

In the past, when one segment performed poorly, other segments covered for it by building stable net sales. In our over 100 years of history, we can see from the company's track record that it has never gone

into the red. You could say that our portfolio is resilient to volatility, but at the same time, companies are not only expected to have stability but also sustainable growth. From the standpoint of shareholders and investors, we expect companies that are involved in multiple businesses to achieve even greater synergy among their segments.



Director Ota



### Director Akamatsu

The phrase which has been translated in Japanese to mean “selection and concentration” is based on a maxim of Jack Welch, the legendary CEO of General Electric (GE). Even though it is expressed as “focus” in the original text, the phrase has been widely recognized as a mistranslation. In fact, of the approximately 1,000 businesses GE was engaged in at the time, only about 70 were eliminated. Welch’s recommendation was to focus on businesses that were expected to grow rather than narrow down the number of businesses.

I believe that this portfolio itself will be valuable to our Group, and it will be important for us to be able to explain to our shareholders and investors the rationale for our focus on these three business units and our growth story.

### Director Fujishima

That’s right. However, if it is mutually acknowledged that the company is too multifaceted, organization and integration are also necessary. Finding the right balance can be difficult, but at the trading company I worked for, for example, the management team and corporate planning division always played a central role in deciding which new and old business units to focus on. In our company as well, in addition to the business divisions, I think it is necessary for the management team and Corporate Planning Division to work together daily to discuss the product groups to focus on and the decision criteria for revitalization and withdrawal.

### Business synergies and the creation of new research and development themes

#### Moderator:

The keyword “synergy” has been mentioned, and the three business units reorganized in FY2023 aim to demonstrate synergies between the business units to which they belong. In addition, the Technology Unit has been created to promote “technology integration and niche strategies” throughout the company. Please give us your expectations and opinions regarding the new structure.

### Director Ota

I am concerned that there are currently not many large-scale themes in research and development. Until a few years ago, we were working on innovative themes that are useful to society and ambitious, such as solar cells utilizing the characteristics of dyes (dye-sensitized solar cells) and drug delivery system formulations (polymer micelle formulations). Unfortunately, these themes were discontinued for various reasons, but I remember that all the researchers involved in the promotion of these themes at the time were working on them with passion and high hopes. If our strength lies in “technology integration and niche strategies,” I think it may be necessary to settle down and work on research and development themes in challenge-oriented business units we have not explored

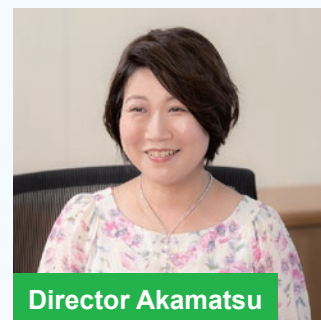
before. I would like to see the synergies between business units be demonstrated in the creation of new themes, and I believe that the resulting product groups created will lead to the strengthening of our business portfolio and the activation of the company as whole.

### Director Fujishima

We need to consciously continue to create products that deliver added value to demonstrate the strengths of our group. In the current Medium-term Business Plan (KV25), we are targeting four fields for research and development: “Mobility,” “Environment and Energy,” “Electronics,” and “Life Science,” which are related to our existing businesses. In addition to the development of PARASAFE, drone safety devices in the “Mobility” field, specific development themes have emerged in the “Environment and Energy” field, including an anion exchange membrane used in water electrolysis and catalysts for synthesizing propylene derivatives from bio-based materials. These activities of the Technology Unit, which promotes company-wide research and development, are very important, and I have high expectations for them.

### Director Akamatsu

We have been working on a variety of collaborations with external parties during the KV25 period. Meanwhile, I think we can also expand the culture of working on challenge-oriented themes from within the company.



Director Akamatsu

When I visited the Himeji Plant where PARASAFE, which is promoted company-wide, is manufactured, the person in charge were very enthusiastic in explaining the project to me. I was impressed by the way they spoke so excitedly, and I could strongly sense that they were working on something with great ambitions in mind. I felt that by closely exchanging information within the company with such passionate people at the center, the enthusiasm for new businesses and new products will spread. I would like us to steadily create ambitious themes to follow PARASAFE.

### Diversity in relation to the utilization of human resources

#### Moderator:

Now, I would like to move on to the topic of sustainability. In particular, our group is currently focusing on the promotion of human capital management. There are a variety of initiatives in place, including activities from the past, which may give off a vague impression. I would like to hear the opinions from Director Akamatsu, who has a wealth of knowledge about diversity, including the active participation of women.

## Corporate Governance

### Director Akamatsu

When promoting the active participation of women as a company, it is first necessary to make efforts to increase the number of new employees, including new graduates and mid-career hires. It is also important to develop policies and systems for training them. Women are inevitably greatly affected by life events, so if we can provide thorough support, I believe this will eventually lead to an increase in the proportion of female executives and managers.

#### Moderator:

What is your impression of our company's female employees?

### Director Akamatsu

When I was invited as a lecturer for the Nippon Kayaku Business Academy training program for next-generation management candidates, I had the opportunity to meet some of our female employees. They were more proactive than I had expected, and we had lively and positive discussions. I had the impression that they were the next generation of businesswomen with great potential. It is important to value and support these individuals.

#### Moderator:

Can you provide an example of this support?

### Director Akamatsu

When women are in the minority, it is difficult for them to see what paths and opportunities are available and find them on their own. Therefore, if the company can present a variety of role models to women from an early stage, they can continue working with peace of mind.

In addition, as career goals and working styles are becoming increasingly diverse, it is important to respond flexibly to the work preferences not only of women, but of each individual employee. Since establishing our human resources development and work style environment policies in FY2023, we have initiated many new human resources measures, including promoting the active participation of women in our company. I look forward to further developments in the future.

#### Moderator:

Director Fujishima, as the Director of the Human Resources Development & Employment Organization,

what are your thoughts on the diversity of our company?

### Director Fujishima

It is said that accepting highly educated foreign human resources and promoting diversity in race and nationality can drastically change a company's structure and lead to the development of an open-minded and challenge-oriented culture. It is also believed to be useful in understanding local business practices and market development in our company's global expansion. However, diversity is not fulfilled with the hiring of one person. As with the promotion of the active participation of women, diversity can be said to have taken root only when there is continuous employment and follow-up and role models for core human resources, including management, can be provided. Our company is also strengthening measures to utilize overseas talent, but perhaps we should accelerate them further.

### Director Ota

As both of you have said, diversity in gender, race, and nationality is very important for generating diverse and active opinions within the company. For a company to survive in future society, it is necessary to further promote the active participation of women, and we can expect global human resources to play a major role in the expansion of the safety systems business in the Chinese and ASEAN markets.

I have heard that in China and Korea, hiring new graduates is difficult and there are people who want to work for Japanese companies, so if the company is willing, there are employment opportunities available. However, it is important to note that essential diversity cannot be achieved unless the company has a culture that fully accepts it. Although our company places great emphasis on tradition, I hope that everyone will consciously cultivate a mindset of acceptance.

#### Moderator:

Thank you for your advice regarding human resource utilization.

We learned a lot from the many informative opinions on management and information disclosure throughout the discussion.

Thank you all very much for joining us today.



## Message from the Outside Director

I am writing this message as I was unable to participate in the roundtable this year.

Since I became a Director of the Nippon Kayaku Group in 2020, I have had the privilege of participating in discussions at Board of Directors meetings and the Nomination and Remuneration Advisory Committee for the past four years. Thanks to the efforts of the secretariat, it seems the reports on each agenda item are always well prepared and the materials well documented. The members express their opinions freely, and there is a good atmosphere.

The utilization of human capital, which has been continuously discussed by the Nomination and Remuneration Advisory Committee since FY2023, is an extremely important issue, with particular focus on the training of managers who will support our company in the future. Currently, there is a demand for leaders who can firmly understand the company's targets and maximize the potential of their members and teams while ensuring psychological safety that enables individuals to work with a peace of mind. However, nowadays, there is a general tendency for people to not necessarily aspire to become leaders who take on such heavy responsibilities. In FY2024, we will present a new image of a manager



**Seiichi  
Fusamura**

Member of the Board  
Outside Director  
Outside Audit & Supervisory Board,  
Concordia Financial Group, Ltd.

who is rewarded and commensurate with their responsibilities. We will also deepen discussions on treatment that encourages employees to aspire to this role, as well as systems that will enable them to take on challenges quickly.

Corporate governance is becoming increasingly important as companies face the issues of the future. While proactively incorporating the good points of other institutions and companies, we would like to promote a balanced approach with a sense of urgency, not by applying standards mechanically, but by keeping a close eye on actual conditions and external feedback.

