TechnoAmenity Report 2023

NIPPON SHOKUBAI

Group Mission Framework and Safety Philosophy

Mission

Nippon Shokubai Group's promise to society

Values

Important guiding principles to fulfill our Mission

Code of Conduct

Guiding action principles for every person working at Nippon Shokubai Group

Safety Philosophy

Safety takes priority over production

TechnoAmenity

Providing prosperity and comfort to people and society, with our unique technology.

Respect Diversity

We will create new value by respecting the unique traits of each person.

Pioneer New Possibilities

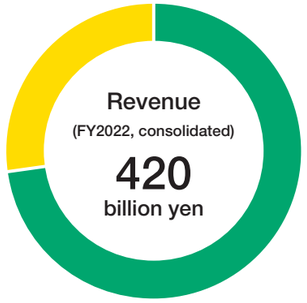
We will courageously provide solutions to customer challenges and social issues.

Preserve the Global Environment

We will work to ensure a better global environment is passed down to the next generation.

At a Glance

Under the Group Mission "**TechnoAmenity**: Providing Prosperity and Comfort to People and Society, with Our Unique Technology," in our Materials business, we provide high-quality materials that support a broad range of industrial activities, and in our Solutions business, we provide high-function products and services that meet various needs.



Materials
Solutions

*The aggregate totals of revenue and operating profit are each based on the figures reported in the consolidated financial results for the fiscal year ended March 31, 2023.

Materials Business

Provides high-quality materials worldwide through sophisticated production technologies

Basic materials

Used as raw materials for a broad range of products, including fibers, resins and detergents

- **Ethylene oxide**
- **Ethylene glycols**
- **Ethanolamines**
- **Maleic Anhydride**

Ethylene oxide, a raw material for surfactants, etc.

Ethylene glycol, a raw material for polyester fibers, etc.

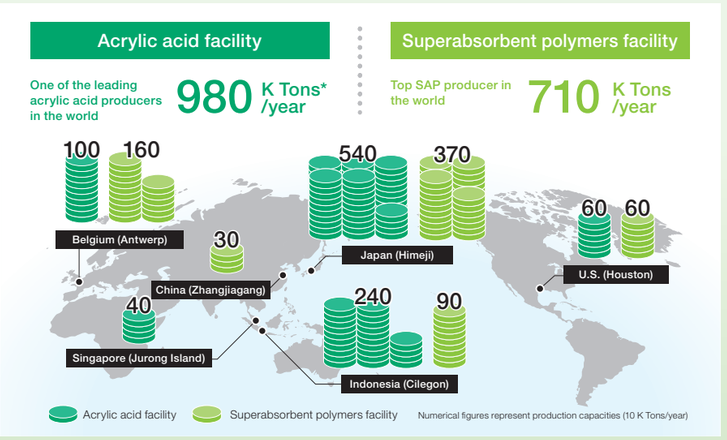
Acrylics

Consistently manufacture and supply absorbent materials for disposable diapers, materials for paints and adhesives, and acrylic acid (AA), a raw material for them.

- **Acrylic acid**
- **Acrylates**
- **Superabsorbent Polymers (SAP)**

Acrylates, a raw material for paints, adhesives, etc.

SAP, a material for disposable diapers, etc. prepared from AA



Solutions Business

Provides unique functional products that can satisfy customer needs in a wide range of industries by capitalizing on our strengths in developing key materials.

Industrial & Household

We provide high-function products and solutions mainly to the infrastructure/housing and lifestyle product markets.

- **AQUALIC™L**
- **AQUALOC™**
- **ACRYSET™**
- **Ethyleneimine derivatives**
- **SOFTANOL™**

Water treatment/scavenging of harmful substances

Improvement in the performance of detergents

Energy & Electronics

We provide high-function products and solutions to growing areas, including batteries, electronics, and environmental purification.

- **ACRYVIEWA™**
- **IONEL™**
- **Environment & Catalysts**
- **VEEA™**

Improvement in battery performance

Optical control

Materials for high-quality printing

Decomposition of harmful substances in exhaust gas/waste water

Life Science

We provide support for drug discovery and the development of middle-molecular drugs through contract manufacturing services for APIs (active pharmaceutical ingredients), including oligonucleotide and peptides. In addition, we propose multifunctional cosmetics ingredients with skin care as the core target.

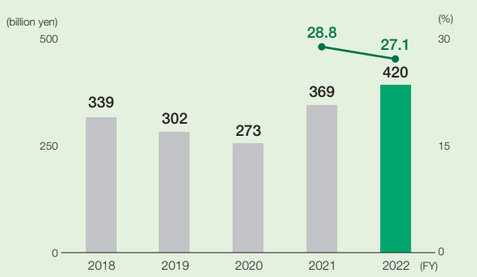
- **API manufacturing service**
- **Cosmetics ingredients**

Manufacturing of middle-molecular APIs

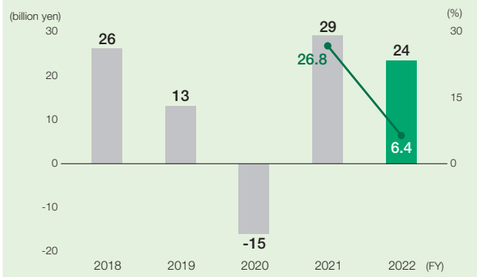
Functional cosmetics ingredients

Financial and Non-financial Highlights

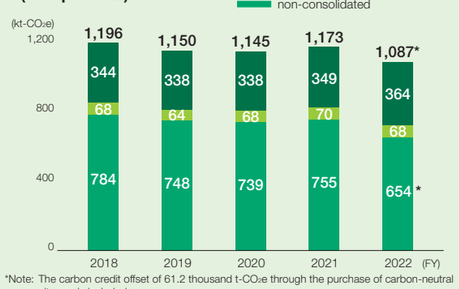
Revenue / Rate of the Solutions Business



Operating profit / Rate of the Solutions Business

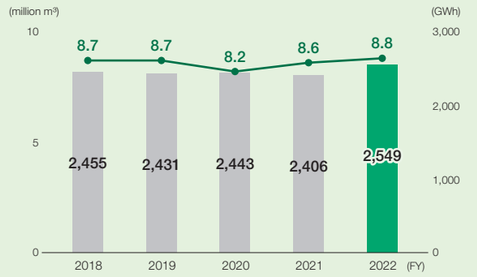


GHG emissions (Scope 1+2)

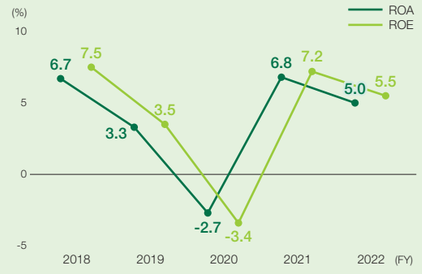


*Note: The carbon credit offset of 61.2 thousand t-CO₂e through the purchase of carbon-neutral city gas is included.

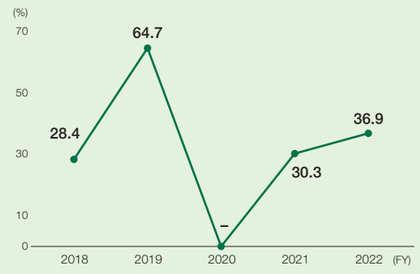
Water Consumption / Energy Consumption



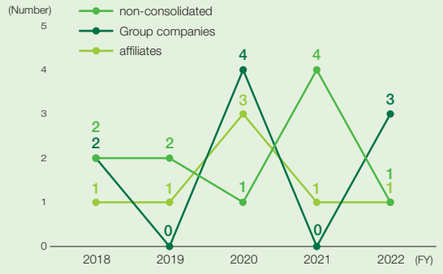
ROA / ROE



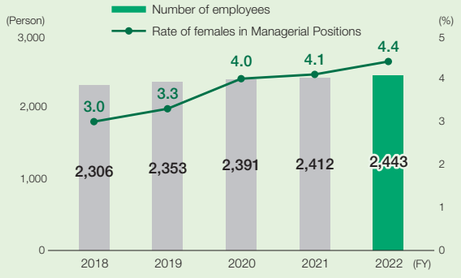
Dividend payout ratio



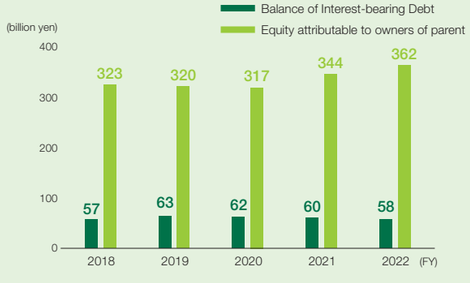
Injury with loss of workdays (non-consolidated, Group companies, affiliates)



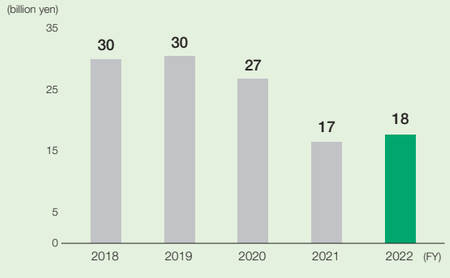
Number of employees / Rate of females in Managerial Positions



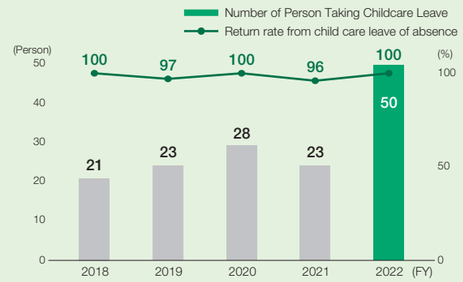
Balance of Interest-bearing Debt / Equity attributable to owners of parent



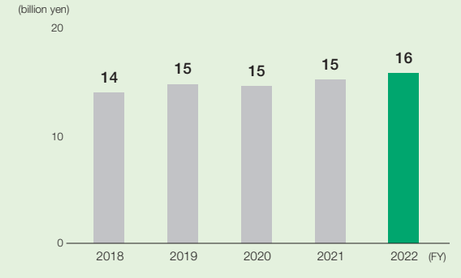
Capital investments



Number of Person Taking Childcare Leave / Return rate from child care leave of absence (Non-consolidated)



R&D expenses



Editorial Policy

Starting from 2019, Nippon Shokubai has published “TechnoAmenity Report” as a report that covers both financial information, such as business plans and results, and non-financial information, such as ESG (environmental, social, and governance) activities.

From fiscal 2022 onward, we have decided to publish the TechnoAmenity Report as an integrated report that provides a wide range of information—including materiality, value creation processes, business strategies, governance, and financial data—in order to clearly convey the Nippon Shokubai Group’ s medium- to long-term initiatives for value creation to all stakeholders, including shareholders and investors.

RC Report, which covers details of our Responsible Care (RC) activities, and ESG data compiling numerical figures of our ESG initiatives are available on our company website. We recommend that you read them along with this Report.

Overview of our Reporting Media

Story of Value Creation

● **TechnoAmenity Report** (Japanese/English)

Financial data

- **Annual Securities Report (Japanese)**
- **Financial Report (English)**
- **Website pages Investor Relations**
  https://www.shokubai.co.jp/en/ir/

Non-financial data

- **RC Report** (Japanese/English)
- **Website pages Sustainability**
  https://www.shokubai.co.jp/en/sustainability/
- **Website pages ESG Data**
  https://www.shokubai.co.jp/en/sustainability/data/

Scope of this Report

This Report contains the Nippon Shokubai Group’s corporate activity details, ESG information, and financial data.

Reporting period ····· April 1, 2022 to March 31, 2023 Some topics in and after April 2023 are also contained in the report.
Publication date ····· November 2023
Reference guideline ····· IIRC (International Integrated Reporting Council: International Integrated Reporting Framework)

We are included in these ESG investment indices (as of July 2023).

FTSE4Good

FTSE Blossom Japan Index

2023 Sompo Sustainability Index

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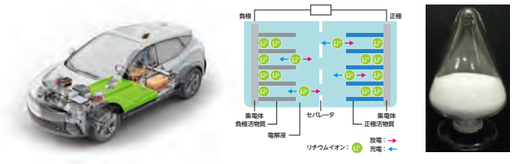

56 **Tripartite Talk**
“Enhancement of the Effectiveness of the Board”

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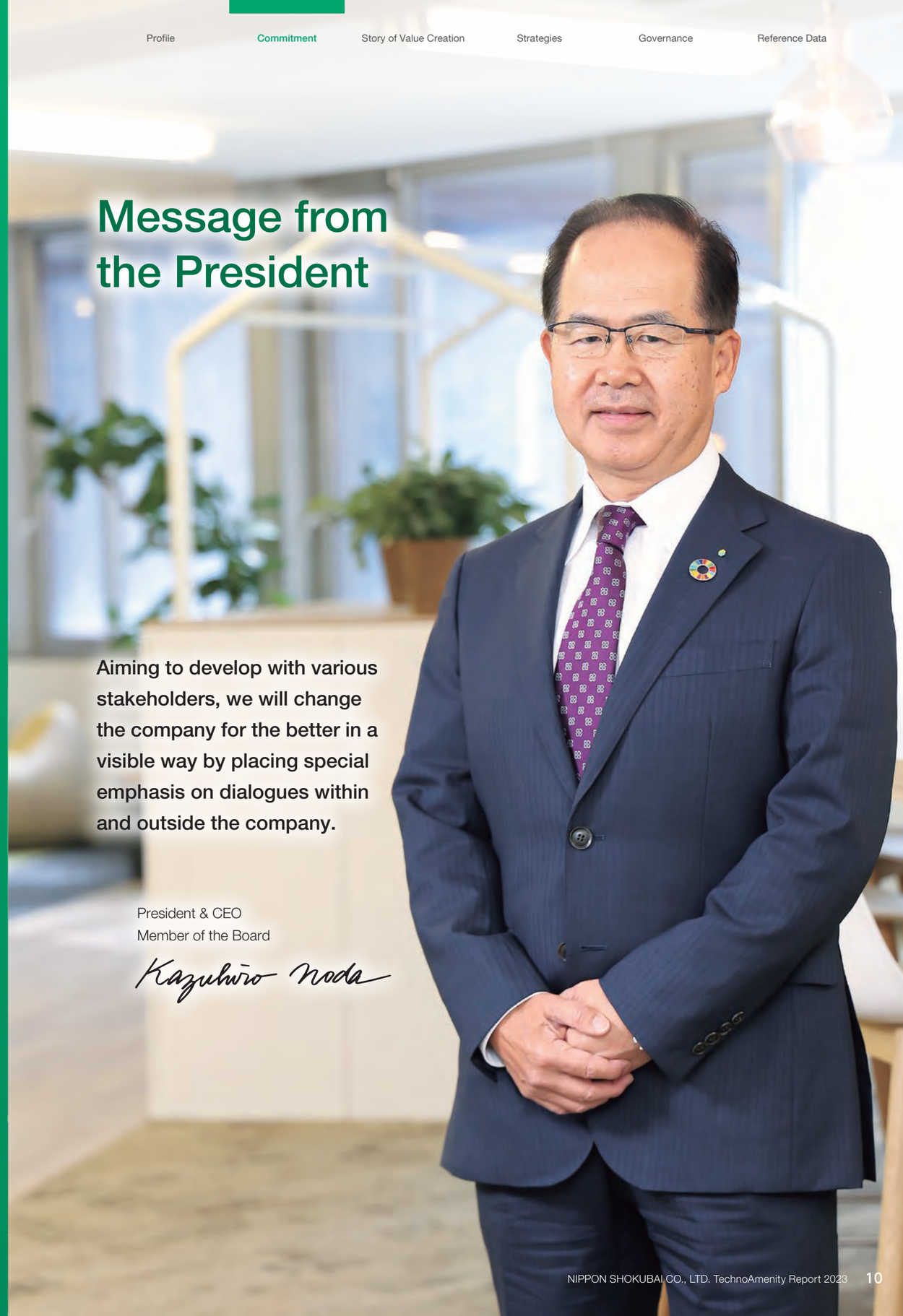
Commitment

President & CEO Kazuhiro Noda shares with all stakeholders the progress of the “Three transformations” outlined in the Medium-term Management Plan “TechnoAmenity for the future- Ⅰ” and his thoughts about the Nippon Shokubai Group’s ability to create value in the medium and long terms.

10 Message from the President

Message from the President



Aiming to develop with various stakeholders, we will change the company for the better in a visible way by placing special emphasis on dialogues within and outside the company.

President & CEO
Member of the Board

Kazuhiro Noda

Introduction

The Nippon Shokubai Group conducts business activities in pursuit of the fulfillment of its Mission: "**TechnoAmenity** : Providing Prosperity and Comfort to People and Society, with Our Unique Technology." The Mission reflects our strong desire to contribute to creating a society where people can not only enjoy material affluence but also lead a comfortable life, physically and mentally, with hope for the future.

Since its founding in 1941, Nippon Shokubai has provided chemicals, including ethylene oxide (EO), acrylic acid (AA), and superabsorbent polymer (SAP), through the development of unique technologies. These chemicals have been used for detergents, fibers, disposable diapers, and other key products that are related to people's comfortable and prosperous lives, leading to the realization of "**TechnoAmenity**" and the considerable growth of our company.

In recent years, however, the globalization and commoditization of these chemicals has heated up global low-cost competition, making our business environment severer than ever. Moreover, the functions required for products have become increasingly diverse, including environmental impact reduction. Furthermore, ESG activities toward the realization of a sustainable society, including initiatives to address climate change and other environmental issues, have become an essential factor for companies to survive.

In response to these situations, we have formulated the Long-term Vision "TechnoAmenity for the future," which states our FY2030 goals. Toward the achievement of the goals, we have developed our Medium-term Management Plan "TechnoAmenity for the future-Ⅰ" and been promoting the plan, regarding FY2022 to FY2024 as Phase 1, when we strengthen the foundation for transformations and implement them (see p. 26 for details).

FY2022, or the first year of the Medium-term Management Plan, saw dizzying changes in the economic environment, including the prolonged impact of the COVID pandemic; soaring prices of petroleum and other chemical materials as well as natural gas and other energies, triggered by the tense situation in Ukraine; and rapid currency exchange fluctuations in response to European and U.S. interest-rate policies.

Since the beginning of this year, thanks to the end of the COVID pandemic, positive signals have appeared on the horizon, including the revival of inbound tourism and the recovery of the Chinese economy. Meanwhile, a global economic setback is anticipated based on negative factors, including high energy prices caused by the prolonged situation in Ukraine; and the ailing economies of certain countries due to tight monetary policies (as of June 2023). Furthermore, consumption trends after the end of the COVID pandemic have changed from those before the pandemic, and a downturn in consumption caused by inflation seems to be unavoidable for the time being.

Amid such turbulence in our business environment, we still consider that the following "Three transformations," outlined in the Long-term Vision and the Medium-term Management Plan, are essential for our sustainable growth and evolution: "Business Transformation," "Strategic Transformation for Environmental Initiatives," and "Organizational Transformation." I believe that it is important to ultimately achieve our goals while flexibly modifying our strategies in the process in response to external changes. Therefore, while adhering to the direction and goals indicated in the Long-term Vision and the Medium-term Management Plan, we will advance our efforts, focusing on how we can achieve the goals.

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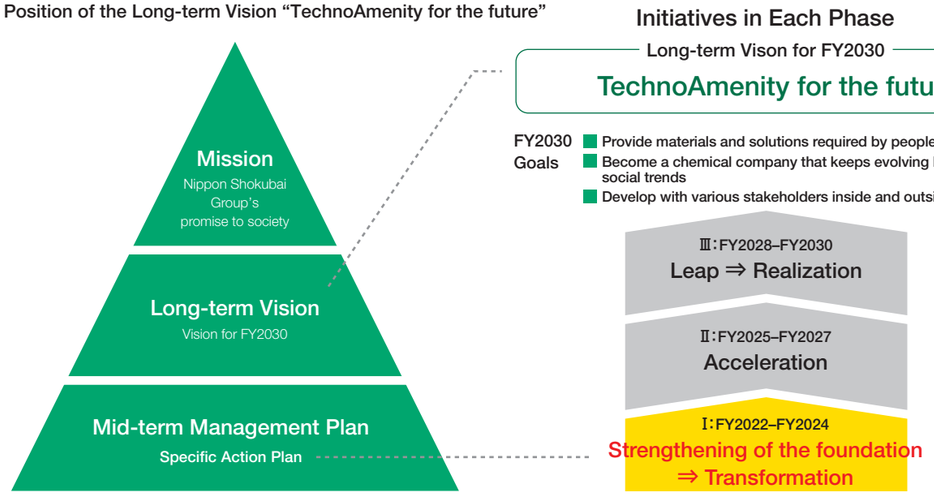
Position of the Long-term Vision "TechnoAmenity for the future"



"Three transformations" toward the "FY2030 Goals"

1 Business Transformation — **Transform portfolio from existing to growth fields**

2 Strategic Transformation for Environmental Initiatives — **Promote sustainability to realize carbon neutrality by FY2050**

3 Organizational Transformation — **Transform into an organization with sustainable growth and a company where diverse talent are motivated to work**

FY2022 Overview

Business Transformation

Since FY2022, Nippon Shokubai's businesses have been reorganized into two segments: Materials and Solutions. This reorganization is based on our intention to drastically rebuild our Materials business to strengthen our business foundation while expanding our Solutions business, which is highly profitable, to further increase profitability. We have set the business targets of achieving a sales ratio of 65:35 and an operating profit ratio of 50:50 between the Materials and Solutions businesses by FY2024. As for FY2022 results, the Materials business achieved a sales increase from the previous year but remained at the same level of operating profit, while the Solutions business achieved a sales increase but had in an operating profit decrease from the previous year (see p. 33 for details). A decrease in sales volume had a significant impact on these results. As mentioned above, however, we will adhere to the goals and build a firm business foundation that is not susceptible to changes in market conditions.

The progress of the business plan is described as follows. Regarding the Materials business, the SAP Survival Project, which has been continued for the purpose of strengthening the profitability of AA and SAP, proceeded almost as well as planned. The EO Resilience Project, which started in FY2021 as a horizontal expansion of the SAP Survival Project, has been proceeding as planned, toward the achievement of the profitability improvement target for FY2024.

Regarding the Solutions business, we have invested human resources into our planning and sales organizations, and almost finished developing a platform that would become the key to strengthening our solution proposal capability. In FY2023, we will start full-fledged operation of this platform and promote the development themes that have been worked on as a company-wide project ("One Team" activities), accelerating the expansion of the Solutions business. Moreover, as one of the measures to

improve profitability through expanded sales of strategic products, we have been promoting initiatives toward the business expansion of IONEL™, our electrolyte for lithium-ion batteries. Specifically, we will expand the business in China and Europe through alliance with partner companies, and grow it over the medium to long term based on this competitive advantage of local production for local consumption. This collaboration is based on our view that, amid the recent drastic changes in our business environment, we will not be able to gain sufficient competitiveness by doing business all by ourselves as we did before. We will continue to accelerate the business expansion of our strategic products while strengthening cooperation with our various external partners.

Strategic Transformation for Environmental Initiatives

Regarding climate change, in response to the full-scale implementation of CO_2 emissions trading in the EU, Japan has begun to consider the introduction of carbon surcharge and emissions trading systems. Discussions are under way, mainly in the EU, on a carbon border adjustment mechanism for products imported from outside the region. Initiatives to reduce carbon emissions have been further accelerating toward the globally common goal of achieving carbon neutrality by 2050.

Initiatives to reduce greenhouse gas emissions

Nippon Shokubai has set the FY2030 goal of reducing greenhouse gas emissions from the company and its Group companies in Japan by 30% compared to FY2014. Two years ago, in FY2021, continued energy-conservation activities at our plant sites played a key role in emissions reduction compared to FY2014, but due to a production volume increase, emissions were reduced only by 2% compared to FY2014. However, Since FY2022, we have been promoting the use of carbon neutral city gas, which is equivalent to a reduction of approximately 7% in CO_2 emissions, and combined with our existing energy-conservation activities, we have achieved a 14% reduction in CO_2 emissions. Toward the achievement of the FY2030 goal, we will also promote process improvements and catalyst efficiency improvement.

Moreover, for the promotion of Group-wide CO_2 emissions reduction, we have decided to introduce internal carbon pricing.

Achievement of carbon neutrality by 2050

Keeping an eye on the possibility of revising the FY2030 emissions reduction goal upward, we have been proceeding with the introduction of biomass materials. This fiscal year, we obtained ISCC PLUS certification for 19 items produced at the Himeji and Kawasaki Plants, including AA, SAP, and EO. With this certification, we have established a system of manufacturing and selling certified products to which biomass-derived materials are allocated in the mass balance system. Moreover, NSE, our subsidiary in Europe, has started to produce and supply ISCC PLUS-certified SAP.

We have also been engaged in the development of a new acrylic acid manufacturing process using 100% biomass derived from natural products and a joint study with other companies for manufacturing and marketing ethylene oxide derivatives using biomass raw materials.

We believe that these products, made from natural materials, will not only meet the needs of global environmental protection and environmental load reduction, but will also be indispensable to our further growth.

Diverse global environmental issues

Various countries are making progress in discussions about and specific requests for risk recognition and information disclosure regarding the sustainability of natural resources such as water resources and biodiversity in addition to climate change measures. We at the Nippon Shokubai Group disclose information on our water resource-related initiatives through the CDP (Carbon Disclosure Project). Furthermore, at the end of FY2022, we began to announce the results of surveys of biodiversity-related risks. We deal in products that contribute to the sustainability of water resources, including wastewater treatment catalysts and osmotic pressure generating agents for seawater desalination. While contributing to society with these products, we take these social issues as business opportunities for chemical companies like us, and we will promote the development of new environmental contribution products, leading it to our future growth.

Organizational Transformation

For the sustainable growth of a company, the growth of both individuals and organizations in the company is indispensable. We strive to develop a pleasant work environment and in-house systems, and make our company a place where diverse talents are motivated to work and where individuals and organizations can grow together. To be more specific, we have identified the following three issues and executed measures for them: the development and empowerment of human resources, organizational growth, and the strengthening of corporate governance.