## Roles Expected of Outside Directors

Yo Ota	With extensive experience and knowledge as a lawyer, Yo Ota is currently serving as Outside Audit & Supervisory Board Member of the company and is well versed in the company's internal affairs. To further enhance his supervisory function in the Board of Directors, he has been selected as a candidate for Outside Director once again. As he is familiar with corporate law and has ample insight into corporate governance, he is expected to play a role in contributing to the strengthening of the company's corporate governance system.
Yasuyuki Fujishima	With a wealth of experience and knowledge as the manager of a general trading company, Yasuyuki Fujishima has been selected as a candidate for Outside Director once again so that he can continue to provide advice on the overall management of the company. He is expected to play a role in supervising management from an objective standpoint based on his management experience at other companies.
Seiichi Fusamura	Although Seiichi Fusamura has no experience of being directly involved in corporate management, he has been selected as a candidate for Outside Director once again so that he can continue to offer advice on the overall management of the company based on his extensive experience in judicial institutions and his high-level insight cultivated as a legal expert. He is expected to play a role in supervising management from an objective standpoint independent of senior management.
Ikuko Akamatsu	Although Ikuko Akamatsu has no experience of being directly involved in corporate management, she has extensive experience and knowledge as a certified public accountant and certified fraud examiner. She has been selected as a candidate for Outside Director once again so that she can continue to offer advice on the overall management of the company. She is expected to provide appropriate advice and play a role in supervising management from an objective standpoint independent of senior management.



# Compliance

## Policy and Basic Approach

The Nippon Kayaku Group views compliance in a broad sense, considering it to mean not only abiding by laws and regulations, internal rules and rules of the industry, but also responding to social norms and the demands of society and continuing to earn the trust of diverse stakeholders.

As our group-wide standards of conduct, we established the Nippon Kayaku Group Charter of Conduct

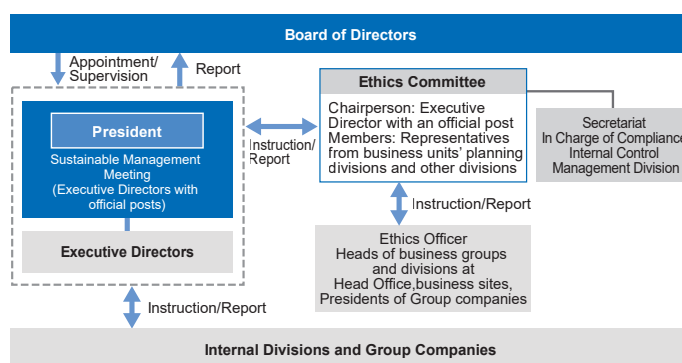
and Code of Conduct. We conduct business activities based on the spirit of these standards to fulfill our social responsibilities and contribute to society.

The Nippon Kayaku Group firmly ensures compliance in its business activities, and will further promote its compliance activities under the strong leadership of its top management.


## Systems

The Nippon Kayaku Group has established an “Ethics Committee” to ensure compliance, which meets twice a year (or whenever necessary).

An Executive Director with an official post appointed by the president serves as the chairperson of the committee, which is comprised of representatives from each group and division at the Head Office. The committee makes decisions on policies and concrete measures pertaining to compliance with the Nippon Kayaku Group Charter of Conduct and Code of Conduct, and discusses and determines how to respond to reported matters and incidents, along with measures to prevent recurrence.



## Indicators

Key sustainability issues	Corresponding SDGs	Action plans	Indicators (KPI)	FY2025 Targets	Results		FY2023 Topics for initiatives
					FY2022	FY2023	
Ensuring Compliance		<ul style="list-style-type: none"> <li>Exercise thorough compliance, which is a basic principle for conducting corporate activities, and engaging in fair business operations</li> <li>Maintain and enhance an open corporate culture with a high sense of ethics</li> </ul>	Number of serious compliance violations*	0	0	0	<ul style="list-style-type: none"> <li>There were no significant compliance violations.</li> <li>This fiscal year's compulsory compliance training on Mental Flexibility has been delivered to all domestic group companies.</li> <li>Discussions were held and options were explored with overseas group companies that are yet to establish compliance/whistleblowing hotlines.</li> </ul>
			Compliance training rate	100%	97%	96%	
			Percentage of group companies with compliance / whistleblowing hotlines	100%	83%	83%	

\* Number of serious accidents as judged by the Ethics Committee

## Specific Initiatives

### Instilling within the Company

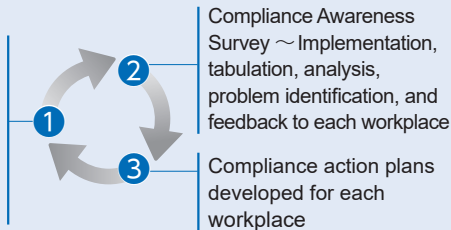
To raise awareness about thorough compliance and ensure it is practiced throughout the corporate group, the Nippon Kayaku Group has created a portable card displaying its corporate vision, Charter of Conduct and Code of Conduct in six different languages (Japanese, English, Chinese, Spanish, Malay and Czech) spoken by all of the countries where we have manufacturing hubs. The card is

distributed to all executives and employees of the Nippon Kayaku Group so that they can refer to Nippon Kayaku Group Charter of Conduct and Code of Conduct whenever necessary. Also, a pamphlet with easy-to-understand explanation of the Charter of Conduct and the Code of Conduct is distributed to all employees of domestic companies of the Nippon Kayaku Group.

## Internal Dissemination

### Continuous monitoring and improvement of compliance penetration

“Compliance Promotion Month” every October  
~Message from the Ethics Committee Chairman to all group employees



### Overseas group company initiatives (case study in China)



Conduct global compliance activities in cooperation within the group in accordance with the laws and business practices of each country.



Every year, a meeting is held between the general manager and ethics officers to promote compliance at group companies.



Internal Control Management Division and KSC\* legal staff cooperate to conduct compliance training for local employees.

\* KSC: Kayaku (Shanghai) Co., Ltd. in China

## Education and Training

### — Compliance education and training

We deliver education and training on compliance issues to all executives, employees (including contract employees and part-time employees), and temporary employees. In addition to deciding upon themes for each year, such as the Nippon Kayaku Group Charter of Conduct and Code of Conduct, how to use our internal whistleblowing system, bribery and anti-corruption issues, fundamental human rights, and harassment, we turn regular meetings at each workplace into workshops and case-study training sessions. FY2023 saw us deliver training on Psychological Safety in the Workplace and sustainability training on Bribery and Anti-corruption Issues.

In addition, to ensure thorough compliance across the

entire group, we provide compliance training for newly appointed directors for Nippon Kayaku Group companies to promote the acquisition of necessary knowledge from a managerial perspective.

To provide training opportunities and programs for all employees, Nippon Kayaku conducted training mainly through e-learning programs, while group companies focused on group training.

### — Harassment prevention

We conduct annual training for all officers and employees to share awareness of harassment definitions, case studies, preventative measures, and responses to actual situations, as part of initiatives to increase awareness and prevent incidents from occurring.

## Whistleblower System

With the establishment of its internal whistleblowing system and Compliance Hotline, Nippon Kayaku is working on prevention and early detection of unfair practices and relevant corrective measures.

Our Compliance Hotline is available to all domestic Nippon Kayaku Group executives, employees (including contract employees and part-time employees), temporary employees, retired employees (within one year of resignation), and suppliers. Overseas group companies, meanwhile, have set up their own internal whistleblowing systems.

### — Results for FY2023 —

The number of reports and consultations was 27. We verified the facts and conducted investigations for the reports and consultations received and took corrective measures as necessary. There were no serious cases that could affect our business operations.

We will continue to promote awareness of the internal whistleblowing system through internal training and further encourage its use, thereby preventing misconduct and ensuring early detection and corrective action.



## Prevention of Anti-corruption and Anti-competitive Behavior

The Nippon Kayaku Group Charter of Conduct and Code of Conduct uphold that fair, transparent, and free competition should be conducted in all business activities in compliance with both the letter and spirit of relevant laws and regulations, including competition laws, as well as internal rules. In addition, they prohibit bribery and other misconduct in relation to our business transactions.

Furthermore, to clarify our basic approach to the

prevention of bribery, the scope of application, and rules to abide by, we have established the Nippon Kayaku Group Basic Policy on Anti-Bribery, which is widely embraced and practiced by all of our officers and employees, including group companies in Japan and overseas.



**Nippon Kayaku Group Basic Policy on Anti-Bribery**  
<https://www.nipponkayaku.co.jp/english/sustainability/governance/compliance/#h-04-01-03>

# Risk Management

## Policy and Basic Approach

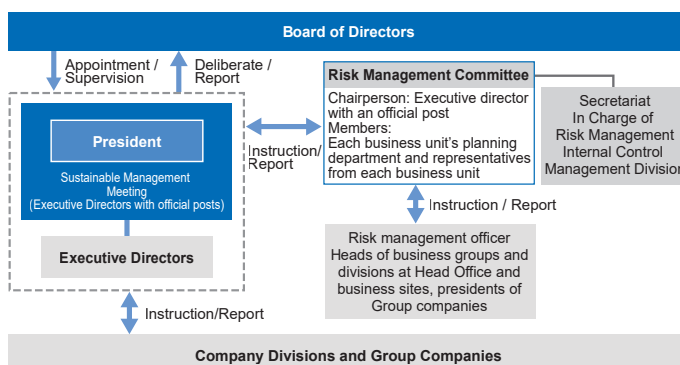
The Nippon Kayaku Group's risk management policy is to address various risks related to its business and secure business continuity by maintaining the production system, procuring appropriate raw materials and strengthening measures against disasters.