Regarding the development and empowerment of human resources, we began to employ a new personnel system in FY2022. We have also developed “autonomous talents” and established systems that support diverse work styles and the empowerment of diverse talents.

Regarding organizational growth, we have implemented authority delegation for quicker decision making. We will continue to take measures to strengthen labor-management dialogue, including a system that allows employees to advance proposals to the management.

Regarding the strengthening of corporate governance, we have developed the management’s skill matrix to address increasingly complex and diverse issues. In FY2022, we introduced a performance-linked stock compensation plan to encourage board members to contribute to enhancing our medium- to long-term business performance and increasing our corporate value. Through the implementation and improvement of related measures, we will continue to pursue corporate governance that will lead to our corporate growth.

In order to promote and strengthen these measures, we also conducted an engagement survey and began to use this system on a regular basis. In the FY2022 engagement survey, employees suggested that there was room for improvement in “growth potential and future prospects of businesses” and “confidence in the management.” We consider these suggestions as the matters we should improve in order to promote the Medium-term Management Plan, and we will make continuous initiatives toward the transformation.

In the previous fiscal year, we developed corporate systems for Organizational Transformation. We consider Organizational Transformation a key matter that affects the possibility of our success in Business Transformation and Strategic Transformation for Environmental Initiatives in the medium to long term.

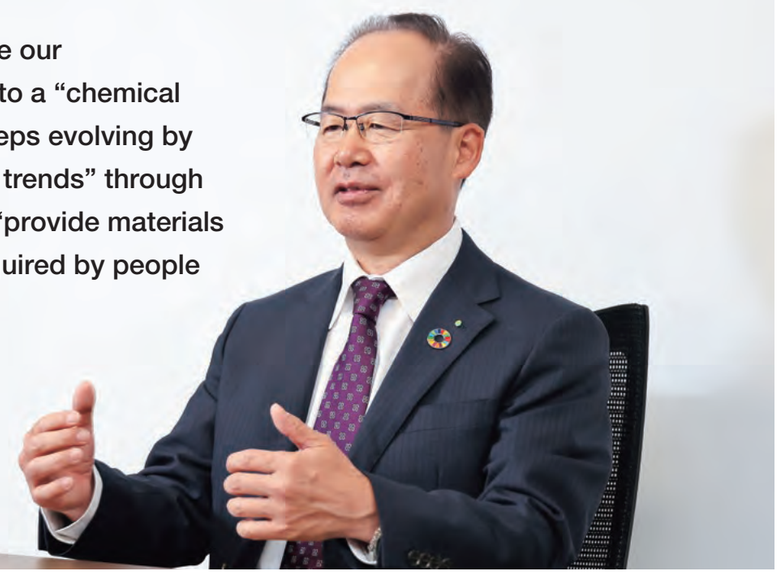
Promotion of a Digital Transformation

In FY2022, to advance the “Three transformations,” we accelerated the promotion of digital transformation (DX). We began to give all employees DX training in order to help them understand what we pursue through DX and to provide them with basic knowledge in using digital technologies. We also proceeded with the introduction of a platform that strengthens our solution proposal capability and a system that supports the integration and full use of information.

We focus particularly on initiatives led by the Production Division for the consolidate management of plant information and the optimization of production plans. We will start with tangible improvements, including a significant reduction in the time spent searching for information and developing plans, and then we will explore the possibility of predictive maintenance and energy conservation.

While the use of digital technologies will become an increasingly important means of supporting our transformations, we believe that we cannot maximize the effect of using digital technologies if we rely only on a fraction of our human resources who are experts in the field. We will continue to enrich company-wide training to secure the human resources we need to promote DX.

We will accelerate our transformation into a “chemical company that keeps evolving by identifying social trends” through our initiatives to “provide materials and solutions required by people and society.”



Conclusion

Setting the three years from FY2022 to FY2024 as a period of strengthening the foundation for transformations and implementing them, we are steadily stepping up our initiatives for the transformations. Meanwhile, the external environment is constantly changing irrespective of our pace of taking measures. As outlined in the FY2030 goals, we will accelerate our transformation into a “chemical company that keeps evolving by identifying social trends” through our initiatives to “provide materials and solutions required by people and society.”

Regarding the transformations, aiming to “develop with various stakeholders inside and outside the company,” we will change the company for the better in a visible way by placing special emphasis on dialogues within and outside the company and actively adopting various suggestions. We will also contribute to the realization of a sustainable society through collaborations with all stakeholders.

Under the Safety Philosophy “Safety takes priority over production,” we will continue to promote safe and stable production activities, taking special notice of the responsibilities we should fulfill, including those for contributing to the peaceful lives of local community residents, ensuring stable product supply to customers, and maintaining a safe working environment for our employees.

Story of Value Creation

The Nippon Shokubai Group has formulated its Long-term vision “TechnoAmenity for the future,” aiming to flexibly respond to diversifying customer and market needs and help resolve a wide variety of social issues, including climate change. To achieve FY2030 Goals, we will push ahead with “Three transformations” and steadily implement initiatives to address materiality (material issues), thereby offering new value to our customers and society over the medium- to long term.

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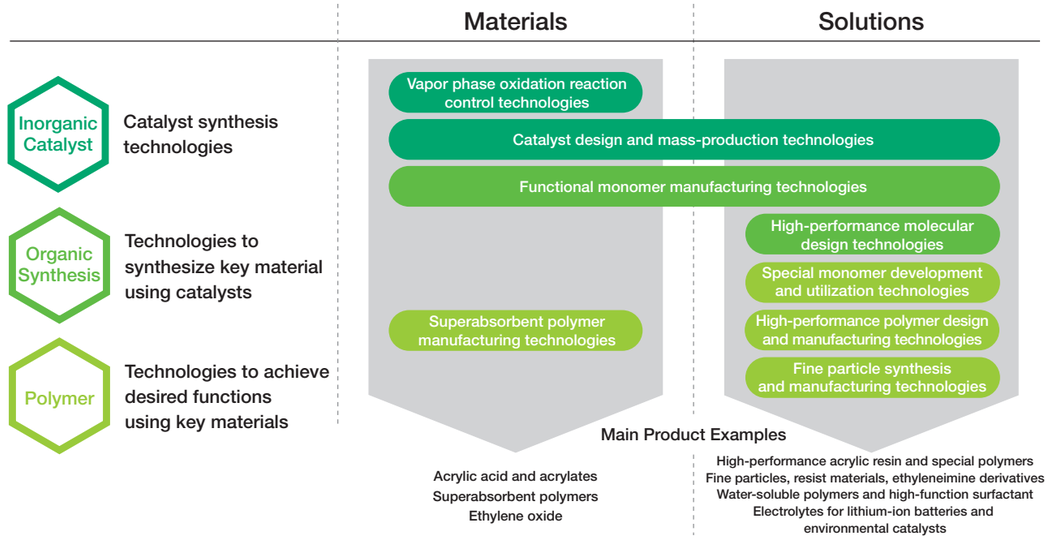
Nippon Shokubai’s Core Technology

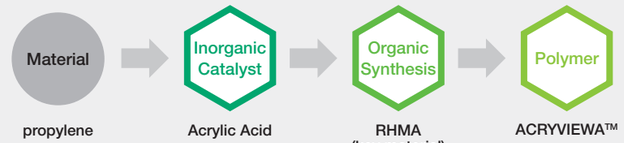
Since it succeeded in commercial production of phthalic anhydride for the first time in Japan in 1941, Nippon Shokubai has been promoting the development of unique technologies.

We have created various monomers, including ethylene oxide and acrylic acid, which serve as a foundation for our business, based on the vapor phase oxidation reaction caused by an inorganic catalyst. We have deployed them in functional monomer manufacturing and deployed catalyst design technologies in the production of environmental catalysts. In addition, those monomers were polymerized to develop into a superabsorbent polymer and other products. By being combined with organic synthetic technology that gives unique performance to materials, polymer design technology has brought about the development of various types of functional materials, including high-function polymers and particle materials.



FOCUS

Creating new value by combining core technologies



RHMA

An abbreviation for α-hydroxymethyl acrylate
The copolymerization of RHMA makes it possible to control heat-resistant and optical properties while maintaining transparency unique to acrylic polymer, thereby enabling the creation of a polymer suitable for optical film.

ACRYVIEWA™, contributing to the improvement of LCD (liquid crystal display) performance

History of Value Creation

Numerous chemical industry firsts in Japan and worldwide are testimony to our history of success in evolving our R&D and production technology capabilities. We are an innovative chemical company that leverages new and existing core technologies to provide customer solutions.

1941-

Established as Nippon Shokubai Kagaku Kogyo Co., Ltd.
First in Japan to commercially produce phthalic anhydride

1959-

Used proprietary technology to commercially produce ethylene oxide (EO) for the first time in Japan

Opened Kawasaki and Himeji factories

1970-

First in Japan to commercially produce acrylic acid (AA)

1981-

Launched commercial production of MMA*
Launched full-scale production of superabsorbent polymers (SAP)

Established NAII

* methyl methacrylate

1991-

Accelerated the global rollout of AA and SAP

Established NSE and NSI

2001-

Expanded the electronics & information materials business
Expanded the AA business (AA/MMA business exchange)

Established NSC, acquired SAA shares

2010-

Launched the health & medical business and the cosmetics business

2030

Revenue (consolidated) target Approx. 500 billion yen

Resin additives

Contribution to improving the performance of synthetic resins, including polyvinyl chloride

EO and its derivative

Provision of raw materials for fibers, resins, detergents, and other products that support rapid economic growth

AA and its derivative

Provision of raw materials that support various industrial materials such as paints and resins

SAP Building materials

Provision of raw materials for disposable diapers, which help ease the burden of childcare arising along with the progress of women's participation in society

Contribution to enhancing the safety and durability of social infrastructure with technology that supports high-strength constructions

Environmental catalysts Fuel cells

Contribution to detoxifying dioxins and harmful substances in waste water in response to the growing awareness of environmental issues

Provision of new battery materials that support the promotion of green energy

Electronic materials

Provision of materials that meet demand for increased functionality of smartphones and TVs

Battery materials

Contribution to enhancing the performance of lithium-ion batteries, a key to CO_2 emission reductions

Investment in Hunan Fluopont to expand our lithium-ion battery electrolyte (IONEL™) business (see "Strategies of Our Business in China" on p.39)

Abbreviation

NAII：Nippon Shokubai America Industries, Inc.
NSE：NIPPON SHOKUBAI EUROPE N.V.
NSI：PT. NIPPON SHOKUBAI INDONESIA
NSC：NISSHOKU CHEMICAL INDUSTRY (ZHANGJIAGANG) CO., LTD.
SAA：SINGAPORE ACRYLIC PTE LTD
Hunan Fluopont：Hunan Fluopont New Materials Co., Ltd.

Nippon Shokubai's Value Creation

Social trends

Population growth, an aging society, growing economies of emerging countries, etc.

Social issues

Achieving a long healthy life, responding to climate change, inventing new materials to support technological development, etc.

Management capital

Human capital

- No. of employees: 4,574
- Ratio of females managers (non-consolidated): 4.4%

Intellectual capital

- R&D expenses: 16 billion yen
- No. of intellectual properties owned: 2,157

Manufacturing capital

- Domestic Production Sites: 10
- Overseas Production Sites: 7
- Capital investments: 18 billion yen

Natural capital

- Water consumption: 9 million m³
- Energy consumption (crude oil equivalent): 310,000 kL

Financial capital

- Rate of equity attributable to owners of parent: 69.2%
- Rating (by Rating and Investment Information, Inc.)*: A

Social capital

- No. of consolidated subsidiaries: 26
- Expense for activities on social contributions (non-consolidated): 200 million yen

* As of August 22, 2022

Action plan

Three transformations

1 Business Transformation p.33～

2 Strategic Transformation for Environmental Initiatives p.47～

3 Organizational Transformation p.49～

× Promotion of a Digital Transformation p.53～

Materiality

Materiality p.23～

Evolution of our business models p.21～22

Achieving the Materials Business Resilience

Expand the Solutions Business

Nipponshokubai's Core Technology

p.16

Inorganic Catalyst | Organic Synthesis | Polymer

Mission

TechnoAmenity p.1～

Long-term Vison for FY2030 "TechnoAmenity for the future"

FY2030 Goals

- Provide materials and solutions required by people and society
- Become a chemical company that keeps evolving by identifying social trends
- Develop with various stakeholders inside and outside the company

p.12

Major output

Transform portfolio from existing to growth fields

p.33～

Business Transformation

Realize carbon neutrality by FY2050

p.47～

Strategic Transformation for Environmental Initiatives

A company where diverse talents are motivated to work and an organization with sustainable growth

p.49～

Organizational Transformation

Outcome

Customers and society

Environmental Initiatives / Carbon Neutrality

- Broader use of hydrogen
- CO_2 recovery and recycling
- Biomass-derived products
- Securing water resources through the desalination of seawater

Advancement of Digital Technologies

- Materials for displays
- Battery materials

Higher Quality of Life

- Raw materials for disposable diapers
- Cosmetics ingredients
- Oligonucleotide drug discovery business

Employees

- Hand-in-hand growth with the company

Business partners

- Fair and equitable trade in compliance with laws and regulations and with a strong sense of ethics for mutual sustainable growth

Shareholders

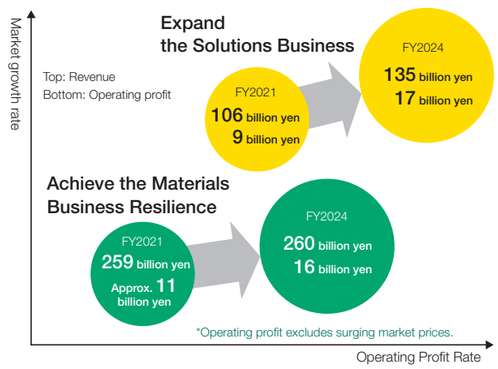
- Increase in medium- to long-term returns

Evolution of Our Business Models

Portfolio Transformation

The Materials business has the advantage of providing high-quality products and having a global supply system. At the same time, however, it also has the weakness of making it difficult to secure stable profits because it is “a material selling business” that is susceptible to market changes. In an effort to enhance medium to long term corporate value, we will grow the more profitable Solutions business by strengthening solution proposals and concentrating resources on selected markets, and thereby evolving our business structure from “selling individual materials” to “providing solutions.”

Toward portfolio transformation, by FY2024, we aim to double the operating profit of the Solutions business compared to FY2021, and also to increase the operating profit of the Materials Business, excluding surging market prices, 1.5-fold compared to FY2021.



Achieving the Materials Business Resilience

We will also strive for added value improvement through sustainability initiatives centered on a shift to bio-based raw materials. To be more specific, we will promote the use of biomass-based raw materials (in the mass balance system) for many products, including products of the Solutions business. It will also strengthen our business foundation to improve our profitability by continuing the SAP Survival Project and promoting the EO Resilience Project.

Expand the Solutions Business

The needs of our customers have become more diverse and complex. To meet the trend in a timely manner, we will propose composite solutions that feature a combination of multiple products, technologies, and services through cross-departmental sharing of information on selected markets. We aim to strengthen our solution proposal capability, concentrate resources on selected markets, and expand the sales of our strategic product line-up to improve profitability.

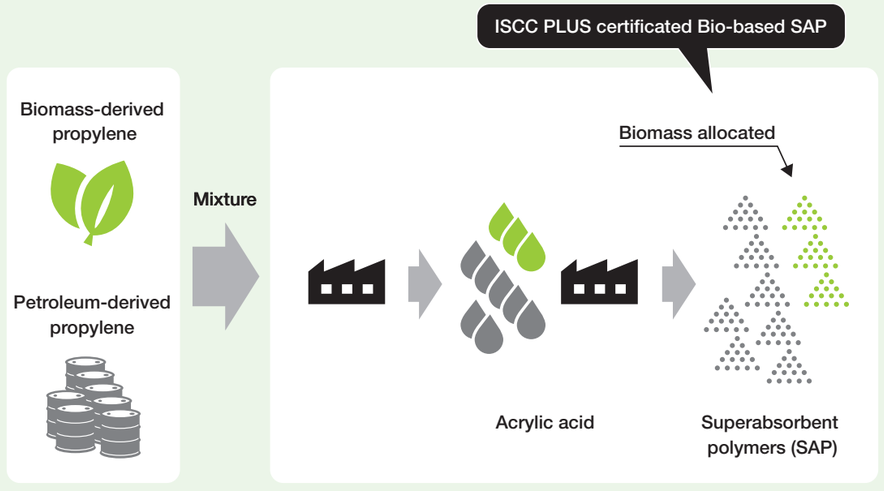
Strengthen Planning, Development, and Marketing Capabilities

We are promoting the visualization and sharing of customer information by establishing a system that enables active cross-departmental sharing of information. We are also striving to strengthen our planning, development, and marketing capabilities through digital transformation (DX).

Achieving the Materials Business Resilience

Stronger Promotion of Carbon Neutrality Support

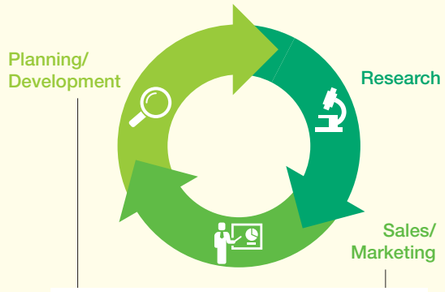
Bio-based SAP Initiatives



Start production of AA/SAP from bio-based propylene using a mass balance system. (Pioneer effort at NSE in Europe)

Expand the Solutions Business

Better Understanding of Customer Challenges and Stronger Solution Proposals



- Set up planning dept. in each business division
- Strengthen cross-departmental development activities
- Promote digital marketing

Strategically Increase Human Resources

Add approx. 70 employees over 3 years

Approx. 330 employees

Approx. 400 employees

Industrial & Household Solutions Division, Energy & Electronics Solutions Division, Health & Medical Business Development Office, Cosmetics Business Office, and Business Planning & Development Division

Provide even greater added-value through customer-oriented solutions to challenges

Market Needs
(Social/Customer Needs)

- Identify the challenges in selected markets
- Visualize and share sales information
- Analyze and devise Group-wide measures
- Propose integrated solutions through products with added value (Formulation/services)
- Combine multiple products and technologies

Nippon Shokubai Group Strengths: Proprietary Products and Technologies

“Three transformations” and Materiality

To achieve the FY2030 Goals set forth in the Long-term vision “TechnoAmenity for the future," the Nippon Shokubai Group is currently working on “Three transformations” under the Mid-term Management Plan “TechnoAmenity for the future-Ⅰ.” We will appropriately manage the progress of initiatives for the “Three transformations” by identifying materiality (material issues) and clearly setting KPIs (key performance indicators), specific goals and target years.

For the identification of materiality, we determined the scope of challenges to be tackled through discussions at the TechnoAmenity (TA) Promotion Committee, narrowed down the scope by reference to the Group’s long-term vision and “TechnoAmenity for the future-Ⅰ,” and obtained approval from the Board of Directors after repeated deliberations in the TA Promotion Committee.

Materiality Identification Process

Identifying sustainability issues → Priority and importance assessment and materiality identification → Setting measures and goals for materiality → Management discussion and approval

For details, please see the Nippon Shokubai website. https://www.shokubai.co.jp/ja/sustainability/concept/materiality/

Three transformations	Materiality	KPI and their ideal state	Year of achievement	Actual performance in FY2022	See page(s)
1 Business Transformation	Contribute to solving customer issues	(1) Develop a platform to strengthen solution proposals (2) Expand the Solutions business to achieve the dual focus of the Materials and Solutions businesses (Sales ratio of 50% each, revenue of the 500 billion yen level)	(1) End of FY2024 (2) End of FY2030	Completed the introduction of the foundation system for information sharing	34
2 Strategic Transformation for Environmental Initiatives	Promote climate change response	● Scope 1, Scope 2: reduce CO_2 emissions by 30% from the 2014 level (Nippon Shokubai and Group Companies in Japan)	End of FY2030	Reduced by 14% (including an offset equivalent to 7.3% through the purchase of carbon-neutral city gas)	47
		● Develop and socially implement technologies for resource use reduction and recycling	—		
		Environmental Contribution Products Revenue: (1) 55 billion yen (2) 135 billion yen	(1) End of FY2024 (2) End of FY2030	44 billion yen	48
3 Organizational Transformation	Developing/ Promoting the Active Participation of Talent	● Improve the employee engagement score (transformation and growth of people and workplaces through early establishment of a new personnel system, linkage with multi-layered measures, and organizational improvement) ● Increase in the number of applicants for solicit publicly proposed autonomous learning programs (e-learning, skill development training, online English conversation classes, etc.) and make these programs better known within the company	End of FY2024	● Began to conduct engagement surveys ● Began to conduct Company-recommended training named “autonomous learning programs” (with an attendance rate of about 20%)	50 51
		● Improve the employee engagement score (promotion of suitable assignments, individual motivation, and diverse and autonomous work styles through various systems such as self-assessment and the continuity of work location) ● Increase the ratio of female employees hired in the clerical and chemical fields to at least 30% ● Increase the ratio of females in managerial position to 6% or more	End of FY2024	● Began to conduct engagement surveys ● Rate of female employees hired in the clerical and chemical fields: 24.1% ● Rate of females in managerial positions: 4.4%	51
	Strengthen corporate governance	● Improve the effectiveness of the Board meeting by enhancing its decision-making of anagement policy and strategy, and supervisory functions	End of FY2024	Confirmed with a third-party evaluation that the effectiveness of the Board was ensured	64 56 (feature article)
		● Disclose a skills matrix of the Board meeting ● Satisfy the skills matrix of the Board meeting	End of FY2022 End of FY2024	● Started the disclosure at the end of FY 2022 ● Expanded the positions subject to the skills matrix disclosure (Statutory Corporate Auditors)	62
		● Introduce stock-based compensation for internal Members of the Board, etc.	End of FY2022	Introduced the plan at the end of FY2022 (Effectiveness being monitored on an ongoing basis)	
Key business foundation	Promote safe and stable production activities	● Third-party evaluation: maintain above industry standards for the petroleum and petrochemical industries	—	Conducted a third-party evaluation at the Kawasaki Plant Confirmed the maintenance of levels above industry standards (evaluations to be conducted every few years for individual business locations)	

* CO_2 emissions : Our Group’s emissions reduction targets are for greenhouse gases, but since they are mostly carbon dioxide (CO_2), they are referred to as CO_2.

Strategies

It has been two years since the Medium-term Management Plan “TechnoAmenity for the future-Ⅰ” was launched toward the realization of the FY2030 Goals set in our long-term vision. We are now working to solidify our foundation to carry out transformations. We report on the strategies, progress, and future outlook of each business toward the “three transformations.”

26 TechnoAmenity for the future-Ⅰ

27 Financial Strategy

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33 Transformation 1: Business Transformation

- 33 Expand the Solutions Business
- 35 Strategy by Market Domain: Industrial & Household
- 37 Strategy by Market Domain: Energy & Electronics
- 39 Special Feature IONEL™, an electrolyte in lithium-ion batteries
- 41 Strategy by Market Domain: Life Science
- 43 Creation of new businesses
- 45 Achieve the Materials Business Resilience

47 Transformation 2: Strategic Transformation for Environmental Initiatives

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49 Transformation 3: Organizational Transformation

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53 Promotion of a Digital Transformation

TechnoAmenity for the future-Ⅰ

Goal of TechnoAmenity for the future-Ⅰ

We have formulated “TechnoAmenity for the future-Ⅰ” toward achieving the FY2030 Goals set in our long-term vision. As a specific action plan through the end of FY2024, we will work on strengthening the foundation and implementing the transformation.

Nippon Shokubai will accelerate the three transformations by promoting a digital transformation

1 Business Transformation

Expand the Solutions Business

- **Strengthen solution proposals and concentrate resources on selected markets**
- **Expand sales of strategic product line-up to improve profitability**
  Double operating profit [compared to FY2021]

Achieve the Materials Business Resilience

- **Strengthen profitability and improve added value through sustainability initiatives**
  (Facility expansion: Only the acrylic acids currently in progress at Nippon Shokubai Indonesia [NSI])

2 Strategic Transformation for Environmental Initiatives

Contribute to reducing our environmental impact throughout the entire life cycle
(Resource mining through final product disposal)

- Reduce CO_2 emission from production processes
- Develop and expand sales of Environmental Contribution Products (reduce the environmental impact of customers)

3 Organizational Transformation

Realize frameworks able to foster Individual and organizational growth

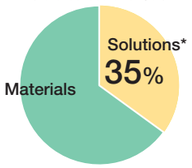
- Revise personnel systems
- Strengthen corporate governance
- Put in place measure to enhance productivity
- Delegate authority

Management Targets

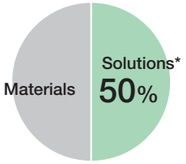
Expand the Solutions Business with the aim to reach record-high earnings in FY2024.