To restore our business within a predetermined target time in the event of an emergency such as a disaster, the Head Office and each business division and plant have established their own business continuity plan (BCP) manuals and our overseas business sites are also preparing their own versions of the manuals.

## System

In order to take preventive measures against risks before they appear, thereby minimizing their impact, we have set up a Crisis Management Committee to serve as an advisory body to the Sustainable Management Meeting. This committee convenes twice a year, and on an ad hoc basis when required.

The committee, chaired by an Executive Director with an official post nominated by the President, consists of representatives from each business unit's planning department and every section of our General Administration Department, which is unattached to any particular business unit. It is tasked with constructing and administering a crisis management system designed to take preventive measures against the most damaging risks to corporate management and business activities, and to respond to emergencies and conduct damage recovery activities once normal service has been resumed. The most important matters discussed by this committee are reported to the Sustainable Management Meeting and the Board of Directors, who then provide relevant feedback.



## Preventing Risks and Minimizing Impact



### TOPIC Continuation of BCP drills

At the Nippon Kayaku Group, the Internal Control Management Division takes the lead in promoting global risk management activities targeted at the key themes of establishing a BCP structure and training and drills in overseas Group companies. As part of these activities, we conduct a BCP drill every year by selecting one or more locations

from among domestic and overseas Group companies. In addition to ensuring employee safety and preventing secondary damage by continuing to conduct the drills, we will further develop a BCP system that focuses on business continuity, including the continuation and early recovery of production, sales, and other operations after a disaster.



### BCP drill of the Agrochemicals business (December 2023)

The Agrochemicals business at the head office collaborated with the Kashima Plant, which is responsible for agrochemicals production, to conduct an initial response drill in the event that the Kashima area is hit by an earthquake of the same magnitude as the Great East Japan Earthquake. During the drill, some issues were found in preparation for times of peace, such as informing employees of the use of information sharing tools in emergencies. However, the participants were able to act appropriately without delay, promptly declaring a state of emergency, setting up an on-site response headquarters, and having the headquarters collect information and disseminate the situation throughout the plant.



### BCP drill at the Joetsu Plant (December 2023)

At the Joetsu Plant, which is responsible for polarizer production in the Polatechno business, a BCP drill was conducted to prepare for the possibility of heavy snowfall in the Joetsu region, which can occur often. The on-site staff worked autonomously in a workshop-style drill and set up a central response headquarters for heavy snowfall within the plant. They carried out a simulation of the day of and the day after the issuance of a heavy snowfall forecast and practiced everything from confirming the safety of employees to readjusting production plans so that business activities would be restored.



### BCP drill at a group company in China (February 2023)

Kayaku Safety Systems (Huzhou) Co., Ltd. (KSH), which produces automotive safety components for the Safety Systems business in Huzhou City, Zhejiang Province, China, conducted an initial response drill to simulate a major typhoon disaster. Participants were so proactive that there was no end to their suggestions for respond methods, and the drill was successfully carried out up to the restoration of business operations in accordance with the BCP manual that was prepared.



## Business Risks (Summary)

Compared to FY2022, in FY2023 we added the “Risks related to procurement of raw materials” in light of the supply chain issues that emerged. In addition, “Risks related to IT” have been elaborated into two categories, “Risks related to

information leaks” and “Risks related to computer system shutdowns,” considering the severity of impact should such risks occur. In general, we have described other risks and measures for each business as specifically as possible.

For details of business risks, see pages 23-28 of Annual Securities Report (Japanese) submitted in June 2024.

	Number	Risk category	Risk Details	Countermeasures
Risks related to management strategy	1	Raw materials procurement	<ul style="list-style-type: none"> <li>Difficulty acquiring key raw materials and bottleneck raw materials due to price hikes and supply chain disruptions attributed to geopolitical risks, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Purchases from multiple suppliers and strategic stockholding of non-substitutable products</li> <li>Monitoring quality and management conditions through supplier audits, etc.</li> <li>Promptly collecting and sharing information on extreme weather, accidents, and exchange rate fluctuations</li> </ul>
	2	Product quality	<ul style="list-style-type: none"> <li>Product recalls, compensation for damages, and loss of social credibility, etc. resulting from poor quality (especially for products in the Pharmaceuticals, Agrochemicals, and Safety Systems businesses with high levels of quality)</li> </ul>	<ul style="list-style-type: none"> <li>Sharing of appropriate quality assurance systems in each business unit at company-wide meetings with quality representatives</li> <li>Appropriate and rigorous operations of IATF16949 at the Safety Systems business</li> <li>Reinforcement of compliance with laws, regulations, and guidelines and thorough implementation of supplier audits and production management in the Pharmaceuticals business</li> </ul>
	3	Changes in the business environment	<ul style="list-style-type: none"> <li>Impact of geopolitical and international situations on product sales of customers in relevant countries, etc.</li> <li>Safety Systems business: restrictions on the transportation of explosives</li> <li>Polatechno business: intensification of competition for displays and impact of China's promotion of domestic production</li> <li>Fine Chemicals Business Unit: major impact from the recession in the semiconductors market, delays in the development of new technologies and new products, and groundbreaking technological innovations by other companies</li> </ul>	<ul style="list-style-type: none"> <li>Strengthening of marketing and development of research and technological based on trends</li> <li>Appropriate inventory management based on market conditions</li> <li>Safety Systems business: promotion of local procurement at five global sites</li> <li>Polatechno business: local sales and information collection by Chinese sales companies</li> <li>Fine Chemicals Business Unit: Continued exploration and research and development of medium- to long-term themes, utilization of raw materials in China, and market expansion</li> </ul>

# Risk Management

	Number	Risk category	Risk Details	Countermeasures
Risks related to management strategy	4	Accident occurrence	<ul style="list-style-type: none"> <li>Damage to surrounding areas, shutdown, etc. resulting from accidents at production locations</li> <li>Safety Systems business: occurrence of accidents caused by explosives</li> <li>Occurrence of plant accidents, chemical substance leaks, quality abnormalities</li> <li>Product leaks due to logistics accidents</li> </ul>	<ul style="list-style-type: none"> <li>Enhancement of environmental, safety, and quality training at plants</li> <li>Identification of all potentially unsafe areas and taking countermeasures through safety assessments, safety diagnoses, etc.</li> <li>Safety Systems business: development of explosive engineers and improving the safety technology level</li> <li>Implementation of thorough risk assessments, reporting drills, and BCP drills</li> </ul>
	5	Research and development	<ul style="list-style-type: none"> <li>Delays in the development of new products and discontinuation of research and development themes</li> <li>Safety Systems business: delays in responding to EVs and cost reductions</li> <li>Fine Chemicals Business Unit: delays in participation in new products for rapidly advancing information and telecommunications technology</li> <li>Pharmaceuticals business: major negative impact on drug price revisions due to constant delays in new product launches</li> </ul>	<ul style="list-style-type: none"> <li>Reinforcement of research and development resources</li> <li>Safety Systems business: theme progress management through monthly development meetings, etc.</li> <li>Fine Chemicals Business Unit: operation of a dedicated department for planning of medium-to long-term themes</li> <li>Pharmaceuticals business: promotion of alliance activities for systematic development management and pipeline fulfillment</li> </ul>
	6	Changes in regulations / policies	<ul style="list-style-type: none"> <li>Suspension and delay of product shipments due to the occurrence of violations of laws and regulations</li> <li>Safety Systems business: changes in regulations on explosives and hazardous materials in various countries</li> <li>Fine Chemicals Business Unit: Extension of time required for procedures due to major changes in regulations on hazardous materials and chemical substances, etc.</li> <li>Pharmaceuticals business: impact on sales due to policy changes related to pharmaceuticals for medical use</li> </ul>	<ul style="list-style-type: none"> <li>Safety Systems business: promotion of local production and procurement of explosives production</li> <li>Fine Chemicals Business Unit: compliance with laws and regulations by keeping abreast of laws and regulations in each country, providing appropriate information, etc.</li> <li>Pharmaceuticals business: negotiations with pharmaceutical wholesalers to reduce market price declines and ensuring transparency in the provision of sales information based on business records of medical representatives, etc.</li> </ul>
	7	Foreign exchange volatility	<ul style="list-style-type: none"> <li>Occurrence of foreign exchange losses on overseas transactions that account for more than 50% of sales</li> <li>Impact of exchange rates on the results of overseas consolidated subsidiaries that are converted to yen in the consolidated financial statements</li> </ul>	<ul style="list-style-type: none"> <li>Balancing of receivables and payables denominated in foreign currencies and utilization of forward exchange contracts as necessary</li> </ul>
	8	Intellectual properties	<ul style="list-style-type: none"> <li>Negative impacts of IPR infringement disputes such as suspension of development and incurrence of damages</li> </ul>	<ul style="list-style-type: none"> <li>Real-time research and monitoring using patent information database</li> <li>Taking countermeasures such as invalidating patent applications of concern and preventing establishment of rights</li> <li>Responding appropriately to infringements of our rights by involving lawyers, etc. as necessary</li> </ul>
	9	Information leakages	<ul style="list-style-type: none"> <li>Information leakages due to powerful cyber attacks</li> <li>Loss of PCs, etc. while on the move due to the establishment of telecommuting</li> </ul>	<ul style="list-style-type: none"> <li>Reinforcement of security due to the installation of firewalls, etc.</li> <li>Acquisition and utilization of cyber security information on a daily basis</li> <li>Promotion of information security management for employees and thorough management of loaned PCs</li> </ul>
	10	Shutdown of computer systems	<ul style="list-style-type: none"> <li>Temporary unavailability of the computer system causing stagnation in purchasing, production, shipping, and financial closing operations</li> <li>Data leakage, business interruption, and occurrence of liability for damage, etc. caused by unauthorized use or misuse of confidential data by hackers or computer viruses</li> </ul>	<ul style="list-style-type: none"> <li>Establishing countermeasures for computer systems and developing a cyber security system</li> <li>Duplexing and virtualizing data and evacuating data to remote locations</li> <li>Installing anti-virus software, firewalls, etc.</li> <li>Enhancing information security training</li> </ul>
Risks related to natural disasters and mitigation climate change	11	Natural disasters	<ul style="list-style-type: none"> <li>Impact on product supply due to shutdown of business sites and disruption of logistics, etc. caused by earthquakes, typhoons, etc.</li> <li>Polatechno business: Shutdown of the Joetsu Plant due to heavy snowfall in the winter</li> <li>Fine Chemicals Business Unit: flood damage at the Asa Plant, Tokyo Plant, and research laboratories, which are at high risk of flooding, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Formulation of BCP manuals, etc. and implementation of BCP drills in preparation for natural disasters</li> <li>Ensuring of appropriate safety inventory and promotion of multiple purchases</li> <li>Safety Systems business: establishment of supply and storage systems from five global sites</li> <li>Fine Chemicals Business Unit: systematic implementation of outsourcing manufacturing to multiple production sites and earthquake resistance measures</li> <li>Efficient operation of distribution centers in East and West Japan and development of a stable supply system in the Pharmaceuticals business</li> </ul>
	12	Mitigation of climate change	<ul style="list-style-type: none"> <li>Shrinking of profits due to higher costs associated with the introduction of the carbon tax and reinforced obligations to reduce CO<sub>2</sub></li> <li>Loss of credibility and damage to image caused by delays in tackling climate change</li> <li>Shutdown of plants due to occurrence of floods, droughts, etc. caused by global warming</li> </ul>	<ul style="list-style-type: none"> <li>Keeping abreast of the most recent international trends in climate change</li> <li>Reduction of greenhouse gas emissions through thorough energy and resource conservation and the introduction of solar power generation, etc.</li> <li>Appropriate information disclosure on the status of responses to various climate-change-related disclosure platforms</li> <li>Development and promotion of appropriate measures against floods based on simulation results</li> </ul>
Risks related to compliance	13	Legal violations and other issues / Compliance	<ul style="list-style-type: none"> <li>Restriction of business activities and increase in costs due to new or revised laws and regulations, etc. in each country</li> <li>Occurrence of lawsuits, disputes, etc.</li> <li>Occurrence of internal fraud or harassment due to urgent delivery deadlines, pressure to meet targets, etc.</li> <li>Occurrence of violations of laws and regulations, including those of subcontractors</li> </ul>	<ul style="list-style-type: none"> <li>Periodic confirmation of official gazettes, etc., dissemination of information within the company and to Group companies, and cooperation with representatives of Group companies in various countries</li> <li>Prevention of disputes and prompt sharing of information on the filing and status of important lawsuits</li> <li>Contracts with corporate lawyers and consulting firms</li> <li>Enrollment in appropriate product liability insurance and corporate officers' liability insurance to cover risks</li> <li>Establishment of Ethics Committee to prevent compliance violations</li> <li>Establishment of a compliance hotline (whistleblowing hotline)</li> </ul>

# Information Security

## Policy and Basic Approach

We are promoting digital transformation (DX) in order to make working practices more efficient, improve productivity and diversify working styles. However, we are doing this against a backdrop of heightening cybersecurity risks, with cyberattacks and unauthorized access incidents growing year by year and with increasing levels and sophistication of deceptive tactics. The Nippon Kayaku Group perceives risks related to business continuity due to information

leaks and computer system shutdown as a management issue, and in order to repay the trust of society as a whole, including customers, suppliers, investors, employees, and various other stakeholders, protects business information daily, and sets up information security initiatives continually, based on its Charter of Conduct and Code of Conduct.



### Nippon Kayaku Group Charter of Conduct and Code of Conduct

<https://www.nipponkayaku.co.jp/english/company/vision/conduct.html>

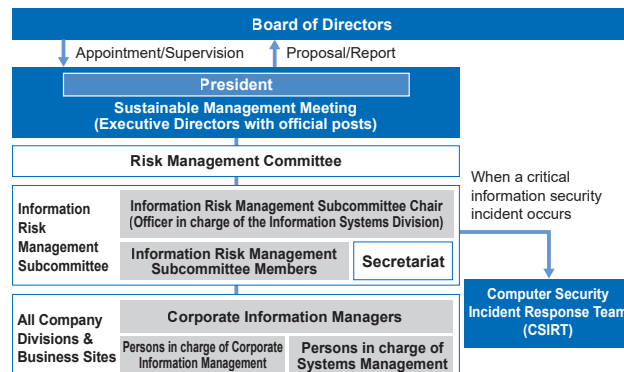
## System

In order to minimize information security risks (a key element of crisis management), we have set up an Information Risk Management Subcommittee with the aim of constantly maintaining risk-proof conditions, continually reviewing responses based on changing situations, and diffusing and integrating best practice throughout company operations. This subcommittee meets, in principle, twice a year, but on a further ad hoc basis if necessary. It is chaired by the officer in charge of Information Systems, and comprises representatives of every business unit's planning department plus representatives from general administrative departments unattached to any particular business unit. It also coordinates with the Corporate Information Managers, persons in charge of corporate information management, and systems management assigned to every company division and business site.

The important matters among the topics discussed by this subcommittee are forwarded to the Sustainable Management Meeting and even the Board of Directors, who provide relevant feedback.

Furthermore, to deal with security incidents that could either heavily damage management and business operations

or lose us the trust of our business partners and suppliers, such as cyberattacks and unauthorized access to confidential information, we have set up a Computer Security Incident Response Team (CSIRT) as our core policy unit under the leadership of the Information Risk Management Subcommittee Chair. Depending on the assumed extent of damage, the President or the Chair of the Crisis Management Committee may also step in to lead CSIRT. CSIRT works on limiting the spread of damage, and once containment activities are over, on restoration of operations and recurrence prevention measures.



## Initiatives

### Acquisition of TISAX Certification

The Nippon Kayaku Group has acquired the Trusted Information Security Assessment Exchange (TISAX) certification, an information security screening standard for the global automotive industry supply chain established mainly by the German Automobile Industry Association at two overseas business sites of the Safety Systems Group.

Business site	Certification secured	Registered for inspection with	Certification number
Kayaku Safety Systems Europe	January 2023	DNV	SW215F
Kayaku Safety Systems de Mexico	January 2023	TUV NORD DE MEXICO	S6485M

### Education and Training

At the Nippon Kayaku Group, all executives, employees (including contracted and part-time employees) and temporary staff are made fully aware of information security rules, and receive regular information security training as well as drills on dealing with malicious emails.