FY2024 Targets

Sales Ratio (Revenue: 395 billion yen)



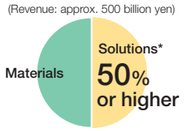
Operating Profit Ratio



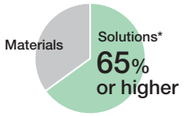
Operating Profit	ROE
33 billion yen	7.5%
From Solutions Business	ROA
17 billion yen	6.9%

FY2030 Goals

Sales Ratio (Revenue: approx. 500 billion yen)



Operating Profit Ratio

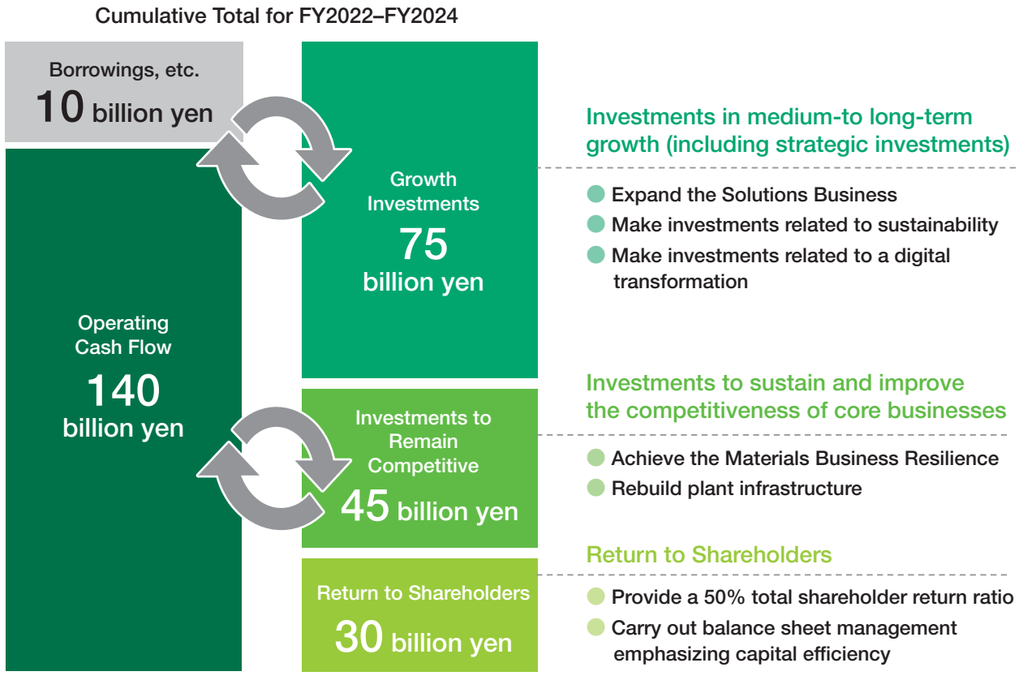


ROE	ROA
9% or higher	9% or higher

* Including new businesses

Financial Strategy

We aim to achieve a 7.5% ROE and a 6.9% ROA by the end of the Mid-term Management Plan “TechnoAmenity for the future-Ⅰ” (FY2024), by allocating a cumulative total of 150 billion yen generated over the three years to investments in medium- to long-term growth (including strategic investments) (75 billion yen), investments to sustain and improve the competitiveness of core businesses (45 billion yen), and return to shareholders (30 billion yen).



Growth Investments

We will allocate 75 billion yen as growth investments, 65 billion of which will be used for the expansion of the Solutions business and sustainability-related investments. For the Solutions business, we will implement strategic investments, in addition to new construction and expansion of relevant facilities. As sustainability-related investments, we will put capital into facilities for energy conservation or for the prevention of air/water pollution.

We will allocate 10 billion yen to DX-related investments, which will be made in building a data integration platform required for the deployment of digital technology in production sites, promoting marketing automation to strengthen our sales, planning and development capabilities, and promoting the introduction of materials informatics to strengthen our R&D capabilities.

Investments to Remain Competitive

We will allocate 45 billion yen to investments required to sustain and improve our competitiveness. To achieve the Materials Business Resilience, we will reinforce our related capabilities and improve our production efficiency. As part of efforts to rebuild plant infrastructure, we will also improve and update the equipment and buildings of the aging Himeji and Kawasaki Plants.

Results for FY2022

For FY2022, we decided to invest approximately 23 billion yen as both Growth Investments and Investments to Remain Competitive. As for DX-related investments, we will allocate approximately 40% of the planned amount.

Shareholder Return Policy for the “TechnoAmenity for the future-Ⅰ” period

Under “TechnoAmenity for the future-Ⅰ,” we will provide a stable return to shareholders that balances funding to enable sufficient investments to grow and remain competitive with the pursuit of capital efficiency. With regard to the dividend payout ratio to shareholders, we aim to secure 40%, higher than the 35.5% average over the past 10 years (FY2012 to FY2021). At this time, the total shareholder return ratio, including the purchase of treasury stock, will be 50%.

Provide a stable return to shareholders that balances funding for sufficient investments to grow and remain competitive with the pursuit of capital efficiency.

Total shareholder return ratio: 50%
(Dividend payout ratio: 40%; Purchase of treasury stock: 10%)

Return to Shareholders (Targets and Actual Results)

The year-end dividend per share for FY2022 was 180 yen (consolidated payout ratio of 36.9%) as a result of weighing the business environment, our business performance, and future business expansion. Since we purchased treasury shares (3 billion yen, or 560,000 shares) in FY2022, the total shareholder return ratio was 52.2%, higher than our original target.

	FY2021	FY2022	FY2023 (Forecast)	FY2022-FY2024 (Target)
Annual dividends per share(yen)	180*	**180**	180	-
Net profit for FY2022 (billion yen)	23.7	**19.4**	14.5	-
Payout ratio (%)	30.3	**36.9**	48.8	-
Total dividends (billion yen)	7.2	**7.1**	7.1	-
Treasury stock purchase amount (billion yen)	0	**3.0**	0	-
Total return (billion yen)	7.2	**10.1**	7.1	-
Total return ratio (%)	**30.3**	**52.2**	**48.8**	**50.0**

* Including an 80th anniversary commemorative dividend of 10 yen

Shinji Hasebe
Outside Member of the Board

Yasutaka Sumida
Member of the Board

Yukihiro Matsumoto
Member of the Board

Tripartite Talk

“Measures to Tackle Climate Change”

How will society look in 2030 and 2050?

—— Let me ask you two questions as a premise for discussing the climate change: What do you think society will be like in 2030, and then in 2050? What do customers and society expect from the chemical industry and Nippon Shokubai?

Sumida: In Nippon Shokubai’s Long-term Vision “TechnoAmenity for the future,” we set the goal of reducing CO_2 emissions in Scopes 1 and 2 by 30% compared to FY2014 by FY2030. This figure will by no means be easy to reach, but I believe that this goal is highly achievable through energy conservation and other various measures. On the other hand, I am afraid that the achievement of carbon neutrality by 2050 is not an extension of the 30% reduction. This goal will not be achieved without many drastic changes, including the establishment of a global system that considers everything from materials and processes to recycling.

For example, Japan has begun to consider carbon-neutral industrial complexes, and they require business-to-business collaboration centered on material, fuel, and product supply chains. This collaboration may enable the integration of individual efforts, such as using biomass and CO_2 as raw materials, introducing sophisticated energy conservation processes, and recycling resources 100% for zero waste. I believe that carbon neutrality cannot be achieved without the establishment of such a carbon cycle.

In this context, part of the significant contribution that Nippon Shokubai can make is our catalyst technology, a key technology in the transformation of substances. However, catalyst technology is one of the technologies related to carbon neutrality, and it is important for us to collaborate with plant manufacturers and customers that will use our catalysts. In such collaborations, we should not just supply catalysts. Rather, we will grow our presence in the supply chain by demonstrating our catalyst technologies or process technologies as our key strengths.

Matsumoto: The chemical industry is indispensable because it provides various materials for all kinds of industries; Also, on the other hand, it emits one of the largest amounts of CO_2, second only to the steel industry. The chemical industry will not be able to survive in the future society unless it achieves carbon neutrality. We would like to aggressively try solving various issues in the fields where we can leverage the strengths of Nippon Shokubai.

For that purpose, I believe we should contribute to society by making our core products—acrylic acid (AA) and ethylene oxide (EO)—and their derivatives carbon neutral, and creating environmental contribution products that use the catalyst technologies mentioned above.

Hasebe: I, too, believe that we can achieve the FY2030 goal by improving our products as we have been doing and by steadily taking measures one after another, although the goal will not be easy to achieve. And yet, as Mr. Sumida just pointed out, I have to say that mere improvements will not be enough for us to achieve carbon neutrality by 2050, and drastic transformations are needed. The biggest issue is what to do with raw materials. Personally, I think the paper industry holds the key. I believe that the chemical industry needs to use cellulose, hemicellulose, lignin, and other components of wood as biomass-derived raw materials.

Another issue is the fixation of CO_2. Currently, underground disposal of CO_2 is under discussion, but I believe that there are technical difficulties and challenges in separating and recovering CO_2 as a gas and burying it underground. Plastics produced by the chemical industry are, in a sense, “fixed source of carbon.” It might be a good idea to consider storing waste plastics underground or extracting only hydrogen from them in some way, and storing the remaining carbon (charcoal) underground. In the event of energy shortage in the future, you can dig it out and use it, which will be a provision against energy issues. If plastics can be made from biomass-based materials and then fixated and stored after use, the chemical industry may become not merely carbon neutral but even carbon negative.

Energy is needed to produce plastics and other chemicals, and catalysts are indispensable in energy conservation in this production process. Nippon Shokubai possesses catalyst technologies, and that is a great advantage for our growth. I hope that the company will assign more importance to the development of catalysts that will contribute to reducing the energy needed to produce various chemicals, although it may take time to develop such catalysts. As I mentioned at the beginning, mere accumulation of existing technologies cannot possibly be followed by the achievement of carbon neutrality. My explanation may have sounded a bit like sci-fi, but I am afraid it will be difficult to achieve carbon neutrality unless we change our mindset.

Nippon Shokubai’s strategies and measures regarding production processes

—— The FY2030 strategies regarding production processes (Scopes 1 and 2) include the promotion of energy conservation, the promotion of green energy use, the improvement of process technologies, and the use of biomass raw materials. What measures are you focusing on in particular?

Matsumoto: I think that process improvement is of the greatest importance. The Kawasaki Plant has introduced sophisticated operation control to the EO manufacturing process and is considering more efficient use of raw materials and energy, and more stable product quality. A new AA manufacturing process being introduced at the Himeji Plant is also expected to reduce energy consumption. Both plants currently use city gas to generate steam and electricity, but fuel switching to hydrogen or ammonia may be possible sometime after 2030. However, there is a limit to what we can do alone for fuel switching. So, the Himeji Plant has joined the Carbon Neutral Port Council in the Harima waterfront area, and the Kawasaki Plant has joined the Carbon Neutrality Council in the Kawasaki Petrochemical Complex. In this way, both sites are considering their respective infrastructure initiatives at the same time. This fuel switching will enable us to make the energy we use virtually carbon neutral.

In terms of energy, the shortage of electricity due to extreme heat and cold has become a social problem. As a local contribution activity, the Himeji Plant is involved in demand response: the plant increases the amount of electricity produced by its cogeneration plant and reduces the amount of electricity sold by power company, thereby stabilizing local electric power supply and demand.

Another important issue is the use of biomass raw materials. Both the Himeji Plant and the Kawasaki Plant have obtained ISCC PLUS certification, which enables them to purchase biomass-derived propylene and ethylene and supply products in the mass balance system. Furthermore, these plants are considering two approaches to producing bio-AA in cooperation with the R&D Division: one approach is producing bio-propylene and the other is producing AA directly from different types of biomass. We believe that establishing these production technologies after 2030 will promote carbon neutrality of raw materials.

Sumida: I think there will be a turning point in the manufacture of bio-AA in 2030, and we aim to have good prospects for commercial operation by then. The process is almost confirmed in the lab scale, so we will scale it up in the future to actual production while addressing many issues that may arise. We are going to work hard to get as far ahead of schedule as possible.

Hasebe: Ethylene and propylene are raw materials for a variety of chemicals. So, we can easily imagine that a limited supply of bio-ethylene and bio-propylene will lead to fierce procurement competition with our competitors. To safeguard against such a situation, Nippon Shokubai should establish strategic partnerships with its suppliers, and should also give some consideration to the inhouse manufacture of bio-propylene.

Tripartite Talk

“Measures to Tackle Climate Change”

—— Toward the achievement of carbon neutrality by 2050, I believe that Nippon Shokubai can contribute in the field of hydrogen, too. What do you think about that prospect?

Sumida: Hydrogen will undoubtedly become one of the keywords in carbon neutrality, and I believe that Nippon Shokubai can contribute to that field in many ways. We have already started to work on the commercialization of alkaline water electrolysis-related components and the technology of extracting hydrogen from ammonia. We can contribute to a wide variety of possible technologies including methanation, or synthesis of methane from hydrogen and CO_2, and alcohol synthesis. These processes always need catalysts, so we have business opportunities in each case.

However, the importance given to hydrogen and renewable energy varies considerably from country to country and region to region. Unless we develop catalysts according to the actual situations in individual countries and regions, the business will not expand. We would like to go deep into the issue so that we can contribute to global carbon neutrality.

Hasebe: My prediction is that the use of not only hydrogen but also electrical energy will further develop in the future. The field of using electricity as energy for chemical reaction is not so large yet, but I think that many chemicals will be produced by electrochemical reaction in the future. Maybe Nippon Shokubai can do interesting business through research on catalysts in that field.

Creation of new business opportunities in tackling climate change

—— Nippon Shokubai has newly established the GX Research & Development Division to accelerate research and development toward the promotion of green transformation (GX) and the realization of carbon neutrality. What are the mission, strengths, and future prospects of the division?

Sumida: The GX Research & Development Division was launched in April 2023. Nippon Shokubai has always had a catalyst research division, but the functions were distributed among several departments for various reasons. It was the result of strategies tailored to the needs of the times, so it must have been meaningful in itself. However, considering the current trend toward carbon neutrality, we have decided that we should mobilize our knowledge and technological capabilities related to the study of catalysts. From the perspective of research and development, there is not much time left before 2050. So we have carried out reorganization for nonstop implementation of the important tasks we are determined to accomplish: the provision of solutions toward the resolution of social issues.

Through some projects, we have already realized the effect of reorganization. We would like to make the world aware of the value of Nippon Shokubai’s existence by announcing what Nippon Shokubai can do through catalyst technologies and process technologies. Furthermore, this reorganization will be linked to R&D on wastewater treatment catalysts and waste gas processing catalysts, which we have long worked on. This link is expected to bring about a synergy effect, so we should work on these R&D activities as one.

—— Mr. Hasebe, as an Outside Member of the Board, how would you evaluate this decision?

Hasebe: Considering its size as a company, it cannot be said that Nippon Shokubai has more researchers than many other companies. Nippon Shokubai deserves appreciation for not allowing its researchers to disperse but rather practicing selection and concentration. What is characteristic of the company is that it does not merely develop catalysts but possesses a process of manufacturing them. This enables Nippon Shokubai to develop catalysts that suit the needs of companies that manufacture a mass of chemicals using catalysts. I hope that Nippon Shokubai will take advantage of the organizational change and develop catalysts in new fields based on the catalyst technologies it has accumulated.

—— Would you make some supplementary remarks on the strengths of manufacturing catalysts?

Matsumoto: Nippon Shokubai manufactures a wide variety of catalysts, including environmental catalysts and process catalysts. One of our strengths is that the manufacturing technologies we have accumulated through the manufacture of these catalysts are directly applicable to the future manufacture of catalysts for ammonolysis, methanation, and more. Another strength is that we can utilize part of our existing equipment to try producing new catalysts until we mass produce them.

—— May I ask your views and opinion on Nippon Shokubai’s technological strength?

Hasebe: Nippon Shokubai has engaged in various things, such as designing and improving new plants in-house. Individual engineers at the company have quite a high level of expertise. It is unfortunate that their skills are only used within the company. Nippon Shokubai is now trying to expand its solutions business to a larger scale. If the company can establish a framework for the effective use of its technological capabilities for the resolution of various social issues through collaboration with companies from other fields, that will lead to the creation of new products. Maybe the company could take a direction toward that kind of software business.

Matsumoto: Thank you for the suggestion. Speaking of engineers, we have a lot of talent with unique skills. We will look for ways to allow these engineers to exercise their skills in a broader area.

Toward the achievement of carbon neutrality by 2050

—— If you were to mention just one thing that is important for the success of Nippon Shokubai’s efforts to respond to climate change, what would it be?

Matsumoto: It is people, I believe. Therefore, the most important thing is to create an environment where we can develop various talents well and work from a broad perspective. Teamwork is also important when such talent work together. There is a limit to what each person can think of. If people can share their diverse opinions regardless of their positions in the company and reach a consensus properly, good results will naturally follow.

Sumida: I agree that people are an important factor. From a different perspective, I believe that it is important to clearly demonstrate our commitment as a company to respond to climate change. We have already released a wide variety of information on this matter, of course, but we will let society know that Nippon Shokubai confronts the issue of climate change head on by exercising its strength in catalyst technologies, research and development, and manufacturing.

For this to happen, we should be careful about cooperation inside and outside the company. For example, when we develop a promising catalyst, the project will not work well if the catalyst does not fit into a process or requires expensive raw materials. Management plays a crucial role in making arrangements about many things in a multifaceted way, I believe.

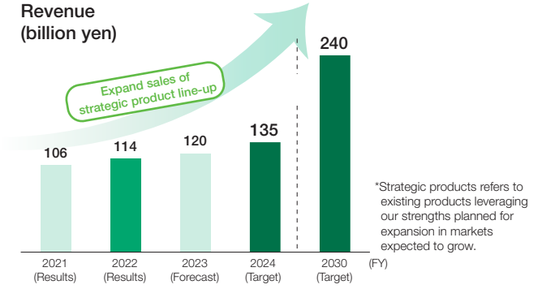
—— Thank you. To conclude, Mr. Hasebe, what do you expect from Nippon Shokubai as an Outside Member of the Board?

Hasebe: As I mentioned at the beginning, we should consider that the measures for the FY2030 target and those for the 2050 goal are different. For the FY2030 target, I hope that various measures will be taken diligently with good teamwork, as Mr. Sumida and Mr. Matsumoto just pointed out. In addition, it will soon be time to prepare for the measures for the 2050 goal. In contrast to those for the FY2030 target, I would like the company to create an atmosphere where research that may sound somewhat fanciful is accepted and where employees are encouraged to make proposals with a playful mindset. There is a chance that something new will come out of discussions among employees about their dreams, including the future of our company, future raw materials, future products, or anything else that may seem unrealistic right now. If Nippon Shokubai evolves through such a culture, it may become a completely different company in 30 years. Indeed, I hope that it will be.

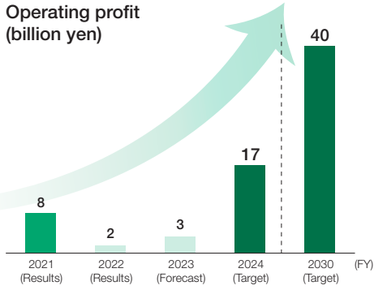
Transformation 1: **Business Transformation**

Expand the Solutions Business

Nippon Shokubai will expand the Solutions business toward portfolio transformation from existing fields to growth fields. At first, we will build a platform to strengthen solution proposals, which will serve as the foundation for our business expansion, as soon as possible. We are aiming to increase operating profit two-fold by fiscal 2024 and five-fold by fiscal 2030, focusing on the expansion of revenues for our strategic product group, important products in the expansion of the Solutions business.



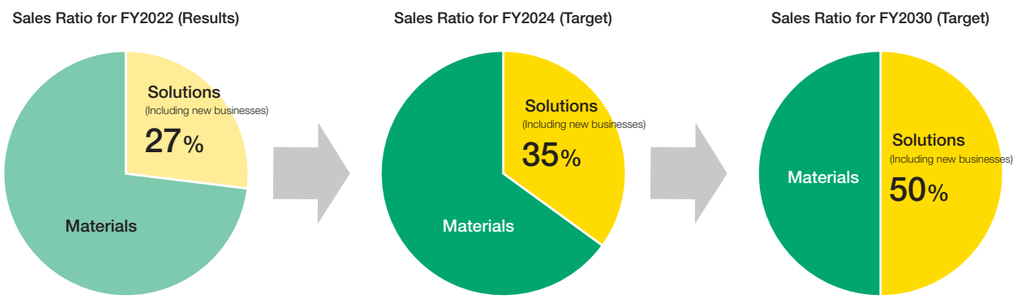
*Strategic products refers to existing products leveraging our strengths planned for expansion in markets expected to grow.



KPI and their ideal state	Year of achievement
■ Develop a platform to strengthen solution proposals	End of FY2024
■ Expand the Solutions business to achieve the dual focus of the Materials and Solutions businesses (Sales ratio of 50% each, revenue of the 500 billion yen level)	End of FY2030

Target Sales Ratio of the Solutions Business and Results for FY2022

We will grow the Solutions business as a dual focus with the Materials business by increasing the sales ratio of the Solutions business from the current 27% to 50% by FY2030. To this end, we are currently pushing forward with business transformation with an eye toward increasing its sales ratio to 35% by the end of FY2024, a milestone year.



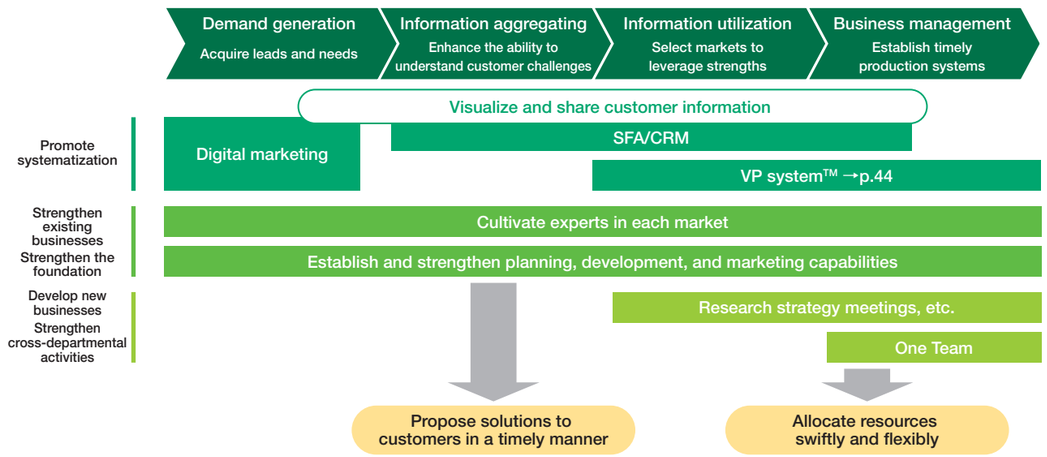
Progress of Strategic Products and Products under Development

Domain, etc.	FY2022–FY2024	FY2025–FY2027	FY2022–FY2030	Status of FY2022
Industrial & Household	Expand sales of strategic product line-up Revenue+8 billion yen Operating profit +1 billion yen Acrylic resin, ethyleneimine derivatives, etc.		Create clusters in new markets	Revenue ↗ Increase centered on environmental initiatives
Energy & Electronics	Expand sales of strategic product line-up Revenue+11 billion yen Operating profit +5 billion yen ACRYVIEWA™, VEEA™, environmental catalysts, etc. Electronics and environmental purification fields Expand businesses globally Revenue+15 billion yen IONEL™, all-solid state electrolyte polymers and other battery fields	Expand to growth markets Expand business		Revenue ↗ Decrease in volume Increase in raw materials and fuel prices pp.39-40 Progress in exploring alliance opportunities
Life Science (Health & medical and cosmetic products)	Reach profitability	Develop businesses	Revenue:20 billion yen	pp.41-42 Promotion of sales activities
Innovation & Business Development		Gradually release new business and products to selected markets Separator for alkaline water electrolysis, graphene oxide, etc.	Revenue:30 billion yen	pp.43-44 Promotion of product commercialization

Current Status of Building a Platform to Strengthen Solution Proposals

In the Solutions business, it is urgent to build a foundation that enables us to propose solutions that combine multiple products and/or technologies in a timely manner, with a focus on selected markets in which we can take full advantage of our strengths. In FY2022, we completed the building of a platform, mainly including a system for information sharing, thereby realizing the visualization and sharing of information at various stages from approach to potential customers, to timely solution proposals, and commercialization. We are also working to strengthen the planning, development, and marketing functions to actively use such information, and reinforce our proposal capabilities by cultivating experts in each market.

Building a Platform to Strengthen Solution Proposals



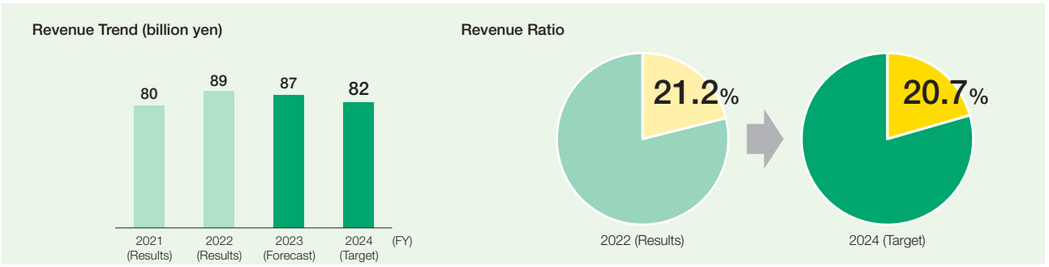
CRM: A system to centrally manage information on customers and provide support for "offering services and products that meet customer needs" based on the accumulated information
SFA: A support system for creating a database containing information on operating activities and for sharing the operating know-how obtained through data accumulation and analysis
One Team: an initiative to respond to various tasks in developing new products, including manufacturing prototypes for customer evaluation, reducing the time required for facility construction, and holding down initial investment

Strategy by Market Domain

Industrial & Household

Take advantage of contact points with a broad range of businesses and customers to grasp the changes in overall industrial sectors and provide solutions to customer challenges.

Results for FY2022 and Targets for FY2024



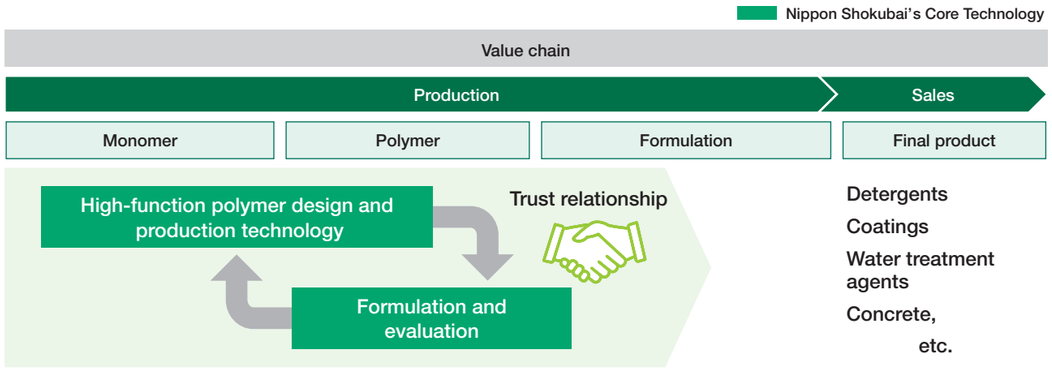
Market Domain Strategy

In our selected market of “water,” “infrastructure/housing,” and “packaging/printing,” there has been growing demand for environmental initiatives and better quality of life, creating new growth opportunities. To capitalize on these opportunities, we are now shifting our focus to providing solutions to customer issues, recognizing that our conventional approach of selling individual materials to specific markets is not sufficient to respond to these needs. For example, the needs of each market will be broadly identified and developed into strategic planning; for the infrastructure market, we will promote proposals that incorporate various products, such as concrete admixtures, coatings, and dispersants.

Major products For click here: **https://www.shokubai.co.jp/en/products/divisions/**

Our Competitive Edges

We have manufactured various monomers. As a result, we are able to handle monomers in a safe manner with full knowledge of their physical properties, and have advantages in the design and manufacturing technology of high-function polymers based on them. In addition, we have established relationships of trust with customers who have a presence in their respective markets, by promoting product development that leverages our strengths, such as evaluation technologies that support our broad R&D knowledge and ability to make proposals. We are able to grasp the changes in overall industrial sectors in a timely manner and convert them into solutions, taking advantage of contact points with a wide range of customers.



Growth Strategy

Infrastructure/ Housing

Social Issues and Needs

In Japan, many facilities and transportation networks were developed intensively during the period of high economic growth. Now that the number of aging facilities, constructed more than 50 years ago, has rapidly increased, the maintenance and repair of those facilities will become increasingly conspicuous as a social issue. With response to climate change becoming a global challenge, companies in the cement industry, which emit large amounts of CO_2, are urged to review how they create their products and to seek solutions, throughout the entire life cycle, including the development of materials.

Risks and Opportunities

- An increase in special building products and materials, including recycled materials, due to climate change measures and resource depletion
- A decrease in demand for concrete and cement expected in Japan, in contrast to an increase in the rest of the world

Our Value

Based on high-function polymers and evaluation technologies,

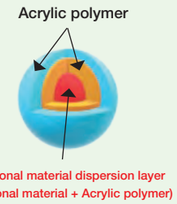
- Improvement in the efficiency of constructions: Improving the properties of ready-mixed concrete, thereby contributing to energy conservation
- Improvement in the high strength of constructions: Increasing the strength of concrete, thereby contributing to reduction of the materials used
- Improvement in the resilience of constructions: ensuring the long life of structures by protecting the surfaces of buildings

Environmentally friendly water-based materials are also among our values

TOPICS

Deployment of a high-function polymer technology

Taking advantage of our knowledge of coating materials, we have designed a polymer that can encapsulate particulate materials, and have developed an emulsion technology that enables various functions to be added. It features a 40 to 150 nm fine particle containing a functional material that enables stable water dispersion. In addition, this technology enables hydrophobic and functional materials to be introduced into resin without containing any volatile matters other than water. Depending on the type of functional materials to be contained, it can be applied to various materials, including coating agents, binders, additives, ink, textile treating agents, and heat storage materials. We are working on marketing in new markets.



Water

Social Issues and Needs

Amid growing concerns regarding the shortage of water resources in many regions of the world, it is necessary to secure safe water resources and use them more efficiently. To preserve the ecological system, the process to remove toxic substances from wastewater is indispensable, in addition to the securement of safe water resources. In addition, effective use of water used in various processes enable customers to secure water resources and cut costs.

Risks and Opportunities

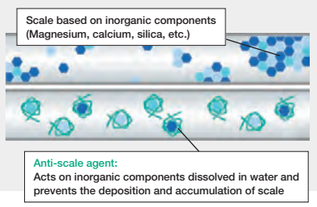
- Tighter regulations concerning water resources and expansion of water-deficient regions
- Rapid tightening of regulations concerning the use of petrochemical raw materials / expansion of needs for sustainable materials

Our Value

Based on high-function polymers and evaluation technologies,

- Water quality preservation: Scavenging heavy metal efficiently
- Effective water use:
  [Industry] Preventing pipes from clogging at the cooling process
  [General] Realizing more efficient cleaning performance

Image of scale formation and control in a pipe



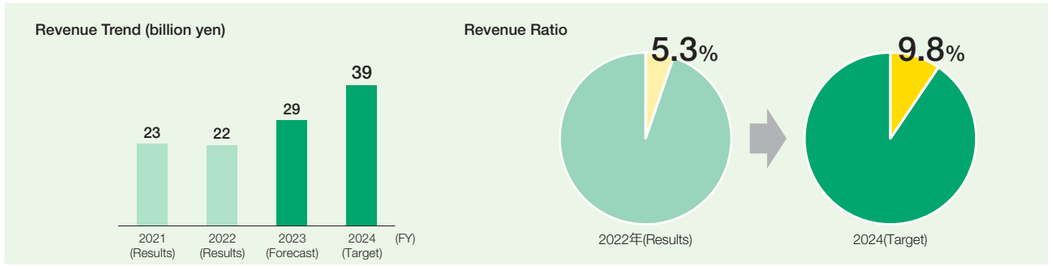
Transformation 1: Business Transformation | Expand the Solutions Business >

Strategy by Market Domain

Energy & Electronics

Use Nippon Shokubai strengths as key tools to expand businesses in growth markets from batteries and electronics to environmental purification fields.

Results for FY2022 and Targets for FY2024



Market Domain Strategy

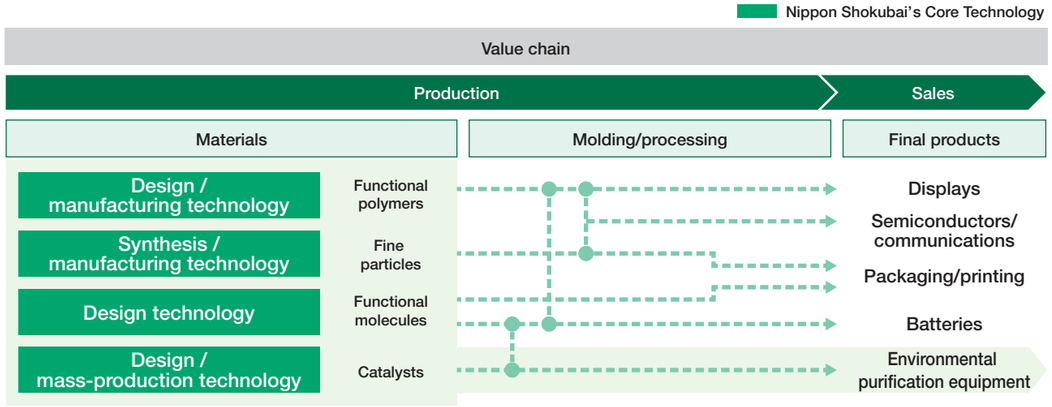
Regarding batteries, one of our selected markets, the global market for batteries for electric vehicles is expected to grow rapidly around three-fold (from the 2021 level) by 2030, and the need to supply clean, stable, high-capacity electricity to large-scale infrastructures is expanding, particularly in North America. For batteries for electric vehicles, IONEL™, which is an electrolyte in lithium-ion batteries to improve battery performance, and for clean energy supply, zirconia electrolyte sheets for fuel cells will be deployed globally.

To respond to market needs, such as displays, packaging, and printing, we will also roll out materials and solutions developed based on our core technologies, including fine particle synthesis, high-functional molecular design, and high-functional polymer design.

Major products For click here: **https://www.shokubai.co.jp/en/products/divisions/**

Our Competitive Edges

Unique performance can be imparted to materials by combining our core technologies, such as inorganic catalysts, organic synthesis, and polymers. (→ p.16) For particle materials, for example, we have the technology of preparing various types of materials in a wide range of sizes from nano to micron. In the development of catalysts, optimum shapes of catalyst are achieved by simulating the characteristics of the target decompose and its environment of use.



Growth Strategy

Displays

Social Issues and Needs

Now that TVs, PCs, and smartphones are indispensable in sharing information in our daily lives, devices with displays have become increasingly important. With continuing innovation of information technology, everything can have a display, thereby increasing the need for technologies and solutions depending on various functions.

Risks and Opportunities

- Rapid changes in consumer needs, and fragmentation of needs
- Increase in demand and progress of commoditization mainly in the Chinese market
- Development of new display technologies, such as quantum dots (QD) and virtual reality (VR)[*2] / augmented reality (AR)[*3]

Our Value

- Features of resins for optical films
  Achieve high transparency, optical properties, and heat resistance by unique monomer and design technology of new polymers, and expand their potential as optical materials with multiple uses.
- Features of fine particles
  Various fine particles, synthesized from organic and inorganic materials , can improve the light diffusion properties of displays with their wide refractive index. Fine particles can be used to improve the properties of such materials as anti-blocking agents and fillers, in addition to optical properties.

TOPICS

Heat-cured, spherical fine particles "EPOSTAR™" series

Heat-cured, spherical fine particles "EPOSTAR™" series are the products with a long history of being used as a light diffusion agents for liquid crystal displays and other optical displays, as well as LED lights.

These products have been adopted for QD-OLED panels[*1] by multiple manufacturers inside and outside of Japan. In terms of organic fine particles, they have established the very good reputation in the advanced display market as a light diffusion agent featuring a top-level high refractive index.

For the design of displays—such as those for VR and AR—which have recently achieved tremendous progress, in addition, needs for fine particles with a higher refractive index have been rapidly growing. To respond to these needs, we will expand the sales of "ZIRCOSTAR™," which are zirconia nanoparticles with excellent dispersibility.

*1 QD-OLED panels: reportedly provide high-end image quality above that of organic EL panels
*2 VR: a technology that enables the user to feel as if he/she is in a 100% virtual space by wearing a dedicated headset or goggles
*3 AR: a technology that expands the visual world by adding digital information to the real world through smartphones, tablets, or dedicated glasses

Environmental Purification

Social Issues and Needs

Wastewater contains various harmful substances, such as highly toxic organic substances, organic nitrogen compounds, ammonia, sulfur compounds, or organochlorine compounds. With water resources expected to become increasingly valuable, it is all the more important to render wastewater harmless by removing harmful substances. There are several methods of rendering wastewater harmless, such as incineration treatment, or the catalytic decomposition of harmful substances. What is most needed in the future is a way to simultaneously solve multiple problems, such as saving energy use in removing harmful substances.

Risks and Opportunities

- Increase in demand by reviewing treating methods to respond to carbon neutrality
- Tighter environment-related regulations, expansion of water-deficient regions

Our Value

- Reduction in energy costs and CO_2 emissions through the effective use of reaction heat
- Free from generation of secondary waste (sludge, ash, etc.)
- Reuse of treated water with advanced treatment technology, which does not contain harmful substances, including NOx, Sox, and dioxin in exhaust gas

Special Feature

IONEL™, an electrolyte in lithium-ion batteries

LiFSI [lithium bis (fluorosulfonyl) imide; product name: IONEL™] has been used as the electrolyte in lithium-ion batteries. Nippon Shokubai developed the mass-production technology for LiFSI using its proprietary synthesis and purification techniques for the first time in the world in 2013.

Social Issues and Needs

Amid the urgent need to tackle climate change, the EV (electric vehicle) market has been expanding rapidly, mainly in China and Western countries. The performance of EVs heavily depends heavily on the performance of the automotive batteries.

Risks and Opportunities

- Unpredictable expansion and contraction of demand for electrolytes

Our Value

IONEL™, developed by Nippon Shokubai as a lithium-ion battery electrolyte, which is the key material to the performance of automotive batteries, can solve major challenges faced by conventional products. (Figure on the right)

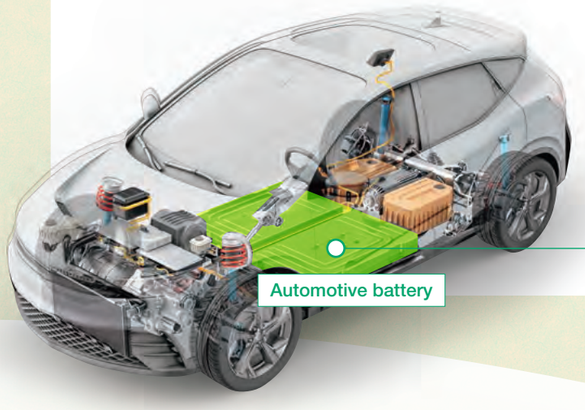
Major challenges faced by conventional automotive batteries

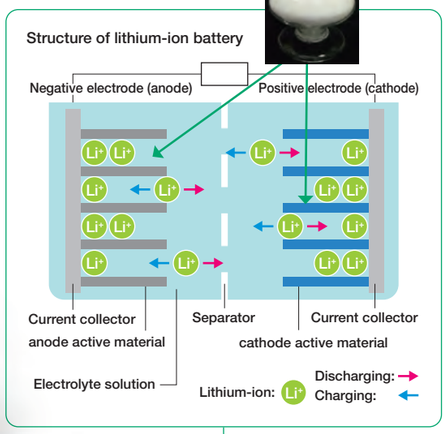
long cycle life	Replacement to IONEL™	Life of batteries: 60% improvement
Swelling of batteries (safety)		Swelling: 80% suppression (enhanced safety)
Fast charge		Rapid-charging capacity: 15% increase
Usage at cold area		Capacity at minus 20˚C: 30% increase
Usage under tropical regions		Self-discharge at 60˚C: 10% improvement

* Lithium salt used for conventional batteries: $LiPF_6$ (lithium hexafluorophosphate)
* Examples of our battery data, please refer to "Products" on the Nippon Shokubai website. (https://www.shokubai.co.jp/en/products/detail/lifsi/)
Examples of outside data: https://www.sciencedirect.com/science/article/pii/S1388248119301080?via%3Dihub

What is IONEL™?

IONEL™, a highly pure and high-performance electrolyte in lithium-ion batteries, is a main material of lithium-ion batteries powering electric vehicles. Under various temperature conditions from low temperature to high temperature, it can reduce charging time and significantly enhance output properties, durability, and battery life. We are considering the application of IONEL™ to next-generation batteries, such as semi-solid-state and all-solid-state batteries, making it a material with great potential.





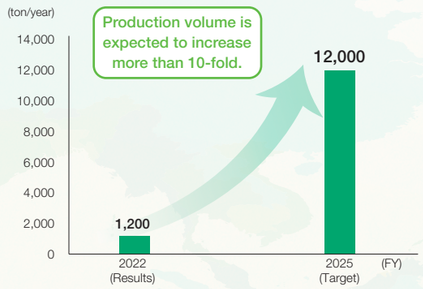
Strategy by Region

Business strategy in China

We have decided to form an alliance with Shenzhen Capchem Technology Co., Ltd., a major electrolyte solution manufacturer, and Toyota Tsusho Corp., who is Toyota Group's general trading company, in order to acquire high-profile customers and establish a cost-competitive manufacturing and sales structure early on in China, the country with the largest demand for lithium-ion batteries.

This will allow us to combine our state-of-the-art LiFSI production technologies, quality control capability, and intellectual properties, with Hunan Fluopont's cost competitiveness, location, material procurement capability, production system, and existing technologies, and Capchem's LiFSI purchasing capability supported by its top-level supply capacity of electrolyte solutions, as well as Toyota Tsusho's worldwide sales network encompassing China. Through this alliance, we aim to accelerate our IONEL™ business in the electrolyte market.

Production volume of IONEL™



Business Strategy in Europe

Combining Arkema's fluorochemicals expertise and Nippon Shokubai's unique know-how in the industrial-scale production of high-purity LiFSI, the two companies have joined forces in a strategic partnership that leads to the development of an innovative and integrated process. Based on this cutting-edge patented technology, an LiFSI pilot production line has been installed on Arkema's Pierre-Benite site, and successfully came on stream in 2021.

To support the exponential growth in demand for battery cell materials, Arkema and Nippon Shokubai are taking a step forward by launching feasibility studies and establishing a joint venture to enable the mass-production of LiFSI electrolyte salt at the Pierre-Benite site in France by the end of 2025.

Notice Regarding the Strategy (November 13, 2023)
See "Solution business" on page 3 of the documentation.
https://ssl4.eir-parts.net/doc/4114/ir_material_for_fiscal_ym3/143893/00.pdf

Organizational Reform to Expand Our Business

In order to further accelerate and promote the expansion of the battery materials business, "Battery Business Solutions" division was newly established. This division consists of three departments: sales & marketing, research, and technology development.

In addition, the "IONEL Project Planning Department" was established in the Business Planning Division to realize and promote global development of the IONEL™ business through collaboration with other companies, etc.

- Battery Business Solutions
  - Battery Materials Sales & Marketing
  - Battery Materials Research
  - IONEL Project Technology Development
- Business Planning
  - Business Strategy Planning
  - Group Management and Project Planning
  - Marketing Strategy
  - IONEL Project Planning

Transformation 1: Business Transformation | Expand the Solutions Business >

Strategy by Market Domain

Life Science

Establish health & medical and cosmetics businesses with 10 billion yen in revenue by FY2030.

Health & Medical

Market Environment

Middle molecule (oligonucleotide and peptide) active pharmaceutical ingredients (APIs) show promise as the next generation of drugs due to the reasons that they generally have fewer side effects than small-molecule drugs, that their manufacturing costs are lower than large molecule drugs, and that it is possible to target treatment that conventional drugs cannot target.

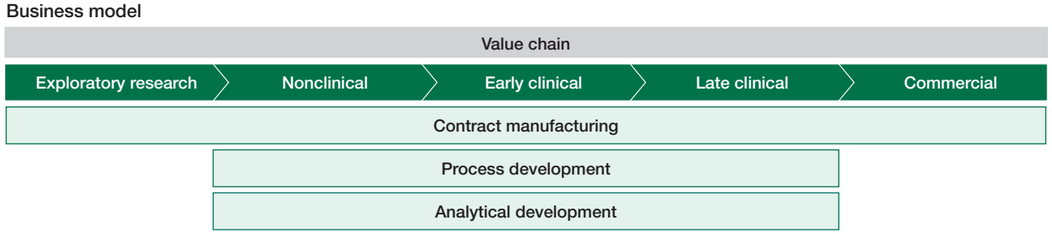
Their market growth rates* are expected be high, with 8% per year for peptide drugs and 17% per year for oligonucleotide drugs.

* Survey report "Current Status and Prospects of the Peptide and Oligonucleotide CDMO Industry" (Development Bank of Japan)

Business Strategy and Strengths

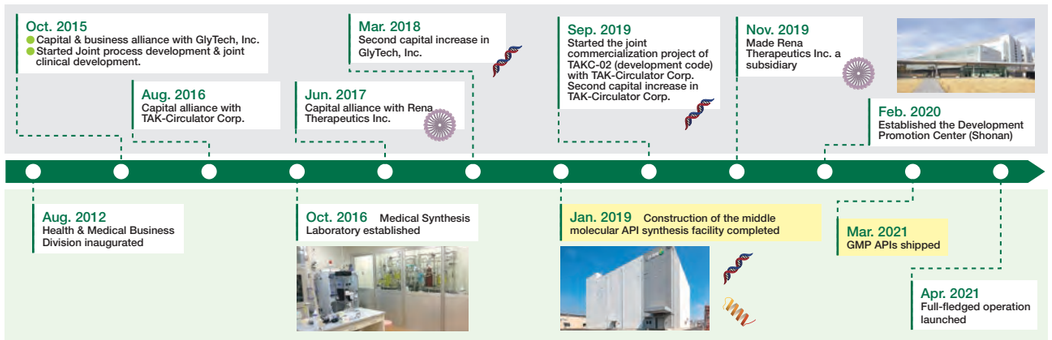
Nippon Shokubai has a leading domestic manufacturing facility dedicated to the production of middle molecule APIs, active pharmaceutical ingredients. Utilizing these facilities, integrated contract manufacturing services, from discovery research to commercial production, are provided. In addition, we offer solution services, including the development of production processes and the development of analytical methods.

Business model



We will contribute to drug discovery and its support through collaboration with drug discovery ventures with promising seeds for middle molecule APIs, including oligonucleotide drugs, and peptide drugs.

Major Past Initiatives in the Health & Medical Business



Status and Progress in FY2022

- Increase in the number of orders placed for products under development in Japan (more than 10-fold from FY2021)
- Operating activities launched overseas in addition to those for pharmaceutical companies in Japan

For details, see "Manufacturing middle molecule APIs" https://www.lifescience.shokubai.co.jp/en/

Cosmetics

Market Environment

The cosmetic ingredients market is estimated to be worth 180 billion yen in Japan and about 3 trillion yen worldwide and is expected to continue to grow at an annual rate of 4% or more.

This growth is supported by lifestyle changes and increased consumer purchasing power in developing countries, the rapid growth of multifunctional personal care materials, and the growing demand for "more functional" materials in developed countries.

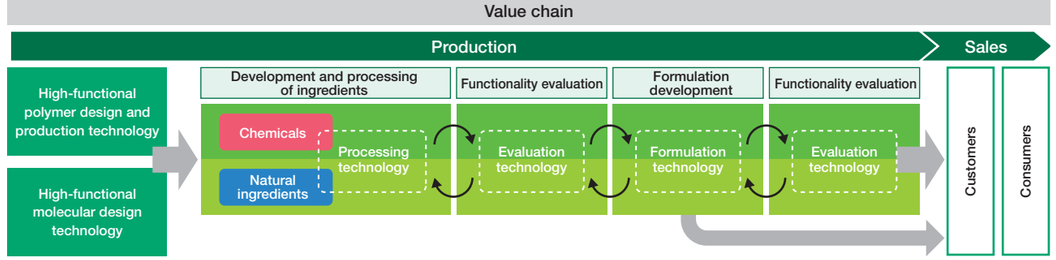
Business Strategy and Strengths

With the skin care, hair care, and peripheral market as the core target, we develop ingredients for cosmetics with various functions by using our high-functional molecular and polymer design technologies.

In addition, by acquiring the natural ingredients and new technologies we do not have through external alliance and using unique compounding/formulation technologies, we will establish a proposal-based cosmetics business capable of presenting a story for customers. We are now working to acquire processing, compounding, and formulation technologies, while expanding sales of each ingredient.

Business Model

Nippon Shokubai's core technology



Development and Processing of Ingredients

Regarding materials possessed by Nippon Shokubai, (meth) acrylic acid, acrylates, ethylene oxide, NVP, and other monomers are made available. In addition, various technologies can be employed, including those for molecular design, synthesis, polymerization, emulsification, and fine particles. We believe that the control of microstructure and physical properties through the combination of raw materials and technology enables us to provide highly unique materials with multiple functions.

Ingredients for Cosmetics

	Functional ingredients: Examples of products under development	Development system
Chemicals	**Base materials** ・Thickening agents ・Film-forming agents ・Dispersants ・Antimicrobial agents ・Antifouling agents ・Adsorbents ・pH adjusters ・Surfactants ・Chelating agents ・Moisturizing agents	Utilization of in-house technologies Self-functionality evaluation Collaboration
Natural ingredients	**Active ingredients** ・Chitin nanofibers ・Mountain herb BG extract	Collaboration ・Marin Nano-fiber Co., Ltd. ・Tokiwa Phytochemical Co., Ltd.
Processing technology	**Active ingredients** ・Nanocolloid ・Phospholipid nano-particles (liposome)	Joint development ・Nano Cube Japan Co., Ltd. ・Lilac Pharma Inc.

Direction of Ingredients Research

We are focusing our efforts on developing bio-derived ingredients to develop ingredients by using comprehensive gene expression analysis.

- Development of active ingredients ····· Promote development, both on our own and through collaboration, using ingredients that can present a story
- Development of ingredients through upcycle ····· Promote joint development through collaboration, using waste materials
- Development of ingredients by fermentation ····· Promote development own, through industry-academia partnerships, or through collaboration, to create base materials and active ingredients by fermentation (bio-conversion)

Status and Progress in FY2022

- Commercialization of functional polymers; some are in the stage of commercialization at multiple major cosmetics companies
- Commercialization of newly developed products by using proprietary technologies

For details, see "Products (Ingredients for Cosmetics). https://www.shokubai.co.jp/en/products/detail/cosmetics/

Transformation 1: Business Transformation | Expand the Solutions Business >

Creation of new businesses

Develop business scenarios in selected markets using a backcasting approach from medium-to long-term perspectives.

R&D strategies

Contribute to the achievement of a sustainable society
- Adapt to an age of carbon neutrality
- Intensify business development for eco-friendly technologies

Promote the development of new technologies, create/cultivate new businesses
- Swiftly respond to customers' needs
- Set technological development targets
- Enhance capability to explore new markets

Strengthen our R&D organization
- Secure talent and allocate flexibly
- Promote the use of tools for efficient research and development
- Enhance cross-organizational functions (intellectual property strategies, human capital strategies)

TOPICS

Strengthening the system to promote product commercialization

- GX Research & Development ····· Build an R&D structure for business transformation through green transformation.
- Water & Environment Solutions Business ····· Accelerate the commercialization of water and environmental businesses
- Corporate Research ····· In addition to acquiring new technologies and creating next-generation materials, promote the acquisition of new evaluation technologies that contribute to strengthening the Solutions business

Products under Development and Selected Markets

To respond to customers in a timely manner and enhance customer satisfaction, the R&D Division will create a competitive product line-up by further advancing the capabilities to develop key materials based on the three core technologies (inorganic catalysts, organic synthesis, and polymers).