Training title	Main contents	Mainly aimed at	FY	Training format	No. of times	Take-up rate
Information System Security Training	<ul style="list-style-type: none"> <li>Information System Security: basic knowledge, response methods, preparedness</li> <li>Incident response</li> </ul>	<ul style="list-style-type: none"> <li>Executives, employees (including contracted and part-time employees), temp staff</li> <li>Persons outside the company who are loaned PCs connected to the Nippon Kayaku network</li> </ul>	2023	E-learning, distribution of materials, group session	2	Average of 89%





Chapter

# 4

---

**Data Section**



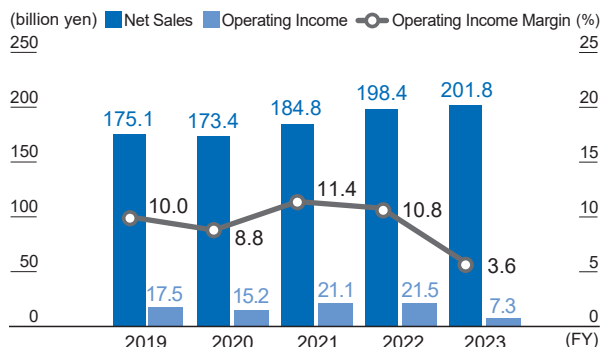
## CONTENTS

Financial and Non-Financial Highlights .....	123
11-Year Summary of Consolidated Financial Data .....	125
Nippon Kayaku Group Status .....	127
Company Overview / Investor Information / Communication with Shareholders and Institutional Investors .....	128
Nippon Kayaku Group Product Keywords 2024 .....	129
Independent Assurance Statement .....	130

# Financial and Non-Financial Highlights

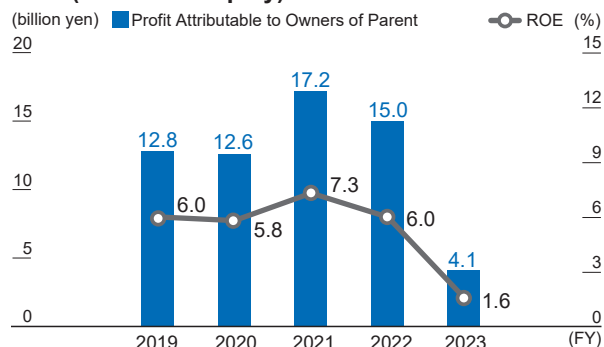
## Financial Highlights

### Net Sales / Operating Income / Operating Income Margin



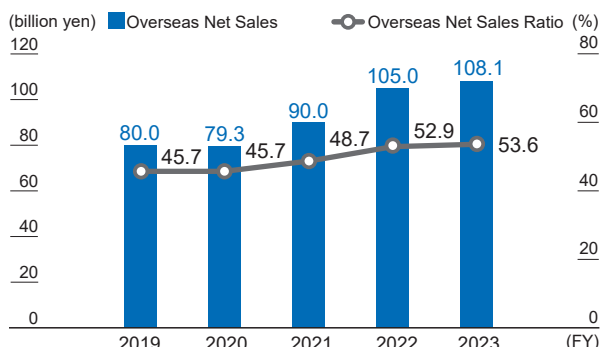
Net sales have been on an increasing trend, reaching a record high of 201.8 billion yen in FY2023. On the other hand, the operating income margin, which had been on a declining trend in recent years, has declined due to the allocation of unplanned license introduction costs in the Life Science Business Unit and a decrease in operating income impacted by market conditions in the Fine Chemicals Business Unit.

### Profit Attributable to Owners of Parent / ROE (Return on Equity)



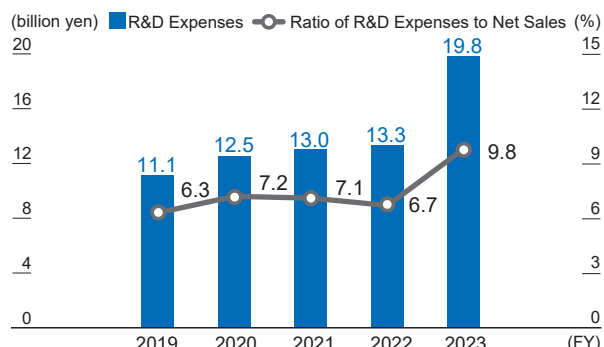
Profit attributable to owners of parent and ROE, which had been on a declining trend in recent years, reversed their upward trend in FY2021, following the trend of operating income, but declined along with net income, and ROE for FY2023 fell to 1.6% partly due to special factors in operating income.

### Overseas Net Sales / Overseas Net Sales Ratio



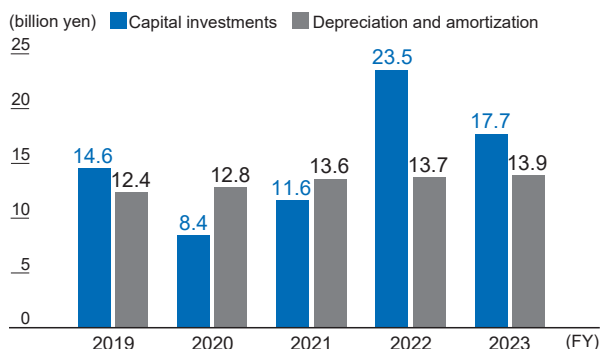
We have promoted product development overseas, mainly in the Mobility & Imaging Business Unit and Fine Chemicals Business Unit, with overseas sales of 108.1 billion yen and an overseas sales ratio of 53.6% in FY2023.

### R&D Expenses / Ratio of R&D Expenses to Net Sales



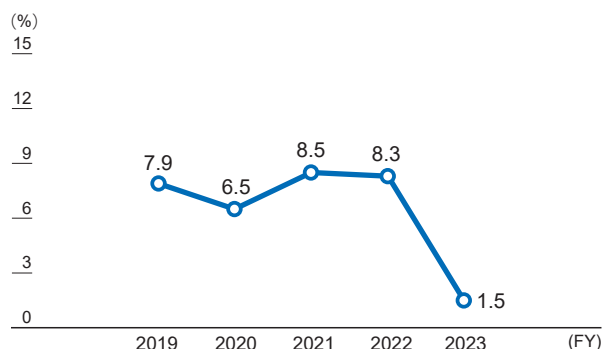
Company-wide R&D expenses during the Medium-term Business Plan (KAYAKU Vision 2025) for FY2022–2025 will total 65.0 billion yen. The ratio of R&D expenses to net sales is trending at around 6% or more and was 9.8% in FY2023 after accounting for the introduction costs of the Pharmaceuticals business.

### Capital Investments / Depreciation and Amortization



To aggressively implement investments for future growth, company-wide capital investments during the KAYAKU Vision 2025 Medium-term Business Plan for FY2022–2025 will total 91.0 billion yen. In FY2023, capital investments was 17.7 billion yen and depreciation and amortization was 13.9 billion yen.

### ROIC



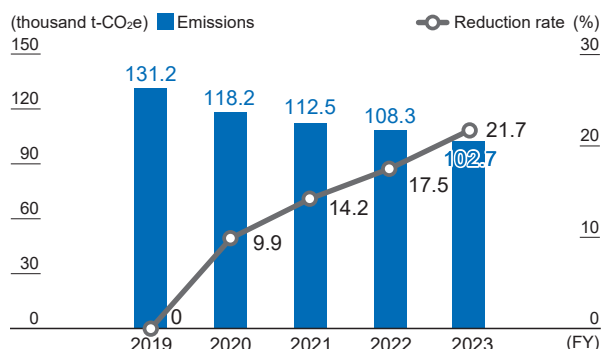
Company-wide ROIC was 1.5% in FY2023, impacted by the decrease in profit. We will continue to promote divisional management with an awareness of the efficiency of invested capital, aiming to achieve the company-wide ROIC target of 10% or more.

\* Calculated as profit before income taxes divided by invested capital.



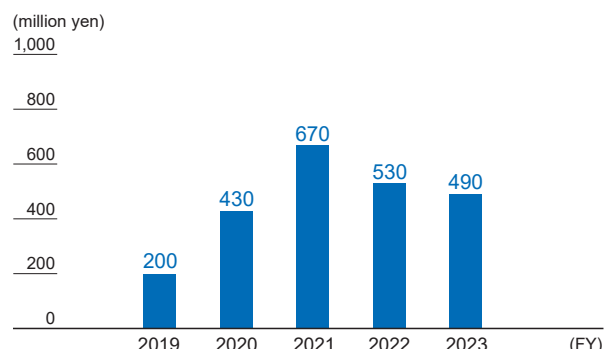
## Non-Financial Highlights

### Greenhouse Gas Emissions (Scope 1+2)



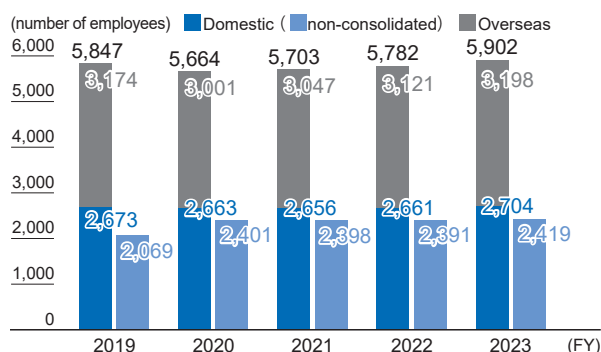
The amount of GHGs (Scope 1+2), an indicator for our FY2030 Medium-term Environmental Targets (reduction of 46% by FY2030 compared to FY2019), has been decreasing year by year. In FY2023, we achieved a reduction of up to 21.7%.