Product under development	Outline	Market	Division
Ammonia cracking catalyst	This is a catalyst essential to the process of cracking ammonia into hydrogen. Ammonia is attracting attention as a "hydrogen carrier" that enables the effective transport and storage of hydrogen.	Hydrogen	GX Research & Development
Separator for alkaline water electrolysis	This separator is used for "alkaline water electrolysis," which has gained recognition as a method for producing green hydrogen. For details, see TOPICS on page 44.		
Draw Solutes	This agent is a key component of the Forward Osmosis (FO) system, a next generation seawater desalination technology. We achieved a product which significantly improved the amount of freshwater production.	Water	Water & Environment Solutions Business
Fouling inhibitor	This agent is a modifier for the water treatment membrane to inhibit the membrane fouling, the membrane contamination caused by organic substances and microorganisms. It is expected to reduce the frequency of the membrane cleaning and replacement.		
Multi-functional Hydrophilic Particles	This submicron multifunctional hydrophilic particles have high affinity with aqueous resins. As a result, it can provide various coating agents and films with hydrophilicity effect.	Semiconductors/ communications	Corporate Research
Derivatives of AOMA™	We are developing derivatives of our unique monomer AOMA™. This is a group of materials that improves the hard and brittle properties of acrylics and also has excellent heat resistance.	Packaging/ Printing	
iOLED™	This OLED light source is a highly flexible material with around 0.1 mm thickness. This electric module has a great design freedom in terms of emission color and shape, decorating, and emission control.	Displays	

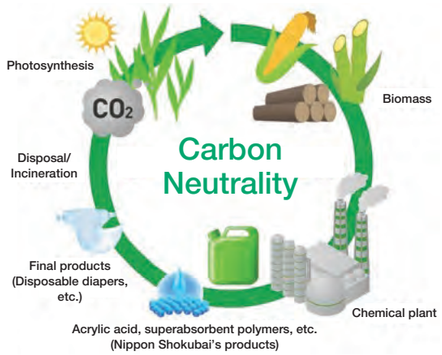
Development of bio-based acrylic acid

Nippon Shokubai is investigating the use of biomass-based propylene instead of petroleum-based propylene, and is developing a new manufacturing method for acrylic acid from biomass .

Since biomass absorbs and fixes CO_2 in the air through photosynthesis, the CO_2 emitted during incineration can be regarded as carbon neutral, leading to a reduction in CO_2 emissions.

We aim to start the commercial production of biomass derived acrylic acid as early as possible by 2030, by working to develop the mass production technology during our medium-term management plan from FY 2022 to FY 2024. We will also expand its use to the production of superabsorbent polymer and acrylic esters, and aim to reduce CO_2 emissions throughout the lifecycles of our customers' final products.

* See page 48 for the acquisition of ISCC PLUS certification, which is part of related activities.

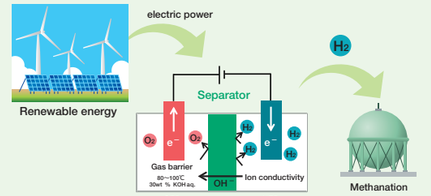


TOPICS

Nippon Shokubai and Tokuyama Project for Developing Large Alkaline Water Electrolyzers and Separators Suited to High-pressure Electrolysis

High-pressure alkaline water electrolyzers (hereinafter "High-pressure AWEs") are devices that produce hydrogen and oxygen by supplying alkaline aqueous solution to cells divided by separators and electrolyzing water.

The project combines Nippon Shokubai's development of large separators suited to high-pressure electrolysis with Tokyuma's development of internal structures for electrolyzers that maximize separator performance in the aim of developing globally competitive High-pressure AWEs.



We will contribute to the realization of a hydrogen society through high-performance separators.

Separator for alkaline water electrolysis (Hydrogen field)

FCV

Acceleration of product commercialization through revamped commercialization promotion systems: VP System™

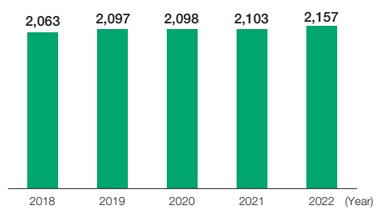
We have introduced a VP System™ in place of the Stage Gate System, which had been used as a commercialization promotion system. The VP System™ is designed to (1) promote the development of new products by visualizing the status of development and sharing information with relevant divisions/departments, and (2) enhance efficiency by consolidating data related to the development of new products. This system enables us to share information regarding products under development with relevant divisions/departments from an early stage, standardize the content of examinations in various workflows, and smoothen collaboration until commercialization, thereby leading to improved efficiency of commercialization process and the effective use of relevant information. It also allows not only R&D and sales divisions but also other relevant divisions—including production, RC (Responsible Care), and purchasing & logistics divisions—to collaborate in a timely manner. We will use this system to facilitate product commercialization in a unified manner.

Intellectual Property Activities

We take steps to improve our intellectual property portfolio and properly maintain patents based on research and business policies in an effort to protect the company, enhance collaboration with outside entities through open innovation, and recover research investments through licensing.

To effectively use intellectual property information in business strategies, we newly established the Intelligence Group within the Intellectual Property Center as of April 2023.

Number of patents possessed by Nippon Shokubai

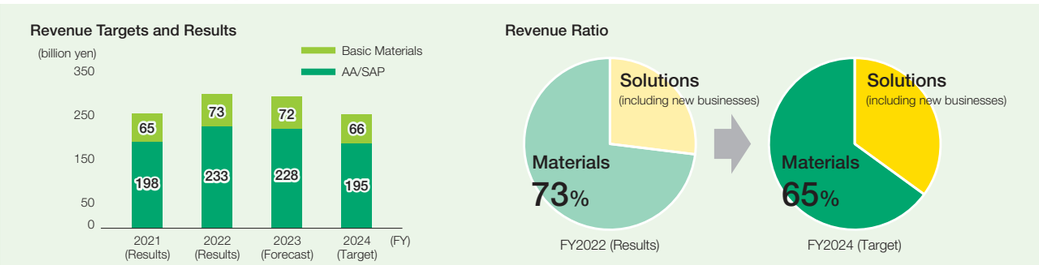


Transformation 1: Business Transformation

Achieve the Materials Business Resilience

Acrylic acid (AA) and ethylene oxide (EO), core products of the Materials business, are raw materials indispensable for many industrial products and materials that support a comfortable life [superabsorbent polymer (SAP) for disposable diapers]. However, the production of AA and EO involves more than a little amount of CO_2 emissions. We will strive to achieve the resilience of the Materials business, a key pillar of the Nippon Shokubai Group, while pushing forward with our efforts to tackle climate change, such as the use of bio-based raw materials (→ p.47).

Results for FY2022 and Targets for FY2024

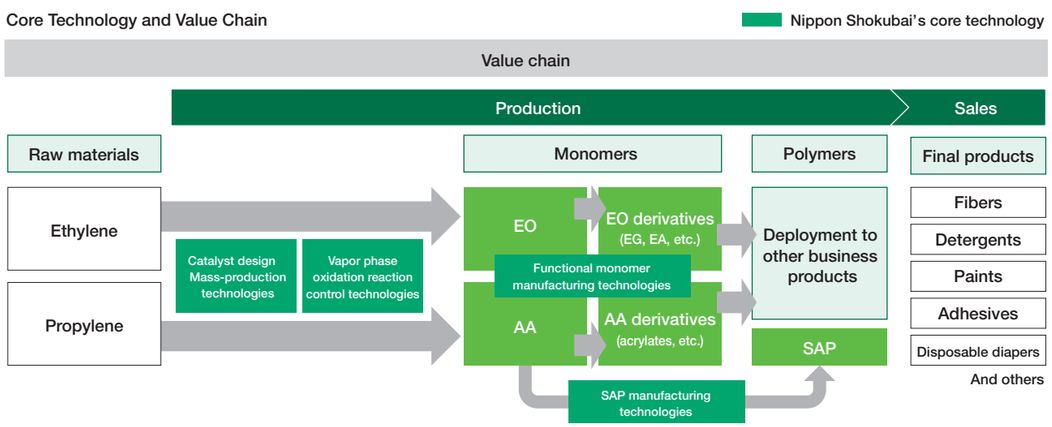


Major products For click here: **https://www.shokubai.co.jp/en/products/divisions/**

Competitive Edges

Nippon Shokubai stably manufactures basic chemicals, including difficult-to-handle EO and AA, taking advantage of its unique technologies. We also offer a wide variety of derivatives made from such raw materials, showing competitive advantages brought by integrated production from raw materials. SAP, one of our leading derivatives, is highly rated for its superior performance, continuously meeting various customer needs required for disposable diapers, including high water absorption performance, water absorption under pressure, fluid permeability, and long-lasting deodorization. These competitive edges have been achieved by establishing the research division at each production site, which enables close communication regarding the development and improvement directly linked to production. Our AA and SAP production sites have located in multiple regions around the world, ensuring stable supply in response to fluctuations in global supply and demand. This makes us one of the globally leading AA producers and the top SAP producer in the world.

Core Technology and Value Chain



Strategy by Market Domain

AA and SAP

Market Environment

With rising populations worldwide, AA and SAP are expected to show a 3 to 5% growth in the medium and long term. Considering that the balance between supply and demand can be weakened, however, we need to maintain a high level of global competitiveness.

In response to the recent global trends to tackle climate change, in addition, it is increasingly important to take measures to reduce CO_2 and other greenhouse gas emissions.

It is difficult to tackle climate change on an individual company basis. It is necessary to collaborate and cooperate with partners in individual countries and take necessary measures according to the circumstances of each country.

Strategies

- Maximization of AA and SAP sales ····· Maximize sales of AA and SAP, including 100,000 tons of AA at the plant in Indonesia, which was put into operation in 2023.
- Bio-based AA and SAP ····· Expand the sales of bio-based SAP using a mass balance system, as a measure to tackle climate change.
- Maintenance/improvement of profitability ····· Shift the existing facilities to debottlenecking and highly efficient facilities (SAP Survival Project).

Initiatives for FY2022

- Response to climate change
  - Himeji Plant: The prospect of preparation for procurement and acceptance of bionaphtha-based propylene was secured. ISCC PLUS certification was acquired for supplying products using a mass balance system. (→ p.48)
  - NSE in Europe: Sales of bio-based SAP manufactured using a mass balance system were commenced.
  - NSI in Asia: An MOU was concluded with PT Chandra Asri Petrochemical Tbk to launch a study to search for bio-based raw materials.
- SAP Survival Project
  Production capacity was increased by 10% by renovating the existing facilities.

Basic Materials

Market environment

It is expected to continuously secure a safe and stable supply of basic materials as raw materials used in many industries, including the consumer goods industry. In response to recent global trends to tackle climate change, in addition, it is important to take measures to reduce CO_2 and other greenhouse gas emissions.

It is expected that companies will implement initiatives to reduce CO_2 emissions throughout their supply chain—encompassing all the stages from raw materials, to distribution, use, and disposal—beyond the boundaries of industries.

Strategies

- Maintenance and improvement of profitability
  Increase sales of EO and EG, in place of the export of MEG, in Japan, and expand the contract production business for EO derivatives.
  Enhance profitability (EO Resilience Project) by improving catalysts and promoting DX.
- Enhancement of added value
  Complete study of the commercialization of bio-based EO mainly in Japan by FY2024, as part of efforts to respond to climate change.

Initiatives for FY2022

- Response to climate change
  Kawasaki Plant: The prospect of preparation for procurement and acceptance of bionaphtha-based ethylene (raw material of EO) was secured. ISCC PLUS certification was acquired for supplying products using a mass balance system. (→ p.48)
- EO Resilience Project
  In addition to energy conservation, we are working to improve logistics efficiency and increase contracted production.

Transformation 2: Strategic Transformation for Environmental Initiatives

Scenarios to Realize Carbon Neutrality

In strategic transformation for environmental initiatives, we will reduce CO_2 emissions from production processes and expand the development and spread of environmental contribution products in order to contribute to reducing our environmental impact throughout the entire life cycle under "TechnoAmenity for the future-I" (FY2022–FY2024), toward the FY2030 Goals set under the long-term vision.

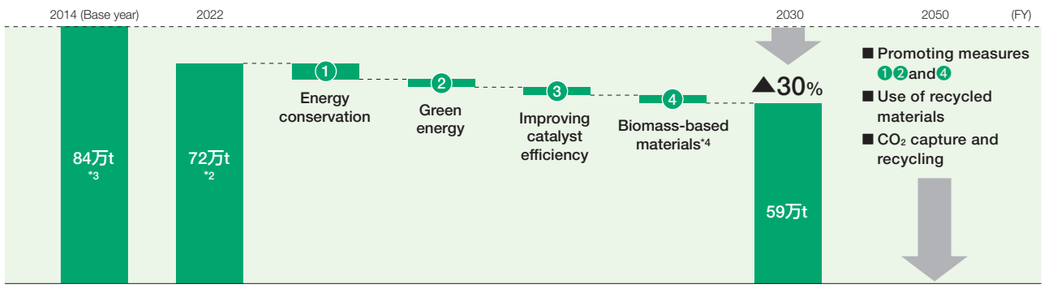
Reduce CO_2 emissions from production processes (Scopes 1 & 2)

Most greenhouse gases (GHGs) emitted as a result of business activities by the Nippon Shokubai Group are CO_2 emissions. They can be divided into two types by source: CO_2 emissions from energy use for production activities and those from non-energy use, emitted from oxidation reaction and other processes. Nippon Shokubai accounts for about 50% of the emissions from the latter. Accordingly, we need to take additional measures because we cannot achieve the goals set only by making a switch to green energy and implementing energy conservation activities.

By 2030, we will promote the conversion of raw materials into biomass to the extent possible, and reduce CO_2 emissions through measures centering on promoting energy conservation, promoting the use of green energy, process improvements, catalyst efficiency improvements, and so on.

While we will promote the above measures in 2030 to 2050, we also plan to promote the expanded use of biomass raw materials, use of recycled raw materials, use of green fuels (hydrogen, ammonia), and demonstrate carbon recycling technology (CO_2 capture and recycling).

KPI and their ideal state	FY2022 results	Year of Achievement
Reduce CO_2 emissions by 30%*1 (from the 2014 level, in Group companies in Japan)	Reduced by 14%*2	End of FY2030



*1 The Nippon Shokubai Group's emissions reduction targets are set for GHGs, but since these gases are mostly carbon dioxide (CO_2), they are referred to as CO_2 in this report.
*2 Including a carbon credit offset of 61,000 t-CO_2 (7.3% from the 2014 level) due to the purchase of carbon-neutral city gas
*3 The calculation method has been revised.
*4 Regarding biomass-based materials, direct emissions were calculated (distinguished from Scope 3).

Implementation of third-party verification on GHG emissions

Our company sets a target to reduce GHG emissions (Scope 1 + 2), including Group companies in Japan. Calculation of this reduction amount must be conducted by accurately measuring the GHG emissions and following the calculation standard consistent with national and international guidelines. For this reason, our company has newly developed its Greenhouse Gas (GHG) Emissions Calculation Manual, and prepared a FY 2021 Calculation Report based on measurements and calculations made in accordance with this manual. This report has been subjected to a third-party verification by the Japan Quality Assurance Organization (JQA), and received in September 2022 verification that our GHG emissions in Japan for FY 2021 were 810,000 t/CO_2e. We plan to continue receiving third-party verification every year.

TOPICS Adoption of Internal Carbon Pricing (ICP)

As shown by recent policy trend, such as the EU's plan to introduce the Carbon Boarder Adjustment Mechanism, and the "growth-oriented carbon pricing system" announced by the Japanese government, carbon pricing has become an important element in our business activities.

We adopted internal carbon pricing (ICP) to promote low carbonization/decarbonization in corporate management on February 1, 2023. We will accelerate "Strategic Transformation for Environmental Initiatives," one of the three transformations set out in the long-term vision, by raising awareness of the Group's commitment to decarbonization, promoting energy conservation, and activating discussion about opportunities and risks concerning CO_2 emission reductions.

Outline

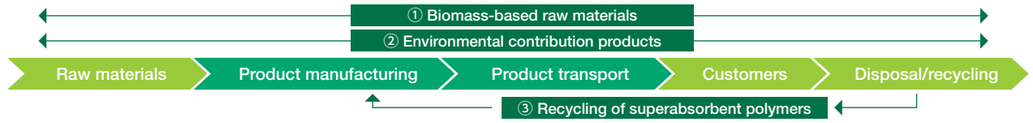
[ICP] ¥10,000/t-CO_2 (shadow price based on market prices in Japan and abroad)
[Method of application] The costs will be calculated using ICP based on a change of CO_2 emissions, and used as a criterion for investment decisions.
[Scope of application] Nippon Shokubai Group [GHG Scope] Scopes 1 & 2

Contribute to the reduction of emissions in via the supply chain (Scope 3)

In Scope 3, we will take on the issue of preserving the environment through product sales, by developing and expanding sales of "environmental contribution products," designed to contribute to resolving various environmental issue including the reduction of CO_2 emissions. Seeing "Strategic Transformation for Environmental Initiatives" as a business opportunity, we will actively disseminate our product information to various markets.

KPI and their ideal state	FY2022 results	Year of achievement
Environmental Contribution Products Revenue (1) 55 billion yen (2) 135 billion yen	44 billion yen	(1) End of FY2024 (2) End of FY2030

Extent of the Impact of Scope 3 on the Supply Chain (Image)



In order to solve the issue of climate change, it is important to reduce CO_2 emissions not only from the manufacturing stage of our products but also throughout the entire supply chain, including the stages of use and disposal. Our company offers products (Environmental Contribution Products) that reduce CO_2 emissions during the stage of product use compared to conventional products, and is developing more new Environmental Contribution Products.

We also promote developments of new technologies (such as CO_2 conversion catalysts) that will help reduce CO_2 emissions throughout the supply chain. We are also working on the development of a new recycling technology for superabsorbent polymer (SAP) contained in used diapers to reduce CO_2 emissions by recycling carbon.

TOPICS Acquisition of ISCC PLUS Certification

The use of biomass-based materials contributes considerably to reducing CO_2 emissions throughout the supply chain. Our plants are planning to gradually introduce biomass-based materials. Since biomass-based and petroleum-based materials are mixed to create raw materials to be used for production, it is necessary to calculate and guarantee how much biomass-based materials are allocated and to which products.

To this end, we have acquired International Sustainability and Carbon Certification (ISCC PLUS), a globally applicable certification system, for acrylic acid, SAP, ethylene oxide, and other products manufactured at the Himeji Plant and the Kawasaki Plant.

The certification enables us to fully establish a system to manufacture and market certified products using biomass-based raw materials by the mass balance method.

For our ISCC PLUS-certified products, click the URL below. https://www.shokubai.co.jp/en/news/202302099955/

Aiming to achieve carbon neutrality by 2050, we will implement the transformation outlined in the Nippon Shokubai Group's long-term vision and medium-term management plan, and contribute to increasing customer value and realizing a sustainable society.

Transformation 3: Organizational Transformation

Develop and Empower Human Resources

Develop and Empower Human Resources

- Develop “autonomous talent”
- Promote the active participation of diverse talent

Aiming to “transform into an organization with sustainable growth and a company where diverse talent is motivated to work,” “developing and promoting the active participation of talent”, one of our Materiality, is upheld in Organizational Transformation.” Under our Talent Development Policy, we are working to (1) develop autonomous talent and (2) promote the active participation of diverse talent.

Talent Development Policy (excerpts) **Our talent development policy and what is expected of employees**

The Nippon Shokubai Group views employees as essential assets based on the recognition that people are the source of constant value creation.

In talent development, the Company and employees are on equal footing: the Company provides employees with opportunities for growth and expects them to have high aspirations and motivation to grow as well as to contribute to the Company. The three points on the right are the focus of our talent development. We implement and promote the invigoration of talent with a focus on individual employees so that they can exhibit their individual strengths to the fullest.

① Utilizing the individuality, willingness, and abilities of diverse talent

② Providing support to talent who think, act, and grow on their own initiative

③ Fairly evaluating and rewarding employees under company systems

Develop “autonomous talent”

Ideal talent

Under the Talent Development Policy, we promote the development of “autonomous talent” who find their own purpose and take the initiative to work toward solutions.

Every employee is expected to keep in mind the five points stated in the definition of ideal talent, and perform at his/her full potential.

Human resources management system

We have established a human resources management system that encourages employees to think and act on their own and leverages their individual qualities and attributes. Our system aims to foster the personal motivation to grow by empowering ambitious, skilled employees to pursue more important roles and greater responsibilities as soon as they wish to.

Points

- Rating system according to the content and levels of the desired thinking and acting
- Introduction objective performance review for promotion

Talent development system

Based on the roles and ability requirements in the rating system, we systematize topics, scopes, details, and methods of training, and implement various programs.

Points

- Level-based training
- Career support
- Elective program
- Company-wide training (D&I, mental health, compliance, human rights, etc.)
- Autonomous learning programs (ALPs)

KPI and their ideal state	FY2022 results	Year of achievement
■ Improve the employee engagement score (transformation and growth of people and workplaces through early establishment of a new human resources management system, linkage with multi-layered measures, and organizational improvement)	Participation rate in ALPs: about 20% (total number of participants [about 500] / total number of employees [2,500]) We will seek to raise the participation rate and offer programs that lead to participants’ career advancement.	End of FY2024
■ Increase in the number of applicants for ALPs (e-learning, skill development training, online English conversation classes,etc.) and make these programs better known within the company		

Results for FY2022 **Employee training programs**

We carried out various training/programs specified under the talent development system. For level-based training, the training program was designed and implemented for each target level from new to managerial positions following to their expected role.

ALPs consists of five programs: (1) company-recommended training, (2) external open seminars, (3) subscription-based video training, (4) correspondence courses, and (5) global talent development programs. ALPs enables employees to select and participate in programs depending on their needs (participation style, period, etc.) to improve their abilities and skills. In FY2022, when the programs were revamped, a total of 500 employees participated in the five programs. We will continue to improve training programs to further increase the participation rates.

Regarding elective talent development programs, we held the NLDP (Next Leaders Development Program) and the FLDP (Future Leaders Development Program) for general managers and section managers selected on a company-wide basis. These are approximately one-year training programs, in which participants are required to work on specific issues and make a presentation to the management at the end of the programs. We will continue to work on developing talent who can serve as a driving force for Nippon Shokubai in the next generation.

Talent development meeting

We hold a “talent development meeting” with the participation of all internal members of the board on a periodic basis. Its purpose is to check the progress of initiatives for talent development, the operation of the human resources management system, and the fostering of the leaders of the next generation, thereby leading to the implementation and review of various measures.

Promote the active participation of diverse talent

We aim to encourage the autonomous think and act of each employee with diverse values and career-mindedness.

To this end, we actively promote the creation of the environment and systems that enable employees to continuously work and play an active role at Nippon Shokubai, by appropriately allocating human resources and introducing various systems, such as self-reporting and the continuation of work locations.

Points
- Suitable assignments of talent (self-reporting system, the continuity of work location system, etc.)
- Individual motivation (development of female leaders, career support for female employees and seniors, etc.)
- Diverse and autonomous work styles

KPI and their ideal state	FY2022 results	Year of achievement
■ Improve the employee engagement score (promotion of suitable assignments, individual motivation, and diverse and autonomous work styles through various systems such as self-reporting and the continuity of work location)		End of FY2024
■ Increase the hiring ratio of female employees in the clerical and chemical fields to at least 30%	24.1%	
■ Increase the ratio of females in managerial positions to 6% or more	4.4%	
■ Increase the ratio of men taking childcare leave to 100%*	36.4%	

* Under the medium-term management plan, we have revised the base for the number of days for administrative leave effective as of FY2022, which is used for calculation of the ratio of employees taking childcare leave, from “one day or more” to “15 days or more,” and the target ratio for FY2024, from 30% to 100%.

Administering engagement surveys

Once a year, we administer an engagement survey to all employees to enhance their engagement by providing assistance for Group invigoration activities at each workplace. The survey results are used to visualize the circumstances of each organization, and division leaders clarify organizational challenges and take steps to improve on them. This leads to the improvement of organizations and engagement as we administer progress surveys to verify the impact of the measures.

Results for FY2022 **Engagement survey initiative**

In July 2022, we administered the first survey. The survey results have shown that although there are strengths in the management and support by supervisors at the workplace, there are some weaknesses in terms of prospects in business and the effective posting of human resources. The results were shared by all employees, and specific commitments were announced by the president. At each workplace, an action plan toward improvement was prepared and implemented. The focus survey to measure progress has indicated that in some workplaces, scores were significantly improved. This has led to a steady improvement in Group invigoration and employees’ engagement.

Evaluation by Motivation Cloud (Link and Motivation Inc.)

	High level of engagement										
Rating	DD	DDD	C	CC	CCC	B	BB	BBB	A	AA	AAA
					July 2022 evaluation results						

Organizational Growth

Organizational Growth
- Execute specific measures to improve productivity (reduce man-hours of operations by 10% in indirect departments by FY2030)
- Revise approval process to delegate authority and expedite decisions in each department (starting April 2022)
- Continue to strengthen the dialogue between labor and management (Continue system for making proposals to the president)

Execute specific measures to improve productivity

To transform the organization equipped with the ability to respond in a timely and flexible manner to changes in the business environment and with high resilience, we aim to reduce man-hours of operations by 10% in indirect departments by fiscal 2030. Currently, we are working to create an environment that allows employees to work from home at any time by promoting measures such as going paperless, simplifying application work, delegating authority, abolishing stamping, utilizing IT, outsourcing, and building infrastructure.

We allocate the manhours generated through these measures to more sophisticated work.

Revise approval process to delegate authority

In April 2022, we revised the approval process to delegate authority to those in lower-level managerial positions regarding the monetary standards requiring the decision-making authorities of those in managerial positions and the approval process in individual operations. As a result, authority was handed over regarding 30% of the matters requiring the approval of officers. We will continue to make process revisions with an eye toward transformation into an autonomous organization set out in our long-term vision.