### Environment Related Capital Investments



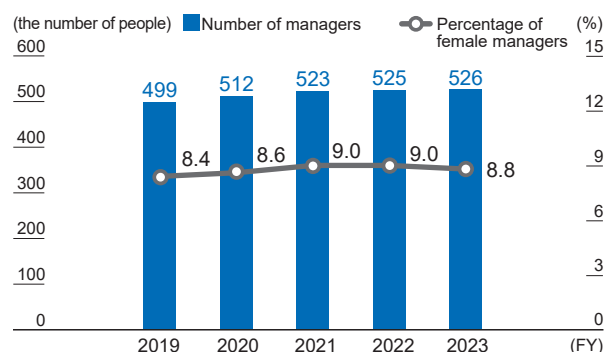
We have been systematically and continuously investing in environment-related facilities, and in FY2023, we allocated 490 million yen. Investment related to energy conservation and global warming prevention accounted for about 87%.

### Number of Domestic and Overseas Employees



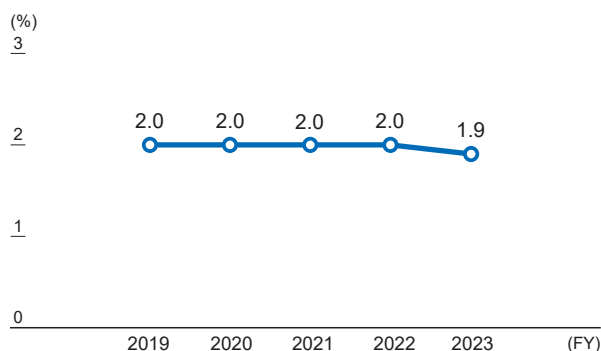
As a result of the global expansion of manufacturing and sales bases, the 27 group companies including Nippon Kayaku Co., Ltd. (non-consolidated) have a total of 5,902 employees. Twenty overseas group companies have a total of 3,198 employees, more than half of the total workforce.

### Number of Managers / Percentage of Female Managers



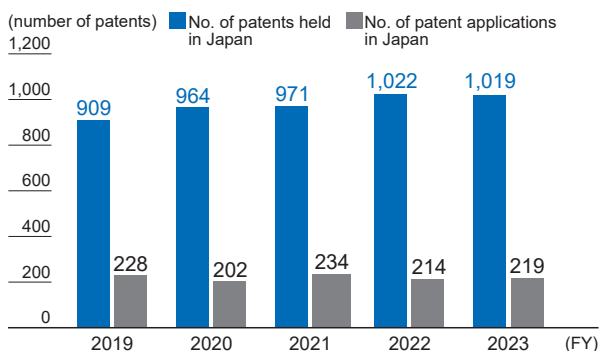
We are striving to increase the ratio of female managers, which was 8.8% in FY2023, toward the FY2025 target of 10% or more in the **KAYAKU Vision 2025** Sustainability Action Plan. We will promote measures to improve the ratio through "KAYAKU ZenKatsu," an activity to promote the active roles of human resources throughout the company, including female employees.

### Percentage of Employees with Disabilities



Although the employment rate of employees with disabilities has been maintained at a certain level, it is just short of the legally mandated 2.3% in FY2023. We will make further efforts to create and expand opportunities for people with disabilities to work and play active roles.

### Number of Patents Held / Patent Applications



We are working together with business groups and R&D departments to draw up intellectual property strategies for future business development. We are promoting the dispatch of Intellectual Property Division staff to R&D departments to strengthen the discovery of inventions and are also working to build composite intellectual property that includes trademarks.

# 11-Year Summary of Consolidated Financial Data

Fiscal year	2023	2022	2021	2020
<b>Results for the year (millions of yen)</b>				
Net sales	¥ 201,791	¥ 198,380	¥ 184,805	¥ 173,381
Cost of sales	140,490	131,627	120,837	117,067
Selling, general and administrative expenses	53,964	45,247	42,916	41,124
Operating income	7,337	21,505	21,050	15,194
Profit before income taxes	7,205	20,972	23,700	17,523
Profit attributable to owners of parent	4,113	14,984	17,181	12,574
<b>Amounts per share (yen)</b>				
Profit attributable to owners of parent	¥ 24.80	¥ 89.36	¥ 101.70	¥ 73.62
Cash dividend applicable to the year	45.00	45.00	40.00	30.00
Net assets	1,625.18	1,532.35	1,459.06	1,332.06
<b>Year-end financial position (millions of yen)</b>				
Current assets	¥ 203,146	¥ 186,037	¥ 175,843	¥ 156,852
Current liabilities	59,815	39,049	45,760	37,491
Working capital	143,331	146,988	130,083	119,361
Property, plant and equipment	98,638	89,259	89,060	88,980
Total assets	363,173	322,858	315,459	294,535
Total net assets	270,548	255,027	246,425	228,273
<b>Year-end statistics</b>				
Number of shares outstanding (thousands)	170,503	170,503	170,503	177,503
Dividend payout ratio (%)	181.4	50.4	39.3	40.7
Number of round-lot shareholders	17,173	16,684	13,051	13,748
Number of employees	5,902	5,782	5,703	5,664
<b>Financial ratios</b>				
Current ratio (times)	3.4	4.8	3.8	4.2
Equity ratio (%)	74.2	78.7	77.8	77.2
ROE (%)	1.6	6.0	7.3	5.8
ROA (%)	1.2	4.7	5.6	4.4
<b>Sales by business segment (millions of yen)</b>				
Mobility & Imaging Business Unit	¥ 81,201	¥ 71,869	¥ 63,808	¥ 57,492
Safety Systems Business	63,522	54,220	46,112	41,997
Polatechno Business	17,678	17,648	17,696	15,495
Polatechno Group	—	—	—	—
Fine Chemicals Business Unit	57,072	64,047	59,453	56,968
Functional Materials Business	28,724	32,301	31,068	23,759
Color Materials Business	21,383	21,900	22,402	22,323
Digital Printing Materials Business	—	—	—	—
Color Chemicals Business	—	—	—	—
Catalysts Business	6,855	9,844	5,983	10,886
Electronic Material Business	—	—	—	—
Life Science Business Unit	63,518	62,463	61,538	58,917
Pharmaceuticals Business	52,765	51,711	52,083	50,441
Agrochemicals Business	8,705	8,701	7,404	6,444
Other	2,047	2,050	2,051	2,032
<b>Divisional operating income by business segment (millions of yen)</b>				
Mobility & Imaging Business Unit	¥ 8,028	¥ 8,215	¥ 7,740	¥ 4,674
Fine Chemicals Business Unit	5,183	10,221	10,107	8,008
Life Science Business Unit	2,410	10,668	10,486	9,264



## 11-Year Summary of Consolidated Financial Data

<https://www.nipponkayaku.co.jp/english/ir/finance/summary.html>

2019	2018	2017	2016	2015	2014	2013
¥ 175,123	¥ 172,639	¥ 167,888	¥ 159,117	¥ 162,922	¥ 161,861	¥ 160,080
117,059	109,461	102,475	95,253	96,653	94,664	90,645
40,587	43,238	42,791	44,213	44,570	44,890	45,332
17,485	19,939	22,615	19,646	21,713	22,301	24,090
18,141	21,283	22,061	22,397	25,148	23,972	25,388
12,815	14,851	15,488	15,635	17,291	15,653	16,718
¥ 74.25	¥ 85.77	¥ 89.45	¥ 90.23	¥ 96.09	¥ 86.38	¥ 92.25
30.00	30.00	30.00	30.00	30.00	25.00	25.00
1,225.71	1,247.75	1,203.23	1,120.73	1,075.56	1,030.16	918.35
¥ 153,102	¥ 161,958	¥ 157,814	¥ 153,602	¥ 151,170	¥ 141,282	¥ 141,843
38,800	41,412	42,746	41,321	39,740	38,915	41,271
114,302	120,546	115,068	112,281	111,430	102,367	100,572
85,960	87,246	83,228	80,230	81,040	81,576	75,166
278,496	293,571	285,600	272,791	272,679	265,126	247,592
210,019	229,043	220,619	205,866	200,492	199,680	177,935
177,503	182,503	182,503	182,503	182,503	182,503	182,503
40.4	35.0	33.6	33.2	31.2	28.9	27.1
12,090	12,437	13,048	8,629	10,815	9,257	10,174
5,847	5,814	5,684	5,517	5,188	5,165	4,794
3.9	3.9	3.7	3.7	3.8	3.6	3.4
75.2	73.6	72.9	71.1	69.3	70.4	67.2
6.0	7.0	7.7	8.2	9.2	8.9	10.6
4.5	5.1	5.5	5.7	6.4	6.1	7.1
¥ 64,579	¥ 68,114	¥ 65,133	¥ 59,651	¥ 59,514	¥ 55,919	¥ 51,982
46,990	47,218	43,937	38,782	35,342	30,485	27,086
—	—	—	—	—	—	—
17,589	20,896	21,196	20,869	24,172	25,434	24,896
53,950	48,791	46,467	43,159	44,617	48,123	48,714
21,073	20,217	19,794	18,914	18,398	18,559	18,378
26,118	22,168	21,023	20,057	21,229	—	—
—	—	—	—	—	12,130	12,090
—	—	—	—	—	9,909	9,536
6,759	6,406	5,650	4,188	4,990	7,525	8,710
—	—	—	—	—	—	—
56,591	55,731	56,285	56,304	58,791	57,816	59,383
47,774	46,231	47,485	47,648	50,200	48,932	50,898
6,820	7,460	6,735	6,572	6,519	6,696	6,245
1,997	2,040	2,065	2,084	2,072	2,188	2,240
¥ 7,917	¥ 10,593	¥ 10,877	¥ 11,049	¥ 11,677	¥ 11,947	¥ 10,492
7,603	7,292	7,591	5,821	4,236	5,342	7,431
8,565	8,631	10,743	9,599	12,122	11,358	11,910

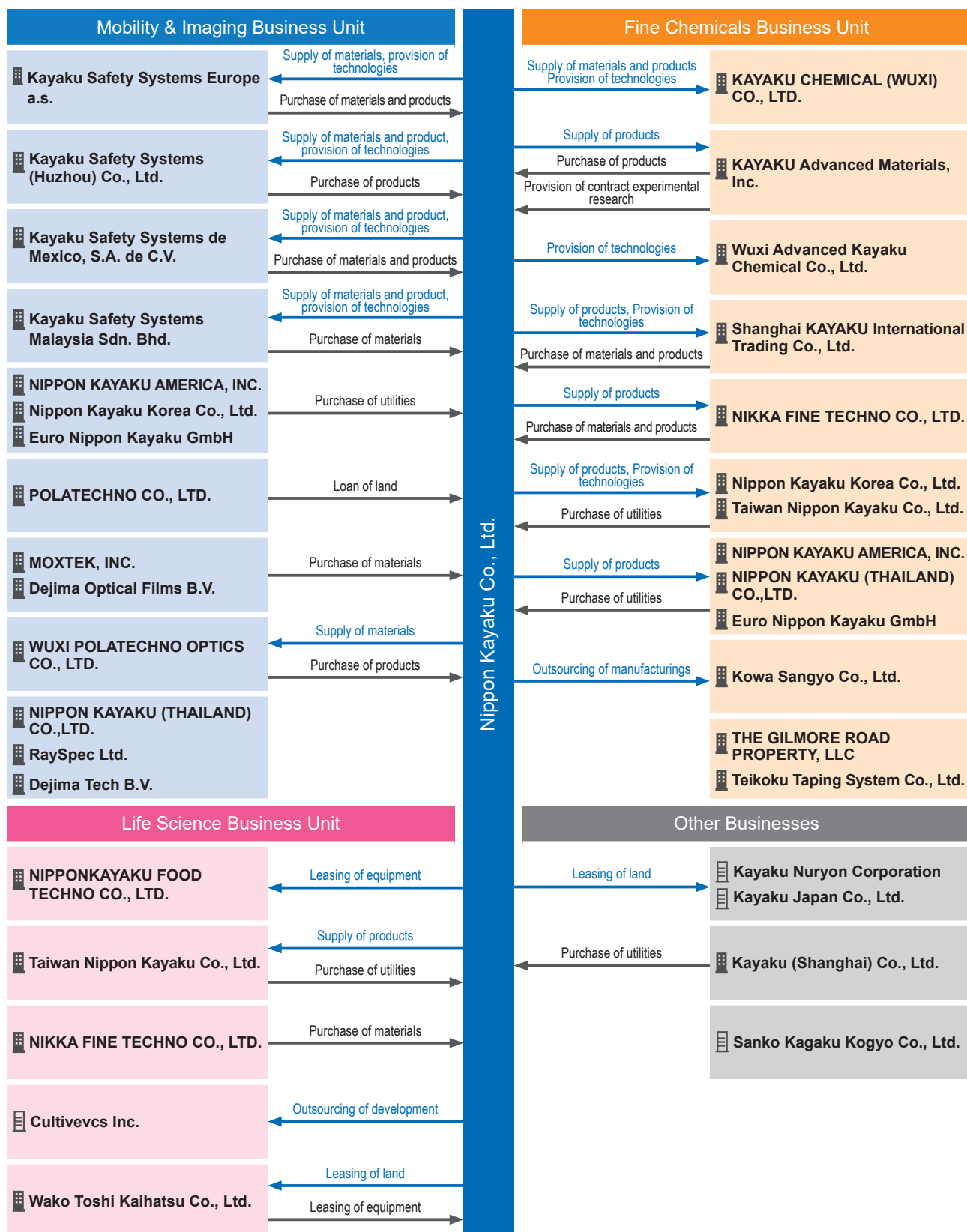


# Nippon Kayaku Group Status

The Nippon Kayaku Group is comprised of Nippon Kayaku Co., Ltd., 36 subsidiaries, and 11 affiliated companies. An overview of the positioning of each company in relation to the business is described below.

**Group Company Diagram** (As of March 31, 2024)

Consolidated subsidiaries Affiliated company



# Company Overview / Investor Information

## Company Overview

<b>Business Name</b>	Nippon Kayaku Co., Ltd.
<b>Representative</b>	Atsuhiko Wakumoto, President
<b>Foundation</b>	June 5, 1916
<b>Head Office Address</b>	Meiji Yasuda Seimei Bldg., 1-1 Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-0005, Japan
<b>Number of Employees</b> (as of March 31, 2024)	2,419 (non-consolidated), 5,902 (consolidated)
<b>Banks of Accounts</b>	Bank of Tokyo-Mitsubishi UFJ, Jyoy Bank, Development Bank of Japan, The Norinchukin Bank

## Investor Information (As of March 31, 2024)

<b>Fiscal Year</b>	April 1 to March 31
<b>Annual Shareholders Meeting</b>	Normally held in June in Tokyo
<b>Record Date</b>	Voting rights at the Annual Shareholders Meeting: March 31 Year-end dividend: March 31 Second-quarter dividend: September 30
<b>Stock Exchange Listing</b>	First Section of the Tokyo Stock Exchange
<b>Number of Common Stock</b>	Authorized: 700,000,000 Issued: 170,503,570
<b>Paid-in Capital:</b>	¥14,932,922,842
<b>Number of Shareholders:</b>	20,970

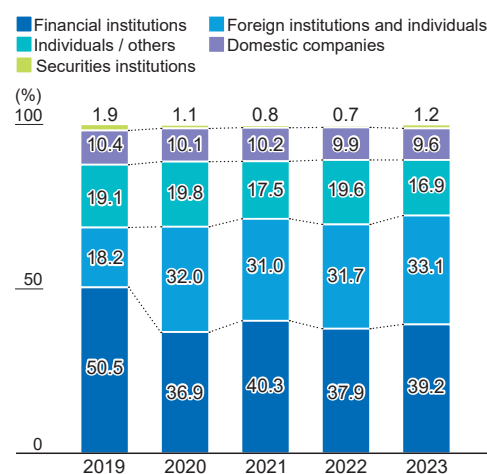
## Major Shareholders (As of March 31, 2024)

Shareholders	Number of shares held (unit: thousand)	Shareholding ratio (%)
The Master Trust Bank of Japan, Ltd. (trust account)	24,826	14.97
NORTHERN TRUST CO. (AVFC) RE SILCHESTER INTERNATIONAL INVESTORS INTERNATIONAL VALUE EQUITY TRUST	13,745	8.29
Custody Bank of Japan, Ltd. (Trust Account)	12,406	7.48
NORTHERN TRUST CO. (AVFC) RE U.S. TAX EXEMPTED PENSION FUNDS	6,152	3.71
Kayavestor Club	6,139	3.7
MUFG Bank, Ltd.	5,090	3.07
The Jyoy Bank, Ltd.	5,089	3.07
NORTHERN TRUST CO. (AVFC) RE NON TREATY CLIENTS ACCOUNT	4,960	2.99
Meiji Yasuda Life Insurance Company	4,843	2.92
National Mutual Insurance Federation of Agricultural Cooperatives	4,190	2.53

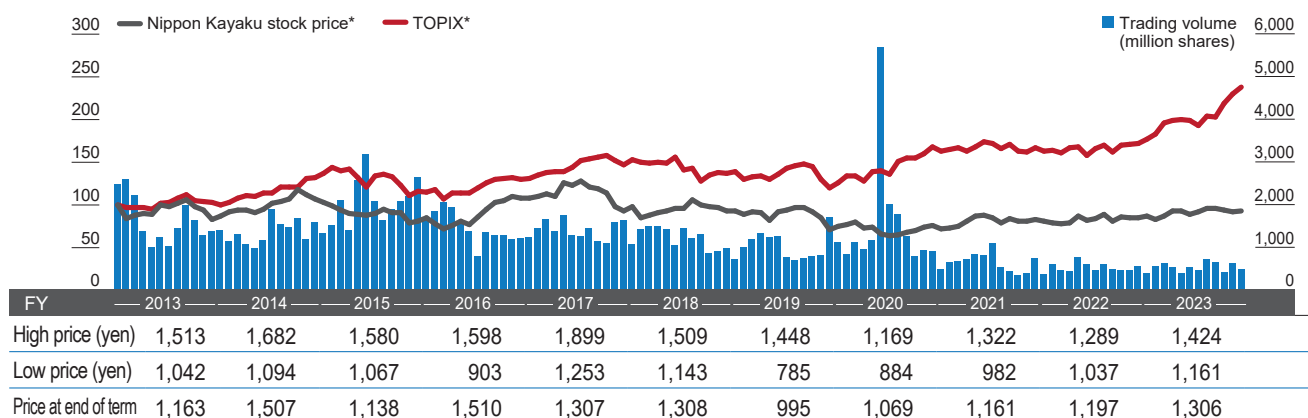
Notes: Nippon Kayaku owns 4,632,785 in treasury shares, but is not included among the shareholders listed above.  
Note that the shareholder ratio is calculated using the total number of shares, excluding treasury stock.