Strengthen the dialogue between labor and management

In FY2022, we invited proposals from employees under six themes, including how to use diversity, and the revitalization of communication.

Using the collected proposals as inspiration, we have considered and implemented concrete measures such as improving the efficiency of operations and the coordination of internal systems.

Strengthen Corporate Governance

Strengthen Corporate Governance
- Enhance the effectiveness of the Board of Directors
- Ensure knowledge, experience, skills, and diversity within the Board of Directors
- Strengthen medium-to long-term incentives for corporate officers

⇒For details, see “Corporate Governance” (pages 60 to 64).

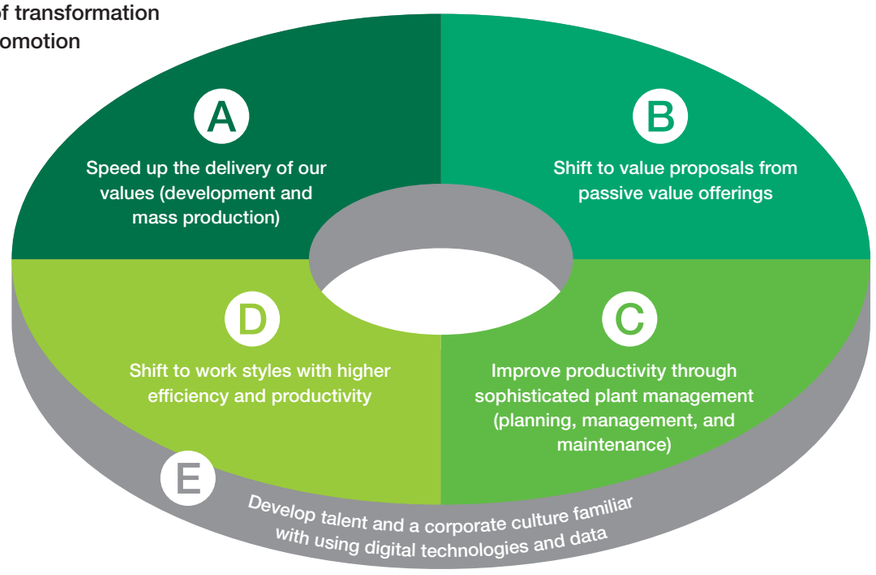
Promotion of a Digital Transformation

Promotion of a Digital Transformation

Nippon Shokubai is promoting of digital transformation (DX) so that every employee can work on "Three transformation" by using digital technologies and data.

As our ideal states in 2030, we have set three targets: (1) launch products to meet customers' needs and expand their sales in a timely manner, (2) achieve high productivity in production and sales, and (3) achieve high productivity in business support in indirect departments.

Scope of transformation in DX promotion



Process			Related pages
R&D	A Speed up the delivery of our values (development and mass production)	Use MI	p.43
		Collect and use research data	
		Shift to digital R&D infrastructure	
Sales	B Shift to value proposals from passive value offerings	Build routes to new customers using digital technologies	p.34
		Escape individual product sales through a digital transformation	
Production	C Improve productivity through sophisticated plant management (planning, management, and maintenance)	Drive enhancements and efficiency using a data integration platform	Right-hand page (p.54)
		Support each site and analyze data using wireless infrastructure	To be deployed
Indirect	D Shift to work styles with higher efficiency and productivity	Improve work styles using digital transformation technologies	Cloud storage Revision to the travel expense reimbursement system
		Reform common work operations	
Human resources	E Develop talent and a corporate culture familiar with using digital technologies and data	Cultivate talent with expertise in both data science and research	Right-hand page (p.54)
		Develop talent versed in data analysis on production sites	

Embark on building a platform for plant management using digital technology

Results for FY2022

Time required for information retrieval reduced by contextualizing data

The Himeji Plant has adopted "Cognite Data Fusion (CDF)" offered by Cognite K.K.

This system is designed to centrally manage the variety of data that had previously been stored and managed in various places—including plant design data, operation data, and maintenance and management data—by contextualizing the data through the use of AI and machine learning.

Consequently, this enables us to extract necessary data from the database quickly and easily. The time we spend on information retrieval is expected to be reduced by about 9,000 hours per year.

Results for FY2022

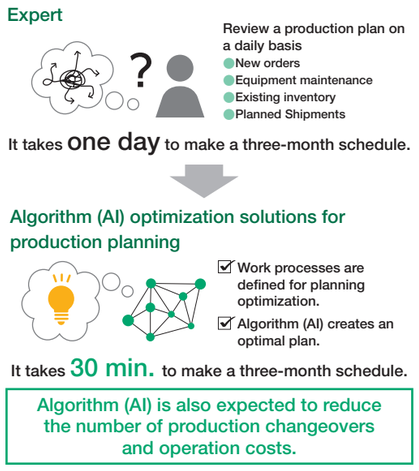
AI optimization solution for production planning put into operation

In collaboration with ALGO ARTIS CO., LTD., we have succeeded in building Algorithm (AI) including the know-how Nippon Shokubai had accumulated, and started to operate AI optimization solutions for production planning.

We execute a lot of product changeovers and produce various types of superabsorbent polymers (SAP) which have different production conditions in order to meet the desired needs, including a wide variety of absorption properties corresponding to different purposes.

The product changeovers involved many difficulties, such as the huge amount of labor required for planning, and a limit to the amount of information a human could handle. There were also challenges such as the development of talent with abundant knowledge and experience.

This solution makes it possible to create more effective, stable, and long-term production plans in a much shorter time than before. Moreover, it contributes to a more sustainable supply of SAP, energy savings and reduced CO_2 emissions.



Foster talent familiar with using digital technologies and data

Talent development program for DX promotion

- Conduct company-wide basic training to enhance employees' understanding and basic skills of DX
- Provide training according to the roles and expertise that are expected of employees in each area
- Foster talent who can drive DX

We issue an Open Badge certification to those who have completed a designated training program, which is closely linked to the DX skill levels set by the Information-technology Promotion Agency (IPA). Programs for the "Understander" level have already been conducted. We will select candidates for the "Driver" level and provide them with education and training.

Skill Level	Understander (who can use digital technology while learning and understand its necessity)	Driver (who is familiar with using and discuss digital technology)	Two-way player (who can play a leading role and produce results)	Leader (who has deep understanding and expertise)
Target	All employees	All in managerial positions and about 50% of general employees	Dozens of employees in DX-related areas	Up to 10 or so employees in DX-related areas

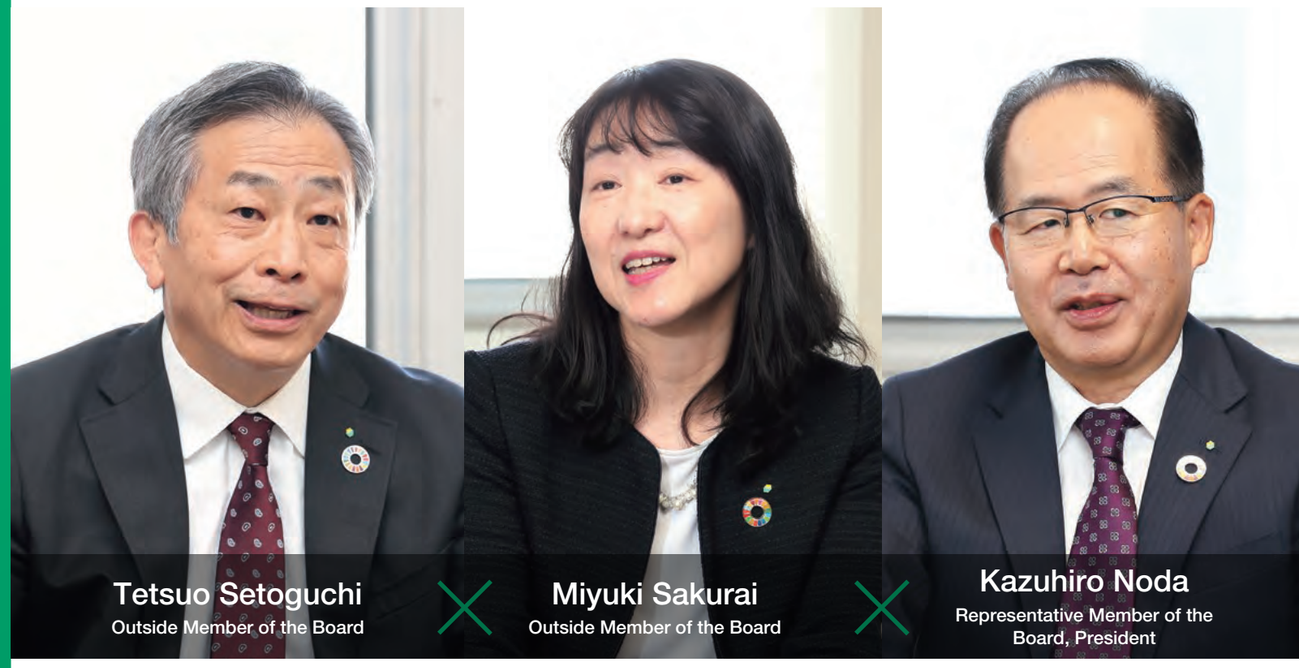
Governance

To pursue value creation over the medium to long term and achieve sustainable growth, Nippon Shokubai works to strengthen and enhance its corporate governance by improving the effectiveness of its Board Meetings, thereby establishing a solid management foundation.

56 **Tripartite Talk “Enhancement of the Effectiveness of the Board Meeting”**

60 **Corporate Governance**

65 **Management (as of June 21, 2023)**



Tripartite Talk

“Enhancement of the Effectiveness of the Board Meeting”

Operation of the Board Meeting in FY2022

—— Looking back on the previous fiscal year’s Board meeting, how do you think the Board meeting has changed?

Sakurai: In FY2021, in an attempt to take another look at how the Board meeting should be, the Board meeting spent a lot of time discussing the clarification of the functions and roles of the Corporate Managing Committee and each of the other bodies, Members of the Board, Executive Officers, and Directors of individual divisions. As a result, the Board meeting received regular reports not only on individual execution issues but also on the status of each business unit and subsidiary and the progress of the management plan, focusing on medium- to long-term strategies. In terms of discussions, we operate with a clear sense of purpose.

Setoguchi: There is a move to not only talk about important investment matters and business decisions but also make strategic discussions on the direction the company should take. I highly appreciate initiatives to minimize the information gap between outside and inside Members of the Board, including timely explanations about the current status, issues, and direction of each business division and each operation in detail.

Noda: I feel the same way as you two. After discussions over the past two years or so, last fiscal year, we were able to start managing the Board meetings in a somewhat different way. I highly appreciate the new initiatives, including reporting from each executive section and discussion on medium- to long-term issues. Meanwhile, being asked whether we have really discussed in depth what the issues of the executive sections are and how we should handle them, I have to admit that we should have discussed them a little bit more.

Tripartite Talk

“Enhancement of the Effectiveness of the Board Meeting”

— Could it be that now there are so many topics to cover at Board meetings that it cannot devote enough time to those that need discussion?

Noda: Board meetings do not set a time limit for discussions. Therefore, they spend a considerable amount of time discussing medium- to long-term strategies, which are particularly important. Honestly, I think it would be better to spend a bit less time explaining and more time discussing. In that sense, I hope that we will make the Board get more opinions from its Members.

Sakurai: When a decent number of reports are delivered at a Board meeting, it sometimes takes me the entire meeting just to listen to and understand the reports. More important is in-depth discussion on the issues that goes beyond what was reported. It might be good to spend an hour or two discussing only the topics related to medium- to long-term strategies. If necessary, it might also be a good idea to set up a place for discussion separate from the Board meeting.

Setoguchi: In addition to the point on whether or not we spend enough time on discussion, the Outside Members of the Board should tell the Board their requests and needs about opportunities for them to learn, so that they can contribute to fruitful discussion from the standpoint of shareholders and other stakeholders. In particular, it might be necessary to have opportunities to learn about the personality, sense of values, ethical view, and practical management capabilities of the candidates for management executives. Examples of such opportunities include attendance at programs for developing managers and officers.

—— In the previous fiscal year, a picture of the specialties and experience of each Member of the Board was gotten clearer through the disclosure of the skills matrix. How was the first fiscal year after the disclosure of the matrix?

Noda: We have just been through the stage of organizing the skills matrix. We will examine whether we can sufficiently utilize the skills matrix in discussions. On the other hand, I feel that the skills of the current Members of the Board complement each other’s quite well.

Setoguchi: Although it is important that Members of the Board who are diverse in specialty and experience discuss with each other from multifaceted perspectives, what matters the most is the attitude of getting to the bottom of each issue regardless of what specialties or experience they may have. For example, I always ask the Members of the Board what the bottom of each issue is so that we can promote the reinforcement of our Solutions business, which is the pillar of our management strategies. What is needed to strengthen the Solutions business? Is it that we don’t have enough contact with customers? Do we lack insight into apparent or latent customer needs? Does Nippon Shokubai’s corporate culture or management fail to let the company exercise its technological capabilities or creativity? I would like to hear in-depth explanations of these matters so that I can understand them. If we cannot grasp the bottom of each issue, including the lessons learned from past initiatives, we can hardly tell whether or not current measures to resolve the issues are appropriate. This understanding needs to be shared not only with the Outside Members of the Board but also with shareholders and other stakeholders, and the promotion of this understanding is an issue of public relations strategies as well as of the Medium-term Management Plan.

Sakurai: Nippon Shokubai receives advice from the legal staff and advisers as needed. Assuming that a certain level of our compliance is ensured, I ask whether the internal Members of the Board have considered the unexpected pitfalls or risks that I have noticed. I see no point in simply putting the brakes on proposals, so I consciously add constructive comments.

I am curious to know what the inside Members of Management think when they are promoting a business: what they think needs to be discussed, how they assess the value of the business, and how much they consider the criteria for deciding to withdraw from the business in the worst case.

Noda: You have just mentioned a very important viewpoint. There are things that we, the inside Members of the Board, may not be aware of. We assume multiple scenarios, but not all things are considered, so it is meaningful to get advice for a fresh look. I think we must give an in-depth explanation about each scenario, including their assumed premises, so that you can understand the scenarios. We often end up reporting only on the best scenario. We would like to deepen discussions at the Board meeting by making detailed explanations, including the scenarios other than the best one, what risks are associated with the individual scenarios, and possible situations where we may decide to turn back or even withdraw from the business.

Introduction of a performance-linked stock compensation plan

—— Now, let me ask some questions about the newly introduced performance-linked stock compensation plan. What was discussed when the compensation plan was set up? What was the intention behind its introduction, and how is it related to the company’s strategies?

Noda: With the introduction of the performance-linked stock compensation plan, we have linked 10% of the remuneration of the Members of the Board to their performance. The remuneration of the Executive Officers is also linked to their performance, but the percentage is less than 10%. One of the purposes of the company is to enhance its corporate value, of course, so I believe that this performance-linked plan is effective in that it makes all Officer-level employees more keenly aware of this purpose of the company.

On the other hand, we have set a rather high bar for the performance-linked remuneration. So, I am not yet quite sure whether the performance-linked remuneration will work as a motivator. To make sure of this matter, it may be a good idea to conduct something like an engagement survey that we conduct among our employees. We would like to see how things will turn out, make improvements as needed, and ensure that the Officers share the same awareness and work together to operate the company.

Setoguchi: Regarding the introduction of this compensation plan, I think that we need to give it a try anyway and see how it works, and then in the future, we should check whether the current percentages of performance-linked remuneration are appropriate and whether the stock compensation should be increased. We should keep thinking over what kind of compensation plan is effective in motivating the management, so that this company can continuously make profits and enhance its corporate value.

Sakurai: When it comes to enhancing the corporate value, it is tough to tell how we should balance good stock prices, which shareholders ask for, with the corporate value. The former is a short-term value, and the latter is a medium- to long-term value. Many Members of the Board comment that we must not forget to pay careful attention to the latter. I am impressed by the company’s sincere commitment to what needs to be done very seriously. I suppose that if Outside Members of the Board volunteer their views on the medium- to long-term value, it will become even easier for the company to settle down to working on the issue.

To further enhance the effectiveness of the Board Meeting

—— Nippon Shokubai conducted a third-party evaluation of the effectiveness of the Board meeting. Based on the responses to the questionnaire, tell us what you expect for further development and higher effectiveness of the Board meeting?

Setoguchi: Regarding the skills matrix just mentioned, I think the Board meeting needs to discuss what skills of the Members of the Board are needed for the future of the Board. This discussion, I believe, will be closely linked to that on management strategies themselves, or in what direction and based on what strengths Nippon Shokubai should develop. After the discussion linked to that on management strategies, examination of the current skills matrix will presumably reveal what skills need enhancement. The Nomination and Remuneration Committee needs to receive information about candidates for management executives. As I pointed out at the Board meeting before, it would be easier for the Committee to judge whether individual people listed by the Board meeting as candidates are promising as management executives if information about the candidates’ diverse experiences, skills, and senses of value are not intermittently given, as if marking points on a timeline, but are shared as a store of information, as if drawing a line.

Sakurai: The previous questionnaire revealed variations in the appraisal of the skills matrix results, such as “They are fine the way they are,” “Experience in venture company management should be increased,” and “Skills in public relations strategies should be strengthened.” I believe that we need to plan strategies first, and then discuss what kind of skills we need. This is a future issue we should dig deeper into.

Generally speaking, in connection with the diversity of skills, every all-male meeting completely changes in atmosphere when even one woman joins. When there is more than one female participant, it is natural that ideas will be given from different perspectives than before. I greatly hope for the advent of female Members of the Board from within the company, and I anticipate the next generation of female executive candidates will emerge first.

Noda: The Nomination and Remuneration Committee is informed of new Officers and systems, but I have to admit that the explanation about what kind of people were selected, by what process, and from which perspectives was a little insufficient, as pointed out in the responses to the questionnaire. I also think that the Board meeting should be informed of the content and schedule of the Nomination and Remuneration Committee’s discussions.

Sakurai: I would also like to ask the inside Members of the Board to speak up more actively. I believe that if the inside Members of the Board explain the course of events as to how individual matters have been placed on the agenda, including the main points of the discussions already made, the questions already asked, and the answers already given at the Corporate Managing Committee, the Outside Members of the Board can understand all these details and make comments or ask questions that have not been made or asked before, the Board will be able to have more lively discussions. I would like to ask the inside Members of the Board to share their views and suggestions beyond the divisions they are responsible for. Such an attitude, I believe, will lead to more effective supervision.

Noda: It is certainly as you say. Regarding the topics placed on the agenda of Board meetings, the inside Members of the Board have made all their comments already at the Corporate Managing Committee, so they tend to just listen to the Outside Members of the Board. At Board meetings, I would like the inside Members of the Board to temporarily forget about their positions as executives and speak up from a slightly broader perspective on the company. Even regarding the fields they are not in charge of, they should comment as Members of the Board, who are responsible for supervision. I would like to change the way we run the Board meeting, too.

Regarding the separation of supervision and execution, and the desired percentage of Outside Members of the Board, we need to discuss internally among people in the company, including the

Tripartite Talk "Enhancement of the Effectiveness of the Board Meeting"

Members of the Board, while keeping an eye on social trends. There may be more than one ideal way, and they may change over time. Since the purposes of the Board meeting are to grow the company and enhance the corporate value, the management structure should serve these purposes, and we need to discuss how to make that happen.

Setoguchi: In terms of growth of the company and improvement of corporate value, as an Outside Member of the Board, I am most interested in "**TechnoAmenity**" itself, in other words, what kind of value we can continue to create based on technology, whether the bottom line of the issues to be tackled for this value creation is clear, and whether we are moving in the direction of solving the issues. At the Board meeting, I would like to examine and discuss whether the values we will create in the future will be considered and implemented organically from the perspective of ESG, including what the value to be created in the future, what strengths we have, and what kind of human development is necessary.

Sakurai: I agree. When it comes to corporate value from the standpoint of the shareholders, I suppose what you have just mentioned is required. On the other hand—this might be a view from a different angle—the focus of my attention is whether the employees contribute to the company with high satisfaction with their job and life and whether the company enables them to do so. Nippon Shokubai has worked on further improvement of its human resources development training, personnel system, and personnel assessment system. In recent years, human capital has been attracting special attention. A company is supported by the people who work for it, so it matters whether or not the support works well and enhances the value of the company. I would like to always retain the perspective of the personnel when discussing a wide variety of topics and making suggestions.

Noda: I have served as the Chairman of the Board meeting since this fiscal year. As I mentioned earlier, I am determined to make the Board meeting a more meaningful body, and I am planning to try improving many things, including how the Board meeting is run and how it makes discussions. Over the next year, I would like to make small changes one at a time and see what works best.

As for the discussion on medium- to long-term issues so far, we will draw up this fiscal year's agenda, and I would like to hear every Member's opinion again, so that based on that opinion, the Board meeting can have lively discussions on the direction and issues of division- or field-specific strategies. Thank you so much for today.

Corporate Governance

We are working on continuously improving our systems and their operation to strengthen and enhance a viable corporate governance.

Our basic approach to corporate governance

Under the Nippon Shokubai Group Mission "**TechnoAmenity**: Providing prosperity and comfort to people and society, with our unique technology," we will increase our corporate value and achieve sustainable growth.

We consider viable corporate governance to be essential and have adopted initiatives toward that end. We ensure the rights and equality of our shareholders and maintain an open dialogue, collaborate with various stakeholders as appropriate, disclose information as appropriate and ensure transparency, ensure that the roles of Board Meeting and management teams relate to the appropriate execution of duties, ensure appropriate supervision of the execution of these duties and strengthen and enhance our internal control systems.

Initiatives to strengthen governance

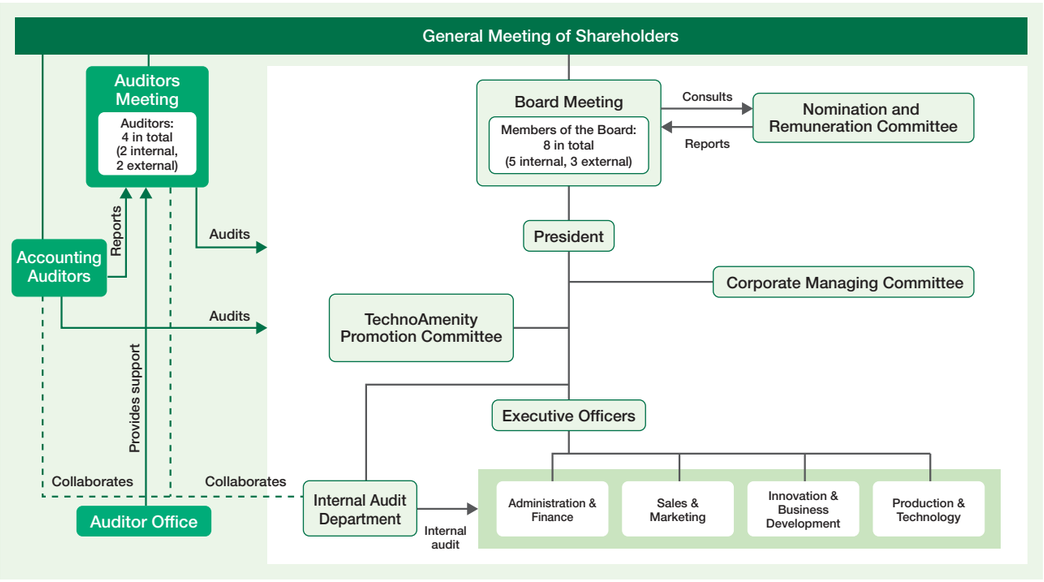
- **FY 2010**
  - Introduced the Executive Officer system
  - Streamlined the Members of the Board (16 members ⇒ 9 members)
  - Appointed an Outside Member of the Board (1/9 members)
- **FY 2013**
  - Increased Outside Members of the Board (2/8 members)
- **FY 2016**
  - Set up the Nomination and Remuneration Committee
  - Increased Outside Members of the Board (3/9 members)
  - Started evaluation of the effectiveness of the Board
- **FY 2020**
  - Appointed a female Outside Member of the Board (1/8 members)
- **FY 2022**
  - Introduced a Performance-linked Stock Compensation Plan

Our basic information on corporate governance system (as of June 21, 2023)

Main Items	Content
Institutional design	Company with an Auditors Meeting
Number of Members of the Board	8 (5 internal, 3 external), including a female Member of the Board
Ratio of Outside Members of the Board (Independent Officers)	38%
Term of office of the Members of the Board	1 year
Number of Board Meetings (FY2022) (Average attendance rate of Outside Members of the Board / External Statutory Corporate Auditors each)	15 times (100% / 100%)
Number of Statutory Corporate Auditors	4 (2 internal, 2 external)
Ratio of External Statutory Corporate Auditors (Independent Officers)	50%
Term of office of Statutory Corporate Auditors	4 years
Number of Auditors Meeting (FY2022) (Average attendance rate of External Statutory Corporate Auditors)	15 times (100%)
Executive Officer system	Have already been introduced
Number of Executive Officers	16, including 5 who concurrently serve as a Members of the Board
Advisory body to the Board Meeting	Nomination and Remuneration Committee established

* The ratios are rounded to the nearest unit.

Our corporate governance system (as of June 21, 2023)



Roles and Functions of Various Bodies and Committees

Board Meeting

Comprising eight Members of the Board, including three Outside Members of the Board, Board Meeting reports, deliberates and resolves important matters related to business operations, and supervises the business operations of each Member of the Board. In general, meetings are convened monthly under the chairmanship of a Member of the Board selected from members by a resolution of the Board Meeting. Four Statutory Corporate Auditors, including two External Statutory Corporate Auditors, also attend to give advice and state their opinions when necessary.

Corporate Managing Committee

Comprising the President and executive officers, this committee generally convenes once a month to deliberate on items related to the implementation of basic policies and important management issues. Among proposals discussed by the Corporate Managing Committee, important issues are forwarded to Board Meeting for consideration.

Auditors Meeting

Comprising four Statutory Corporate Auditors, including two External Statutory Corporate Auditors, the Auditors Meeting usually convenes monthly, submits reports and engages in discussions and deliberations on important matters related to audits.

Accounting Auditor

Nippon Shokubai is audited by Ernst & Young ShinNihon LLC.

Nomination and Remuneration Committee

An advisory body to the Board Meeting, this is a voluntary organization comprising three or more Members of the Board (including a majority of Outside Members of the Board). It advises on the election/dismissal of the President and Representative Member of the Board, as well as draft nominations of candidates for Members of the Board and Statutory Corporate Auditor positions and on remuneration and bonuses for Members of the Board.

Nomination and Remuneration Committee members

Name	Status	Attendance rate
Kazuhiro Noda	President and Representative Member of the Board	100%
Tetsuo Setoguchi	Outside Member of the Board	100%
Miyuki Sakurai	Outside Member of the Board	100%

*Mr. Kazuhiro Noda assumed the post as of June 21, 2022.

TechnoAmenity Promotion Committee

We promote sustainability activities based on our belief that promoting sustainability means implementing the Nippon Shokubai Group Mission "**TechnoAmenity**: Providing prosperity and comfort to people and society, with our unique technology." We consider promotion of sustainability activities as a core theme of our corporate management. The Committee is responsible for deciding policies and strategies therefor, providing instructions to relevant departments, and evaluating the results of the activities.

Internal Audit Department

The Internal Audit Department (6 members) conducts audits on the effectiveness and efficiency of each operational process, compliance and other matters from a standpoint independent from other executive sections, with the aim of verifying of the appropriateness of internal control of the Company. The Internal Audit Department strives to improve the effectiveness of internal audits by working in close cooperation with Statutory Corporate Auditors and the Accounting Auditor to exchange information and opinions.

In addition, the results of internal audits are regularly reported to the President, the Board Meeting, Statutory Corporate Auditors, and the Auditors Meeting.

Policy and procedure for election/dismissal of Members of the Board and Statutory Corporate Auditors

The Board Meeting, including three independent Outside Members of the Board, decides on election/dismissal of management executives and nomination of candidates for Members of the Board and Statutory Corporate Auditors, taking thoroughly into account their expertise, experience, achievements, qualities, abilities, personalities and the like. Also, the Nomination and Remuneration Committee, a voluntary organization consisting mainly of independent Outside Members of the Board, has been established to receive advice on election/dismissal of the President and Representative Member of the Board and nomination of candidates for Members of the Board and Statutory Corporate Auditors, thereby ensuring transparency and fairness in election/dismissal of the President and Representative Member of the Board, and nomination of candidates for Members of the Board and Statutory Corporate Auditors.

Specialty and Experience of Members of the Board and Statutory Corporate Auditors

	Name	Corporate management	Internationality	Sustainability	Compliance/ Governance	Finance/ Accounting	Production technology /R&D	Sales and Marketing	Other
Members of the Board	Kazuhiro Noda	●	●			●			
	Kuniaki Takagi		●		●	●			
	Masahiro Watanabe	●						●	● SCM
	Yasutaka Sumida			●			●		● Intellectual property
	Yukihiro Matsumoto	●					●		● DX
	Outside Shinji Hasebe			●			●		● Academic experience
	Outside Tetsuo Setoguchi	●	●					●	
	Outside Miyuki Sakurai				●				● Internal control, Audit
Statutory Corporate Auditors	Takashi Kobayashi	●	●			●			
	Teruhisa Wada				●				● HR, Labor relations
	External Yoritomo Wada	●	●			●			
	External Tsukasa Takahashi				●				

*In the table above, up to three main areas of specialty and experience are marked for each person.
*Sustainability referred to in the above list represents mainly expertise and experience in the environmental aspect.
*SCM is an acronym for Supply Chain Management and DX is an acronym for Digital Transformation.

Outline of the executive remuneration system

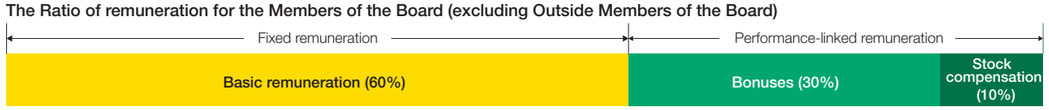
1. Basic Policy

- To have Members of the Board put the Company's mission into practice and provide an incentive to sustainably enhance corporate value
- To have Members of the Board share interests with shareholders according to the Company's business results and commensurate with their responsibilities
- To set the executive remuneration system at a reasonable level in light of the Company's business results, the level of employee salaries, and that of other companies
- To have the Nomination and Remuneration Committee, consisting mainly of independent Outside Members of the Board, deliberate on the matter, thereby ensuring transparency and fairness

2. Components of the Remuneration

The remuneration for Members of the Board (excluding Outside Members of the Board) consists of basic remuneration, which is fixed remuneration, and bonuses and stock compensation, which are performance-linked remuneration. Outside Members of the Board receive only basic remuneration as fixed remuneration because they oversee business operations from an independent standpoint.

The Ratio of remuneration for the Members of the Board (excluding Outside Members of the Board)



*The above ratio is only a guide and is subject to change according to the Company's business results, stock market conditions, and degrees of achievement of targets by each individual as assessed by the target management system.

Outline of remuneration

	Fixed remuneration	Performance-linked remuneration	
	Basic remuneration	Bonuses	Stock compensation
Type	Fixed remuneration	Short-term incentive	Medium- and long-term incentive
Persons to be paid	Members of the Board	Members of the Board (excluding Outside Members of the Board)	Members of the Board (excluding Outside Members of the Board)
Method of payment	Money	Money	Shares and Money
Time of payment	Monthly	Paid at a certain time after the Ordinary General Meeting of Shareholders each year	Paid upon the retirement of a Member of the Board
Description	● Paid based on the position and responsibilities. ● The amount of remuneration for Outside Members of the Board is determined by comprehensively considering the level of remuneration of the Company's officers, and that of other companies.	● Bonuses are paid according to evaluation indicators: the degree of achievement of key performance indicators (KPIs) and the degrees of achievement of targets by each individual as assessed by the target management system. ● KPIs consist of "profit before tax" and "ROA (return on assets before tax)," with achievement ratings ranging from 0 to 150%.	● Utilizing the share benefit trust mechanism for officers, payments shall be made according to the total cumulative number of performance-linked points, which are linked to the achievement level of the mid-term management plan, and fixed points, which are for the purpose of holding shares to share stock value. ● Performance-linked points and fixed points shall be granted at a ratio of 1:1. ● Performance-linked points vary depending on the degree of achievement of KPI results in the final year of the mid-term management plan against the targets of the mid-term management plan set as KPIs. ● KPIs consist of "operating profit" and "ROE (return on equity attributable to owners of parent)", with evaluation weights of 50% for "operating profit" and 50% for "ROE". In addition, each achievement rating shall be in the range of 0 to 150%.

3. Process for Determining Remuneration

- The Nomination and Remuneration Committee, a voluntary advisory organization consisting mainly of independent Outside Members of the Board, has been established. The Committee deliberates on policies, systems, and issues related to the determination of remuneration for Members of the Board, as well as the appropriateness of the level of remuneration and the amount of remuneration for indivisual Members of the Board, and reports back to the Board Meeting.
- Based on the Committee's report, the Board Meeting determines the policy for determining the details of remuneration, etc. for each individual Member of the Board and details of remuneration, etc. within the framework of the amount of remuneration approved by the General Meeting of Shareholders. After the determination of the Board Meeting, the President and Representative Member of the Board is entrusted with decisions regarding the amounts of basic remuneration and bonuses, excluding stock compensation, for individual Members of the Board in light of the contents of the Committee's report.

Aggregate Amount of Remuneration to Members of the Board and Statutory Corporate Auditors

Category of positions	Aggregate Amount of Remuneration (¥ millions)	Aggregate Amount of Remuneration by Type (¥ millions)			Number of persons to be paid (persons)
		Fixed Remuneration	Performance-linked Remuneration		
		Basic Remuneration	Bonuses	Stock compensation	
Members of the Board (Outside Members of the Board)	429 (39)	259 (39)	131 (–)	39 (–)	9 (3)
Statutory Corporate Auditors (External Statutory Corporate Auditors)	72 (20)	72 (20)	– (–)	– (–)	5 (2)
Total (Outside Officers)	501 (59)	331 (59)	131 (–)	39 (–)	14 (5)

*1 The number of persons and the amounts of remuneration above include one Statutory Corporate Auditor who retired during the fiscal year 2022.
*2 The basic remuneration includes 8 million yen of basic remuneration of the performance-linked remuneration for the period from April 2022 to June 2022. The amount of such performance-linked remuneration was calculated in accordance with the determination policy for the contents of remuneration, etc. for individual Members of the Board, which was resolved at the Board meeting held on February 26, 2021.
*3 The amount of bonuses represents the amount of provision for directors' bonuses for the current fiscal year.
*4 The amount of stock compensation is the amount posted for the current fiscal year.

Evaluation of the effectiveness of the Board Meeting

1. Process of evaluating the effectiveness of the Board Meeting

As an initiative to improve the effectiveness of the Board Meeting, the Company conducts surveys such as questionnaires of Members of the Board once a year to evaluate the effectiveness of the Board Meeting. In 2022, we requested a third-party evaluation.

FY2022 Board Meeting Effectiveness Evaluation Process

1. Viewing and hearing of materials of the Board Meeting by a third-party organization
2. Questionnaire for all Members of the Board and all Statutory Corporate Auditors
3. Third-party interviews with all Members of the Board and all Statutory Corporate Auditors
4. Opinion exchange meeting with all Members of the Board (independent Outside Members of the Board) and the President and Representative Member of the Board.
5. Summary of the effectiveness evaluation by the Board Meeting

2. Items for improvement

The items for improvement identified in the evaluation of the previous fiscal year are as follows:

- Enhancing discussions regarding management policies and strategies at the Board Meeting
- Strengthening the supervisory/advisory function for business execution
- Developing a skill matrix for the Board Meeting
- Nurturing candidates for an officer position in charge of sustainable growth

3. Evaluation results and initiatives for the future

- It was confirmed that all the systems that support the composition, operation, deliberations/reports and the supervision of business execution of the Board Meeting were functioning properly and that the effectiveness of the Board Meeting was ensured. It was also confirmed that the measures taken based on the items for improvement identified in the evaluation of the effectiveness of the Board Meeting in the previous fiscal year had been implemented properly.
- To steadily achieve "stronger corporate governance" to foster sustainable growth and enhance medium- to long-term corporate value set forth in "TechnoAmenity for the Future-I" launched in fiscal 2022, we are currently making the following efforts:

Enhancing discussions regarding management policies and strategies	■ Selection of appropriate themes for discussion at the Board Meeting ■ Enhancing information provision and training for Independent Officers regarding the status of internal considerations and discussions, the industry environment, etc.
Strengthening of supervisory functions related to nomination and remuneration	■ Enhancing discussions on important themes such as the skills that the Board Meeting should have at the Nomination and Remuneration Committee

Cross shareholding

Under the Nippon Shokubai Group Mission "**TechnoAmenity**: Providing prosperity and comfort to people and society, with our unique technology," we are willing to further advance our contributions to industry and society. To this end, Nippon Shokubai, as a chemical manufacturer, with a view to continuously improving its corporate value, believes that long and stable relationships of trust with business partners are important in development, production, sales and other activities. Based on this belief, we own shares of our partners for the purpose of cross share holding when deemed necessary.

Each year, the Board Meeting, including three independent Outside Members of the Board, comprehensively examines all the listed shares we own by issue in light of the above purpose, taking into consideration the capital costs, and confirms the importance of the shareholding. We sell shares if it is judged no longer important to hold such shares.

In fiscal 2022, we sold all shares of three issues. As a result, the number of issues of crossheld shares as of March 31, 2023 decreased from 70 as of the end of the fiscal year before the introduction of the Corporate Governance Code (March 31, 2015), to 35.

Management (as of June 21, 2023)

Members of the Board

	Profile	Reasons for appointment	Attendance at meetings
 **Kazuhiro Noda** **Member of the Board, President & CEO**	April 1986 Joined the Company. April 2005 General Manager of Superabsorbents Sales Department April 2011 General Manager of Corporate Planning Division April 2015 Deputy Director of Corporate Planning Division and General Manager of Group Management and Project Planning Department April 2017 Director of Superabsorbents Business Division June 2018 Executive Officer June 2020 Member of the Board, Managing Executive Officer Director of Corporate Planning Division June 2022 Member of the Board, President & CEO (current position)	He has been serving as Member of the Board, President to play key role in the Company's management, including the execution of mid-term management plans.	15/15 Board Meetings
 **Kuniaki Takagi** **Member of the Board, Managing Executive Officer** Administration, HR, Finance, Accounting General Affairs & HR Division	April 1987 Joined Sumitomo Chemical Co., Ltd. April 2019 Joined the Company as an entrusted worker. May 2019 Director of General Affairs & HR Division June 2019 Executive Officer June 2020 Member of the Board, Managing Executive Officer (current position)	He has been mostly engaging in planning, administration and finance divisions and overseas services for a long time and has achievements in strengthening the corporate governance system and executing management strategies from a global perspective. In addition, he has been serving as Executive Officer in charge of Administration, HR, Finance, and Accounting to play a central role in the formulation and introduction of a new human resource system to promote efforts to reform the organization.	15/15 Board Meetings
 **Masahiro Watanabe** **Member of the Board, Managing Executive Officer** Business Sector, Purchasing & Logistics, Business Planning Basic Materials Business Division Battery Business Solutions Division	April 1984 Joined the Company. April 2009 General Manager of Raw Materials Purchasing Department April 2013 General Manager of Performance Polymers Sales & Marketing Department April 2016 Director of Purchasing & Logistics Division June 2018 Executive Officer President and Representative Director of Nisshoku Butsuryu Co., Ltd. June 2021 Member of the Board, Managing Executive Officer (current position)	He has been engaging in purchasing & logistics divisions and sales & marketing divisions for a long time and has achievements in formulation and execution of purchasing and logistics strategies and strengthening the sales foundation, etc. In addition, he has been serving as Executive Officer in charge of Sales, Marketing, Purchasing and Logistics to expand the Solutions business and to strengthen the Materials business.	14/15 Board Meetings
 **Yasutaka Sumida** **Member of the Board, Managing Executive Officer** Innovation & Business Development Corporate Research Division GX Research & Development Division Health & Medical Business Division Cosmetics Business Division R&D Management Department Water & Environment Solutions Business Department	April 1991 Joined the Company. April 2017 General Manager of Research Center April 2020 Director of Innovation & Business Development Division June 2020 Executive Officer June 2021 Member of the Board, Managing Executive Officer (current position)	He has been engaging in research and development divisions for a long time and has achievements in strengthening the research and development capabilities and promoting open innovation, etc. In addition, he has been serving as Executive Officer in charge of Innovation & Business Development to accelerate the creation of new businesses and products and spearhead research and development toward carbon neutrality.	15/15 Board Meetings
 **Yukihiro Matsumoto** **Member of the Board, Managing Executive Officer** Production, Technology, Engineering DX Promotion Division Production Division Engineering Division IONEL Construction Team	April 1988 Joined the Company July 2004 Vice President of Singapore Acrylic PTE. LTD. Vice President of SINGAPORE GLACIAL ACLYRIC PTE. LTD. (at present, NIPPON SHOKUBAI (ASIA) PTE. LTD.) April 2009 General Manager of Technology Department of Himeji Plant April 2014 Director of Production Division April 2016 Director of Corporate Planning Division June 2016 Member of the Board, Executive Officer June 2020 Managing Executive Officer Plant Manager of Himeji Plant June 2022 Director of Production Division June 2023 Member of the Board, Managing Executive Officer (current position)	He has been engaging in production and technology divisions and overseas services for a long time and has achievements in launching manufacturing sites in Japan and overseas and promoting responsible care, etc. In addition, he has been serving as Director of Production Division to promote efforts to improve productivity through the introduction of highly efficient production technology in the acrylic business and other measures to strengthen the global production and supply system.	Took the office in June 2023
 **Shinji Hasebe** **Member of the Board** Outside Independent	April 1993 Associate Professor of Faculty of Engineering, Kyoto University August 2003 Professor of Graduate School of Engineering, Kyoto University June 2018 Outside Member of the Board at the Company (current position) April 2019 Program-Specific Professor of the Institute for Liberal Arts and Sciences, Kyoto University (current position)	The Company requests the reelection of Mr. Shinji Hasebe for him to serve as Outside Member of the Board in the expectation that he will offer valuable opinions and proposals that would benefit the Company's management and provide supervision from an independent position based on his expertise in chemical engineering and familiarity with the chemical industry, in addition to his past achievements as an Outside Member of the Board of the Company.	15/15 Board Meetings
 **Tetsuo Setoguchi** **Member of the Board** Outside Independent	April 1981 Joined Osaka Gas Co., Ltd. April 2015 Representative Director, Executive Vice President of Osaka Gas Co., Ltd. April 2018 Director of Osaka Gas Co., Ltd. June 2018 Outside Member of the Board at the Company (current position) Advisor to Osaka Gas Co., Ltd. (current position) April 2020 Chairman and Director of OSAKA GAS URBAN DEVELOPMENT Co., Ltd. June 2021 Outside Auditor of YOMIURI TELECASTING CORPORATION (current position) April 2022 Chairman and Director of OGIS-RI Co., Ltd. (current position)	The Company requests the reelection of Mr. Tetsuo Setoguchi for him to serve as Outside Member of the Board in the expectation that he will offer valuable opinions and proposals that would benefit the Company's management and provide supervision from an independent position based on his expertise in corporate management in the manufacturing industry and at a company with high public utility properties, in addition to his past achievements as an Outside Member of the Board of the Company.	15/15 Board Meetings
 **Miyuki Sakurai** **Member of the Board** Outside Independent	April 1992 Registered as an attorney-at-law. Joined Nishimura Law and Accounting Office. May 2003 Partner of Hanamizuki Law Office (current position) March 2015 Auditor of Nissay Life Foundation (current position) April 2016 Auditor of Osaka University (current position) June 2017 External Director of Nippon Shinyaku Co., Ltd. (current position) June 2020 Outside Member of the Board at the Company (current position) June 2022 Outside Auditor of MBS Media Holdings, Inc. (current position)	The Company requests the reelection of Ms. Miyuki Sakurai for her to serve as Outside Member of the Board in the expectation that she will offer valuable opinions and proposals that would benefit the Company's management and provide supervision from an independent position based on her highly professional expertise and a wealth of experience as attorney-at-law and achievements as External Director of other companies, in addition to her past achievements as an Outside Member of the Board of the Company.	15/15 Board Meetings

Statutory Corporate Auditors

	Profile	Reasons for appointment	Attendance at meetings
 **Takashi Kobayashi**	April 1986 Joined the Company April 2006 General Manager of Corporate Planning Division April 2011 General Manager of Accounting Department April 2015 Director of Finance & Accounting Division June 2018 Executive Officer June 2020 Managing Executive Officer April 2022 Finance & Accounting Division June 2022 Full-time Statutory Corporate Auditor (current position)	Based on his extensive experience in the Corporate Planning and Finance & Accounting Divisions, we believe that Mr. Takashi Kobayashi can provide useful opinions to the Board meeting of the Company and properly audit the legality of management execution, etc.	11/11 Board Meetings 11/11 Auditors Meetings
 **Teruhisa Wada**	April 1985 Joined the Company March 2006 General Manager of HR Department April 2010 General Manager of General Affairs Department October 2018 Senior Principal Staff attached to Statutory Corporate Auditors June 2019 Full-time Statutory Corporate Auditor (current position)	Based on his past achievements as a Statutory Corporate Auditor of the Company and his extensive experience in the General Affairs & HR Division, we believe that Mr. Teruhisa Wada can continue to provide useful opinions to the Board meeting of the Company and properly audit the legality of management execution, etc.	15/15 Board Meetings 15/15 Auditors Meetings
 **Yoritomo Wada** External Independent	April 1978 Joined Tohmatsu Aoki & Co. (at present, Deloitte Touche Tohmatsu LLC) June 1996 Partner of Tohmatsu Audit Firm (at present, Deloitte Touche Tohmatsu LLC) June 2019 External Stautory Corporate Auditor of the Company (current position) October 2019 Representative of Wada CPA Accounting Firm (current position) April 2020 Outside Auditor of Sekisui House, Ltd. (current position) March 2023 Outside Auditor of Trusco Nakayama Corporation (current position)	Based on his past achievements as an External Statutory Corporate Auditor of the Company, his highly professional expertise and wealth of experience as a certified public accountant, and achievements as an outside auditor at other companies, we believe that Mr. Yoritomo Wada can continue to provide useful opinions to the Board meeting of the Company and audit the legality of management execution, etc. from an objective standpoint.	15/15 Board Meetings 15/15 Auditors Meetings
 **Tsukasa Takahashi** External Independent	April 1989 Registered as attorney-at-law. Joined Katsube Law Office (at present, Katsube Takahashi Law Office) June 2008 External Director of Inaba Denki Sangyo Co., Ltd. April 2010 Deputy Chairman of the Osaka Bar Association June 2010 Outside Auditor of Nippon Paint Co., Ltd. July 2012 Representative of Katsube Takahashi Law Office (current position) April 2013 Special Professor of Kyoto University Law School May 2013 Outside Auditor of Aeon Delight Co., Ltd. (current position) April 2018 Part-time lecturer of Kyoto University Law School (current position) March 2019 Outside Auditor of Nippon Electric Glass Co., Ltd. June 2019 External Stautory Corporate Auditor of the Company (current position)	Based on his highly professional expertise and a wealth of experience as attorney-at-law and achievements as an outside auditor at other companies, we believe that Mr. Tsukasa Takahashi can continue to provide useful opinions to the Board meeting of the Company and audit the legality of management execution, etc. from an objective standpoint.	15/15 Board Meetings 15/15 Auditors Meetings

Managing Executive Officers

Katsunori Kajii	(Director of Acrylics Business Division)

Executive Officers

Gun Saito	(Director of Responsible Care Division)
Naoki Hijikuro	(President of Sino-Japan Chemical Co., Ltd.)
Yoshihisa Oka	(Plant Manager of Kasawaki Plant)
Kenta Kanaida	(President of Nippon Shokubai America Industries, Inc.)
Kazuhiro Sakuma	(Director of Industrial & Household Solutions Division)
Shinya Kataoka	(Director of Purchasing & Logistics Division and President of Nisshoku Butsuryu Co., Ltd.)
Tokihiro Yokoi	(Plant Manager of Himeji Plant)
Kenjiro Komoda	(Director of Business Planning Division)
Shigeru Harada	(Director of Finance & Accounting Division)
Tomiyuki Sawada	(Director of Electronics & Environmental Solutions Division)

11-Year Consolidated Financial Data

(Unit: Millions of yen)

Japanese GAAP	2012	2013	2014	2015	2016	2017
For the fiscal year						
Net sales	269,520	302,136	374,873	323,124	293,970	322,801
Gross profit	44,619	48,955	65,738	70,001	60,471	66,137
Operating profit	10,034	13,752	26,133	31,234	21,151	26,727
Ordinary profit	13,824	16,647	29,941	34,342	24,664	32,293
Profit attributable to owners of parent	8,401	10,503	19,089	26,003	19,361	24,280
Cash flows from operating activities	27,322	16,992	32,697	53,264	37,474	38,823
Cash flows from investing activities	- 31,878	- 25,141	- 18,941	- 12,963	- 44,515	- 27,498
Cash flows from financing activities	81	- 2,519	- 10,237	- 20,012	- 3,533	- 9,762
Depreciation	15,402	16,995	18,971	17,875	17,957	16,997
Capital investments	29,137	25,067	12,346	15,156	37,289	25,827
R&D expenses	11,441	11,161	11,948	12,303	13,283	13,266
As of the end of the fiscal year						
Total assets*1	352,373	398,396	419,634	407,997	433,610	467,386
Net assets	220,248	242,193	270,128	282,485	292,275	310,762
Interest-bearing debt	64,872	68,553	66,842	50,680	58,040	58,064
Per share information						
Profit attributable to owners of parent per share (Yen) *2	41.38	51.74	470.28	640.69	478.36	608.84
Net assets per share (Yen)*2	1,059.85	1,164.10	6,535.66	6,870.84	7,238.33	7,705.05
Dividends (Yen) *2	16.00	16.00	120.00	150.00	150.00	160.00
Payout ratio	38.7%	30.9%	25.5%	23.4%	31.4%	26.3%
Management index						
Shareholders' equity ratio*1	61.1%	59.3%	63.2%	68.3%	66.6%	65.7%
ROA (Ratio of ordinary profit to total assets) *3	3.9%	4.4%	7.3%	8.3%	5.9%	7.2%
ROE (Ratio of profit to shareholders' equity)*4	4.0%	4.7%	7.6%	9.6%	6.8%	8.1%
Overseas sales ratio	46.5%	47.3%	51.3%	49.8%	49.0%	48.0%

(Unit: Millions of yen)

IFRS	2017	2018	2019	2020	2021	2022
For the fiscal year						
Revenue	313,939	338,869	302,150	273,163	369,293	419,568
Gross profit	67,544	66,577	53,484	48,047	77,707	80,392
Operating profit (loss)	25,610	26,170	13,178	- 15,921	29,062	23,528
Profit before income tax (loss)	29,805	32,119	15,748	- 12,926	33,675	26,175
Profit attributable to owners of parent (loss)	22,641	23,849	11,094	- 10,899	23,720	19,392
Cash flows from operating activities	44,206	35,918	37,499	35,277	35,058	41,447
Cash flows from investing activities	- 31,563	- 31,316	- 32,806	- 30,623	- 23,158	- 25,976
Cash flows from financing activities	- 10,601	- 9,982	- 7,859	- 12,750	- 10,751	- 17,321
Depreciation and amortization	22,918	25,626	28,653	29,470	28,875	29,312
Capital investments	30,355	29,919	30,440	26,726	16,522	17,720
R&D expenses	14,251	13,996	14,774	14,603	15,182	15,753
As of the end of the fiscal year						
Total assets	480,316	481,668	475,641	471,617	518,151	523,319
Total equity	316,188	329,227	326,108	323,725	351,123	369,998
Interest-bearing debt	58,474	56,633	63,375	61,572	59,677	57,612
Per share information						
Basic earnings per share (loss) (Yen)	567.71	598.05	278.21	- 273.33	594.86	488.29
Equity attributable to owners of parent per share (Yen)	7,750.24	8,099.97	8,017.17	7,959.07	8,624.02	9,213.91
Dividends (Yen)	160.00	170.00	180.00	90.00	180.00	180.00
Payout ratio*5	28.2%	28.4%	64.7%	—	30.3%	36.9%
Management index						
Rate of equity attributable to owners of parent	64.3%	67.1%	67.2%	67.3%	66.4%	69.2%
ROA (Ratio of profit before income tax to total assets)*6	6.4%	6.7%	3.3%	- 2.7%	6.8%	5.0%
ROE (Ratio of profit to equity attributable to owners of parent)*7	7.6%	7.5%	3.5%	- 3.4%	7.2%	5.5%
Overseas sales ratio	52.8%	53.8%	53.9%	55.1%	56.9%	56.6%

*1: The Company has applied "Partial Amendments to Accounting Standard for Tax Effect Accounting" (ASBJ Statement No. 28, February 16, 2018) from the beginning of FY 2018. Accordingly, the total assets and shareholders' equity ratio for FY 2017 are the values that were revised retrospectively after the application.
*2: The Company conducted a stock consolidation of its common shares at a ratio of one share for every five shares on October 1, 2015. Dividend is the value that was presented on the assumption that the relevant stock consolidation had been implemented at the beginning of FY 2014. Accordingly, profit per share and net asset per share were calculated.
*3: ROA (Ratio of ordinary profit to total assets) = Ordinary profit/Total assets (average of beginning and ending balance of the year)
*4: ROE (Ratio of profit to shareholders' equity) = Profit attributable to owners of parents/Shareholders' equity (average of beginning and ending balance of the year)
*5: The payout ratio is not presented for FY 2020 because the Company reported a net loss.
*6: ROA (Ratio of profit before income tax to total assets) = Profit before income tax/Total assets (average of beginning and ending balance of the year)
*7: ROE (Ratio of profit to equity attributable to owners of parent) = Profit attributable to owners of parents/Total equity attributable to owners of parent (average of beginning and ending balance of the year)
*8: The Group has prepared its consolidated financial statements in accordance with the International Financial Reporting Standards (IFRS) from FY 2018 (Date of transition: April 1, 2017).