## Trend in Ratio to Shareholders\*

\* Ratio of number of shares held excluding treasury shares



## 11-Year Trend in Stock Price and Trading Volume



\* The stock prices of Nippon Kayaku and TOPIX have been indexed to facilitate comparison, with the closing data from April 2013 set at 100.



Nippon Kayaku discloses financial results, press releases, and other information to shareholders and investors. This information can be found under Investor Relations tab on our corporate website.

IR information: <https://www.nipponkayaku.co.jp/english/ir/>

## Communication with Shareholders and Institutional Investors

Contact for Nippon Kayaku Group  
IR activities administrative office

Corporate Communications Division

TEL 03-6731-5237

E-mail [prir@nipponkayaku.co.jp](mailto:prir@nipponkayaku.co.jp)

The Nippon Kayaku Group holds financial results briefings, one-on-one meetings, IR social gatherings, plant briefings, and other events through the year. These are held to promote constructive dialog between shareholders and institutional investors, and Nippon Kayaku directors and executive directors with official posts.

The Corporate Communications Division is the contact for investor relations (IR), and communicates directly with shareholders and institutional investors through one-on-one meetings and other means to help them increase their understanding of industry conditions, management policy, and ESG.

# Nippon Kayaku Group Product Keywords 2024



## Mobility & Imaging Business Unit

### Airbag inflators

Gas generators are used in airbags to increase the safety of passengers in automobiles. When an automobile collides, a sensor detects the impact, and squibs (igniters) stored in the inflators activate to ignite the gas generating agent, causing the airbag to inflate with the gas generated. In addition to disc-shaped inflators for airbags (ones for driver and passenger seats), we offer a lineup of cylinder-type inflators for side and knee airbags, and we produce, sell, and ship from five global locations.

### Sun-Guard Film for HUDs

Sun-Guard Films are components that protect the projection device for head-up displays (HUDs) installed in automobiles from energy that causes deterioration, such as heat and light from outside light (especially sunlight). By placing a Sun-Guard Film made from polarizing film in the path of light from the windshield to the projection device, outside light is effectively blocked and the projected light of the image is allowed to pass through with high transmittance, enabling a clear and vivid display. We are aiming for expansion mainly in China and Europe.



## Fine Chemicals Business Unit

### Epoxy resins for semiconductors

Epoxy resins for semiconductors are high-purity epoxy resins with very low content of organic and inorganic chlorine and are used especially in the electronics field, where a high degree of electrical reliability is required. They are used for semiconductor package encapsulation to provide highly reliable protection and are also applied as substrate materials for AI and communication servers, where high heat resistance and low water absorption are required. We are preparing to increase production to ensure a stable supply to the semiconductor market, the size of which is expected to be double the 2020 level by 2030.

### Industrial inkjet inks

On-demand digital printing using industrial inkjet printers, which is suitable for printing small quantities of a large variety of materials and printing at a medium scale, is expected to become widespread as an alternative to conventional offset printing, which is suitable for large-volume printing. The Nippon Kayaku Group's industrial inkjet inks can achieve high-speed and high-quality printing on coated paper, a medium with poor absorbency, while using environmentally friendly water-based pigment inks. We are also developing inks for non-absorbent media such as film, which is more difficult to print on than coated paper, and customer recognition is expanding.

### Catalysts for the production of acrylic acid and methacrylic acid

The catalyst business of the Nippon Kayaku Group sells catalysts for the production of acrylic acid, a raw material for the high water absorption resin used in disposable diapers, etc. and methacrylic acid, a raw material for light guide plates and glass substitute transparent resins used in displays. We are developing our catalyst sales business by using our strengths in performance, in which we achieve unmatched high yields in gas-phase oxidation reactions that synthesize acrolein from propylene and then into acrylic acid, as well as our technical service capabilities for customers who actually use our catalysts.



## Life Science Business Unit

### Unmet needs: anti-cancer drugs

In the area of anti-cancer drugs, which is our strength, we are focusing on the development of drug candidates to address unmet medical needs (medical needs for diseases for which there is still no effective treatment) so that we can transition to a business model that includes new drugs in addition to generic drugs and biosimilars. The current development pipeline includes two drugs, Buparlisib (indication: recurrent/metastatic head and neck cancer) and Taltrectinib (indication: ROS1-positive non-small cell lung cancer), which are being developed for launch by March 2026.

### Insecticides / soil fumigants

We sell insecticides such as DIAZINON® and soil fumigants such as Double Stopper® in Japan, as well as overseas in Europe, Asia, Africa, and Central and South America, mainly for the vegetable and fruit tree pest control fields. In addition to launching formulations based on our know-how in formulation, we are contributing to sustainable agriculture through the research and development of new medicinal ingredients.



# Independent Assurance Statement

In order to enhance the reliability of the information contained in the Integrated Report 2024, the Nippon Kayaku Group has received assurance from an independent third party, Sustainability Accounting Firm, Inc. for the calculation of greenhouse gas emissions and its results.



## Independent Assurance Statement

September 18, 2024

Mr. Atsuhiko Wakumoto  
President  
Nippon Kayaku Co., Ltd.

### 1. Purpose

We, Sustainability Accounting Co., Ltd., have been engaged by Nippon Kayaku Co., Ltd., ("the Company") to provide limited assurance on the Company's following data of domestic and overseas Group companies during the fiscal year 2023, 2.08 million GJ of energy consumption, 30.2 kt-CO<sub>2</sub> for Scope 1, 72.5 kt-CO<sub>2</sub> for Scope 2 (market-based) and 346 kt-CO<sub>2</sub> for Scope 3 (categories 1, 2, 3, 4, 5, 6, 7, 9, 12, 13), 10.4 million m<sup>3</sup> of water intake, and 22.1 kt of waste generated (collectively, "the Environmental performance data"). The purpose of this process is to express our conclusion on whether the Environmental performance data were calculated in accordance with the Company's standards. The Company's management is responsible for calculating the Environmental performance data. Our responsibility is to independently carry out a limited assurance engagement and to express our assurance conclusion.

### 2. Procedures Performed

We conducted our assurance engagement in accordance with International Standard on Assurance Engagement 3000 (ISAE 3000) and International Standard on Assurance Engagement 3410 (ISAE 3410). The key procedures we carried out included:

- Interviewing the Company's responsible personnel to understand the Company's standards
- Reviewing the Company's standards
- Performing cross-checks on a sample basis and performing a recalculation to determine whether the Environmental performance data were calculated in accordance with the Company's standards.

### 3. Conclusion

Based on the procedures performed, nothing has come to our attention that causes us to believe that the Environmental performance data have not been calculated in all material respects in accordance with the Company's standards.

We have no conflict of interest relationships with the Company.

Takashi Fukushima  
Representative Director  
Sustainability Accounting Co., Ltd.

Global "sukima" ideas



Head Office:

Meiji Yasuda Seimei Bldg., 1-1, Marunouchi 2-chome,  
Chiyoda-ku, Tokyo 100-0005, Japan

<https://www.nipponkayaku.co.jp/english/>



Our Corporate Symbol:

This corporate symbol expresses the company policies of the Nippon Kayaku Group.

The space at the center represents the cosmos, world, and expanses of the Earth.

The two soaring ellipses represent creativity and courage and the two circles are the confidence between Nippon Kayaku, which aspires to extraterrestrial space, and the public.



The paper version of the Nippon Kayaku Group Integrated Report 2024 is produced using environmentally friendly digital inkjet printing.

For details, please refer to "Focusing on growth areas - Expansion of industrial inkjet inks and dyes" under Topics in the Fine Chemicals Business Unit on page 60 of this report.