Overview of Operating Results, etc.

Overview of Operating Results for the Fiscal Year under Review

In the current fiscal year, the global economy continued to recover from the impact of the novel coronavirus infection (COVID-19). Meanwhile, there was uncertainty about the future caused by increasing geopolitical risks and other factors, and there were concerns about economic downside due to rising prices and the accompanying tightening of monetary policy.

In the United States, personal consumption recovered, while rapid rises in interest rates reduced housing investment. In Europe, personal consumption was sluggish due to continued high inflation amid the escalating situation in Ukraine. In China, export growth declined due to the slowdown of the United States and European economies. In emerging Asian countries, the economy continued to recover due to the normalization of economic activities.

In Japan, although personal consumption and capital investment continued to grow, the improvement trend in corporate earnings stalled due to soaring prices and the downturn in the global economy.

In the chemical industry, the expansion of production activities stalled due to the impact of the downturn in overseas economies and other factors.

Overview

Under these conditions, the Group's revenue in the current fiscal year increased 13.6% year-on-year to 419,568 million yen, up 50,275 million yen, due to higher selling prices in line with higher raw material prices and a weaker yen, despite a decrease in sales volume.

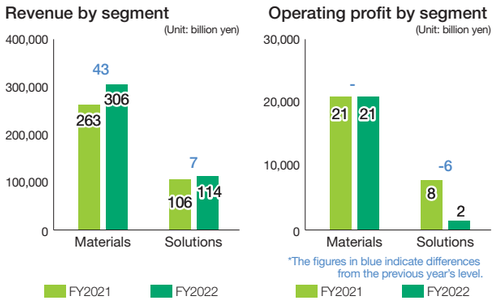
With regard to profits, operating profit decreased 19.0% year-on-year to 23,528 million yen, down 5,533 million yen, due to factors such as a decrease in sales volume and an increase in selling, general and administrative expenses due to soaring marine transportation costs, etc., despite a widening of the spread due to higher overseas market prices for some products, mainly in Materials business, and improved terms of trade resulting from the weaker yen and other factors through to the nine months ended December 31, 2022.

Profit before tax was 26,175 million yen, a year-on-year decrease of 7,499 million yen, or 22.3%, due to decreases in operating profit and share of profit of investments accounted for using equity method.

As a result, profit attributable to owners of parent of 19,392 million yen was posted, down 4,328 million yen, or 18.2%, year-on-year.

In comparison to the financial forecasts as of March 22, 2023, operating profit, profit before tax, and profit attributable to owners of parent were revised upward by 2,528 million yen, 2,675 million yen, and 2,392 million yen, respectively, mainly due to lower than expected selling, general and administrative expenses such as research and retirement benefit costs, as well as utility costs.

Outline of Sales by Business Segment



[Materials Business]

Sales of acrylic acids and acrylates increased due to higher selling prices resulting from higher raw material prices, despite a decline in sales volume.

Sales of superabsorbent polymers increased due to higher selling prices in line with higher raw material prices and rising product overseas market conditions, despite a decline in sales volume.

Sales of ethylene oxide increased due to higher selling prices resulting from higher raw material prices and an increase in sales volume.

Sales of ethylene glycol decreased due mainly to a decline in sales volume, despite higher selling prices in line with higher raw material prices.

Sales of special acrylates decreased due to a decline in sales volume, despite higher selling prices in line with higher raw material prices and weakening of the yen.

Sales of maleic anhydride increased due to higher selling prices, mainly reflecting higher raw material prices.

Sales of process catalysts increased due to higher sales volume.

As a result, revenue in the Materials business increased 16.3% year-on-year to 305,689 million yen.

Operating profit was 20,949 million yen, the same level as the previous year, due to the widening of spreads through to the nine months ended December 31, 2022, reflecting higher overseas market prices for some products and improved terms of trade due to weakening of the yen and other factors, despite factors to reduce profits, including a decrease in sales volume and higher selling, general and administrative expenses due to higher marine transportation costs and other factors.

[Solutions Business]

Sales of polymers for concrete admixtures and resins for paints increased due to higher selling prices and higher sales volume.

Sales of secondary alcohol ethoxylates, water-soluble polymers such as raw materials for detergents, and ethyleneimine derivatives increased due to higher selling prices despite a decline in sales volume.

Sales of iodine compounds increased due to higher selling prices.

Sales of De-NOx catalysts increased due to higher sales volumes.

Sales of electronic and information materials decreased due to lower sales volumes.

Sales of materials for batteries decreased due to lower sales volumes.

As a result, revenue in the Solutions business increased 7.0% year on year to 113,879 million yen.

Operating profit decreased 80.8% year-on-year to 1,503 million yen due to factors such as lower production and sales volumes, and higher selling, general and administrative expenses, despite the impact of inventory valuation differences resulting from higher raw material prices, etc.

Overview of Financial Position for the Fiscal Year under Review

Total assets at the end of the current fiscal year increased by 5,168 million yen from the end of the previous fiscal year to 523,319 million yen. Current assets increased by 6,397 million yen compared to the end of the previous fiscal year. This was mainly due to an increase in inventories in line with higher raw material costs, despite a decrease in trade receivables as sales volume decreased. Non-current assets decreased by 1,229 million yen from the end of the previous fiscal year.

This was mainly due to decreases in retirement benefit asset and property, plant and equipment resulting from progress in depreciation, despite an increase in investments accounted for using equity method associated with investment to expand the business of lithium salt as the electrolyte for lithium-ion battery.

Total liabilities decreased by 13,707 million yen compared to the end of the previous fiscal year to 153,321 million yen.

This was mainly due to decreases in retirement benefit liability according to the revision of the retirement benefit plan and trade payables.

Total equity increased by 18,875 million yen compared to the end of the previous fiscal year to 369,998 million yen. This was mainly due to an increase in retained earnings.

The ratio of profit to equity attributable to owners of parent increased by 2.8 percentage points, from 66.4% at the end of the previous fiscal year to 69.2%. Equity attributable to owners of parent per share increased by 589.89 yen compared to the end of the previous fiscal year to 9,213.91 yen.

Overview of Cash Flows for the Fiscal Year under Revie

Cash and cash equivalents at the end of the current fiscal year amounted to 39,035 million yen, a decrease of 327 million yen from the end of the previous fiscal year, as cash flows used in investing activities including capital investment and cash flows used in financing activities exceeded cash flows provided by operating activities.

(Cash flow from operating activities)

Net cash provided by operating activities in the current fiscal year amounted to 41,447 million yen, an increase of 6,389 million yen from a cash inflow of 35,058 million yen in the previous fiscal year. This was mainly due to a decrease in trade receivables as sales volume decreased and inventories increased less than in the previous fiscal year, despite a decrease in trade payables, an increase in income taxes paid and a decrease in profit before tax.

(Cash flow from investing activities)

Net cash used in investing activities in the current fiscal year totaled 25,976 million yen, an increase of 2,818 million yen from a cash outflow of 23,158 million yen in the previous fiscal year, mainly due to payment for investments in capital of subsidiaries and associates to expand the business of lithium salt as the electrolyte for lithium-ion battery and an increase in outflow for purchase of property, plant and equipment.

(Cash flow from financing activities)

Net cash used in financing activities in the current fiscal year amounted to 17,321 million yen, an increase of 6,570 million yen from a cash outflow of 10,751 million yen in the previous fiscal year, mainly due to a decrease in net decrease in short-term borrowings and an increase in repayments of long-term borrowings, as well as purchase of treasury shares and an increase in dividends paid, despite absence of expenditures for redemption of bonds.

Consolidated Financial Statements

Consolidated Statement of Financial Position

(Unit: Millions of yen)

	March 31, 2022	March 31, 2023
Assets		
Current assets:		
Cash and cash equivalents	¥ 39,363	¥ 39,035
Trade receivables	103,577	98,571
Inventories	75,311	86,056
Other financial assets	12,427	14,151
Other current assets	6,979	6,239
Total current assets	237,656	244,053
Non-current assets:		
Property, plant and equipment	191,143	189,520
Intangible assets	7,895	8,358
Investments in associates and joint ventures accounted for using equity method	22,868	27,088
Other financial assets	40,981	40,195
Net defined benefit assets	12,820	9,129
Deferred tax assets	3,320	3,404
Other non-current assets	1,468	1,573
Total non-current assets	280,495	279,266
Total assets	¥ 518,151	¥ 523,319

(Unit: Millions of yen)

	March 31, 2022	March 31, 2023
Liabilities and equity		
Liabilities		
Current liabilities:		
Trade payables	¥ 57,616	¥ 53,138
Borrowings	23,559	23,044
Other financial liabilities	10,570	9,539
Income taxes payable	5,812	3,970
Provisions	5,931	6,672
Other current liabilities	5,527	5,278
Total current liabilities	109,014	101,641
Non-current liabilities:		
Borrowings	28,634	27,867
Other financial liabilities	6,784	5,961
Net defined benefit liability	14,044	8,941
Provisions	2,347	2,582
Deferred tax liabilities	6,205	6,330
Total non-current liabilities	58,014	51,681
Total liabilities	167,028	153,321
Equity:		
Share capital	25,038	25,038
Capital surplus	22,472	22,520
Treasury shares	-6,291	-9,298
Retained earnings	288,124	301,940
Other components of equity	14,538	22,030
Total equity attributable to owners of parent	343,882	362,231
Non-controlling interests	7,241	7,767
Total equity	351,123	369,998
Total liabilities and equity	¥ 518,151	¥ 523,319

Consolidated Statement of Income and Consolidated Statement of Comprehensive Income

Consolidated Statement of Income

(Unit: Millions of yen)

	Years ended March 31, 2022	Years ended March 31, 2023
Revenue	¥ 369,293	¥ 419,568
Cost of sales	291,586	339,176
Gross profit	77,707	80,392
Selling, general and administrative expenses	48,992	56,844
Other operating income	3,013	3,057
Other operating expenses	2,667	3,076
Operating profit	29,062	23,528
Finance income	1,932	1,856
Finance expenses	682	1,134
Share of profit of investments accounted for using equity method	3,362	1,925
Profit before income tax	33,675	26,175
Income tax expense	9,204	6,015
Profit	¥ 24,470	¥ 20,160
Profit attributable to:		
Owners of parent	23,720	19,392
Non-controlling interests	750	769
Profit	¥ 24,470	¥ 20,160
Earnings per share:		
Basic earnings per share (Yen)	594.86	488.29
Diluted earnings per share (Yen)	—	488.22

Consolidated Statement of Comprehensive Income

(Unit: Millions of yen)

	Years ended March 31, 2022	Years ended March 31, 2023
Profit	¥ 24,470	¥ 20,160
Other comprehensive income		
Items that will not be reclassified to profit or loss:		
Net changes in financial assets measured at fair value through other comprehensive income	-2,160	-199
Remeasurements of defined benefit plans	1,054	1,604
Share of other comprehensive income of associates and joint ventures accounted for using equity method	-38	154
Subtotal of items that will not be reclassified to profit or loss	-1,144	1,559
Items that may be reclassified to profit or loss:		
Exchange differences on translation of foreign operations	9,041	6,888
Share of other comprehensive income of associates and joint ventures accounted for using equity method	416	1,402
Subtotal of items that may be reclassified to profit or loss	9,457	8,290
Total other comprehensive income	8,312	9,848
Comprehensive income	¥ 32,782	¥ 30,009
Comprehensive income attributable to		
Owners of parent	31,497	28,889
Non-controlling interests	1,285	1,120
Comprehensive income	¥ 32,782	¥ 30,009

Consolidated Financial Statements

Consolidated Statement of Changes in Equity

FY2021(April 1, 2021 to March 31, 2022)

(Unit: Millions of yen)

	Share capital	Capital surplus	Treasury shares	Retained earnings	Other components of equity	
					Net changes in financial assets measured at fair value through other comprehensive (loss) income	Remeasurements of defined benefit plans
Balance as of April 1, 2021	¥ 25,038	¥ 22,472	¥ -6,286	¥ 267,729	¥ 7,691	¥ —
Profit	—	—	—	23,720	–	—
Other comprehensive income	—	—	—	—	-2,157	999
Comprehensive (loss) income:	—	—	—	23,720	-2,157	999
Purchase of treasury shares	—	—	-5	—	—	—
Transactions in stock-based compensation	—	—	—	—	—	—
Cash dividends	—	—	—	-4,984	—	—
Increase/decrease in non-controlling interests	—	—	—	—	—	—
Transfer from other components of equity to retained earnings	—	—	—	1,659	-660	-999
Total transactions with owners	—	—	-5	-3,325	-660	-999
Balance as of March 31, 2022	¥ 25,038	¥ 22,472	¥ -6,291	¥ 288,124	¥ 4,874	¥ —

(Unit: Millions of yen)

	Other components of equity		Total equity attributable to owners of parent	Non-controlling interests	Total equity
	Exchange differences on translation of foreign operations	Total			
Balance as of April 1, 2021	¥ 730	¥ 8,420	¥ 317,373	¥ 6,352	¥ 323,725
Profit	—	—	23,720	750	24,470
Other comprehensive income	8,935	7,777	7,777	535	8,312
Comprehensive (loss) income:	8,935	7,777	31,497	1,285	32,782
Purchase of treasury shares	—	—	-5	—	-5
Transactions in stock-based compensation	—	—	—	—	—
Cash dividends	—	—	-4,984	-396	-5,380
Increase/decrease in non-controlling interests	—	—	—	—	—
Transfer from other components of equity to retained earnings	—	-1,659	—	—	—
Total transactions with owners	—	-1,659	-4,989	-396	-5,385
Balance as of March 31, 2022	¥ 9,664	¥ 14,538	¥ 343,882	¥ 7,241	¥ 351,123

FY2022(April 1, 2022 to March 31, 2023)

(Unit: Millions of yen)

	Share capital	Capital surplus	Treasury shares	Retained earnings	Other components of equity	
					Net changes in financial assets measured at fair value through other comprehensive (loss) income	Remeasurements of defined benefit plans
Balance as of April 1, 2022	¥ 25,038	¥ 22,472	¥ -6,291	¥ 288,124	¥ 4,874	¥ —
Profit	—	—	—	19,392	–	—
Other comprehensive income	—	—	—	—	-201	1,664
Comprehensive (loss) income:	—	—	—	19,392	-201	1,664
Purchase of treasury shares	—	—	-3,007	—	—	—
Transactions in stock-based compensation	—	41	—	—	—	—
Cash dividends	—	—	—	-7,581	—	—
Increase/decrease in non-controlling interests	—	8	—	—	—	—
Transfer from other components of equity to retained earnings	—	—	—	2,005	-342	-1,664
Total transactions with owners	—	49	-3,007	-5,575	-342	-1,664
Balance as of March 31, 2023	¥ 25,038	¥ 22,520	¥ -9,298	¥ 301,940	¥ 4,331	¥ —

(Unit: Millions of yen)

	Other components of equity		Total equity attributable to owners of parent	Non-controlling interests	Total equity
	Exchange differences on translation of foreign operations	Total			
Balance as of April 1, 2022	¥ 9,664	¥ 14,538	¥ 343,882	¥ 7,241	¥ 351,123
Profit	—	—	19,392	769	20,160
Other comprehensive income	8,035	9,497	9,497	351	9,848
Comprehensive (loss) income:	8,035	9,497	28,889	1,120	30,009
Purchase of treasury shares	—	—	-3,007	—	-3,007
Transactions in stock-based compensation	—	—	41	—	41
Cash dividends	—	—	-7,581	-571	-8,152
Increase/decrease in non-controlling interests	—	—	8	-24	-16
Transfer from other components of equity to retained earnings	—	-2,005	—	—	—
Total transactions with owners	—	-2,005	-10,539	-595	-11,134
Balance as of March 31, 2023	¥ 17,699	¥ 22,030	¥ 362,231	¥ 7,767	¥ 369,998

Consolidated Statement of Cash Flows

(Unit: Millions of yen)

	Years ended March 31, 2022	Years ended March 31, 2023
Cash flows from operating activities:		
Profit before income tax	¥ 33,675	¥ 26,175
Depreciation and amortization	28,875	29,312
Loss (gain) on sale of property, plant and equipment	-502	-22
Impairment loss	575	1,554
Decrease in net defined benefit asset	-46	4,845
Increase in net defined benefit liability	-11	-4,137
Interest and dividend income	-1,483	-1,837
Interest expenses	338	558
Share of profits of associates and joint ventures accounted for using equity method	-3,362	-1,925
Decrease (increase) in trade receivables	-19,005	7,371
Increase in inventories	-15,750	-8,926
Increase in trade payables	10,231	-5,923
Other	1,314	-637
Subtotal	34,848	46,407
Interest and dividends received	2,775	5,401
Interest paid	-340	-454
Income taxes paid	-2,225	-9,907
Net cash flows provided by operating activities	35,058	41,447
Cash flows from investing activities:		
Purchase of property, plant and equipment	-20,189	-21,652
Proceeds from sale of property, plant and equipment	730	331
Purchase of intangible assets	-2,067	-1,433
Purchase of investments	-895	-383
Proceeds from sale and redemption of investments	1,727	821
Acquisition of shares of subsidiaries and affiliates	-500	—
Payment for investments in capital of subsidiaries and associates	—	-3,963
Other	-1,963	302
Net cash flows used in investing activities	-23,158	-25,976
Cash flows from financing activities:		
Net decrease in short-term borrowings	6,227	544
Proceeds from long-term borrowings	10,035	9,000
Repayments of long-term borrowings	-9,722	-13,621
Redemption of bonds	-10,000	—
Payments of lease liabilities	-1,906	-2,110
Purchase of treasury shares	-5	-3,007
Dividends paid	-4,984	-7,581
Dividends paid to non-controlling interests	-396	-571
Other	—	25
Net cash flows used in financing activities	-10,751	-17,321
Effect of exchange rate changes on cash and cash equivalents	1,872	1,522
Net increase (decrease) in cash and cash equivalents	3,022	-327
Cash and cash equivalents at the beginning of the year	36,341	39,363
Cash and cash equivalents at the end of the year	¥ 39,363	¥ 39,035

Outline

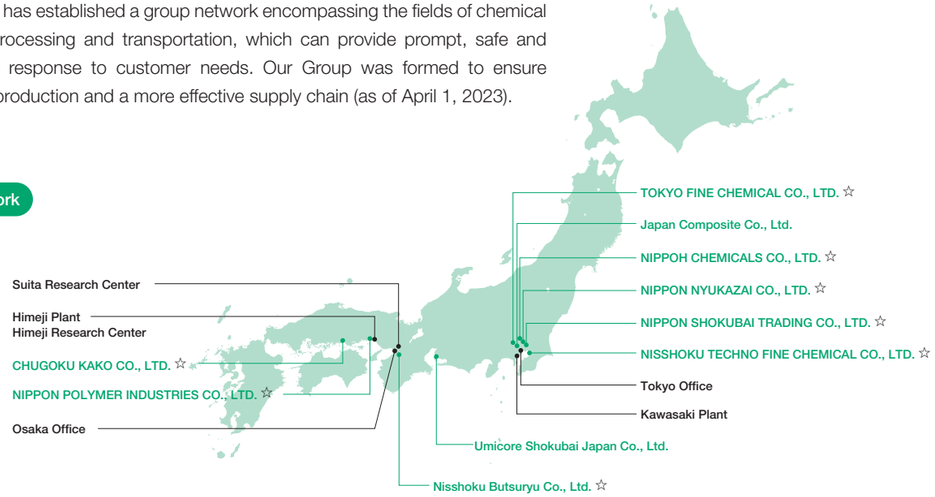
Established	August 21, 1941
Share capital (as of March 31, 2023)	¥25,000 million
Revenue (FY2022)	¥419,600 million (consolidated) ¥257,000 million (non-consolidated)
Number of employees (as of March 31, 2023)	4,574 (consolidated) 2,443 (non-consolidated)
Osaka Office	Kogin Bldg., 4-1-1 Koraibashi, Chuo-ku, Osaka 541-0043, Japan Tel: +81-6-6223-9111 Fax: +81-6-6201-3716
Tokyo Office	Hibiya Dai Bldg., 1-2-2 Uchisaiwai-cho, Chiyoda-ku, Tokyo 100-0011, Japan Tel: +81-3-3506-7475 Fax: +81-3-3506-7598
Main Plants and Research Centers	Himeji Plant, Kawasaki Plant, Suita Research Center, Himeji Research Center

Business Locations

Nippon Shokubai has established a group network encompassing the fields of chemical manufacturing, processing and transportation, which can provide prompt, safe and secure supply in response to customer needs. Our Group was formed to ensure improved global production and a more effective supply chain (as of April 1, 2023).

Domestic Network

● Nippon Shokubai
● Main affiliate



Global Network

● Main affiliate

1. NIPPON SHOKUBAI EUROPE N.V. ☆
2. Umicore Shokubai S.A.
3. LX MMA Corporation
4. NISSHOKU CHEMICAL INDUSTRY (ZHANGJIAGANG) CO., LTD. ☆
5. Hunan Fluopont New Materials Co., Ltd. (Hunan province)
6. SINO-JAPAN CHEMICAL CO., LTD. ☆
7. SINGAPORE ACRYLIC PTE LTD ☆
8. NIPPON SHOKUBAI (ASIA) PTE. LTD. ☆
9. PT. NIPPON SHOKUBAI INDONESIA ☆
10. American Acryl L.P.
11. American Acryl NA, LLC
12. Nippon Shokubai America Industries, Inc. ☆

* For both domestic and overseas networks: ☆ Consolidated subsidiary

Stock Information

■ **Number of Shares Authorized**
..... **Common stock 127,200,000 shares**

■ **Number of Shares Issued**
..... **Common stock 40,800,000 shares**

■ **Number of shareholders** **11,476**

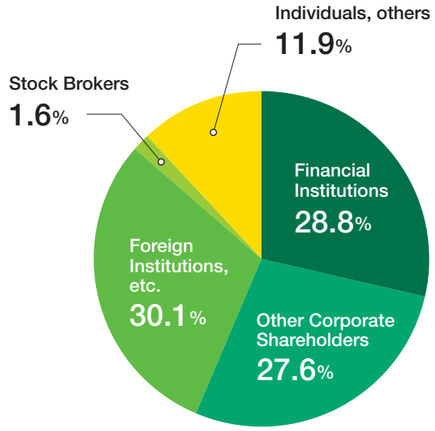
■ Major Shareholders (Top 10)

As of March 31, 2023

Name	umber of Shares Owned (thousand shares)	Ratio of capital Contribution (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	4,060	10.31
Sumitomo Chemical Company, Limited	2,727	6.93
NORTHERN TRUST CO. (AVFC) RE SILCHESTER INTERNATIONAL INVESTORS INTERNATIONAL VALUE EQUITY TRUST	2,391	6.07
ENEOS Holdings, Inc.	2,129	5.40
Custody Bank of Japan, Ltd. (Trust Account)	1,756	4.46
Resona Bank, Limited	1,373	3.48
Sanyo Chemical Industries, Ltd.	1,267	3.22
NORTHERN TRUST CO. (AVFC) RE U.S. TAX EXEMPTED PENSION FUNDS	1,015	2.58
Mizuho Bank, Ltd.	948	2.41
TOYO INK SC HOLDINGS CO., LTD.	904	2.29
Total	18,575	47.19

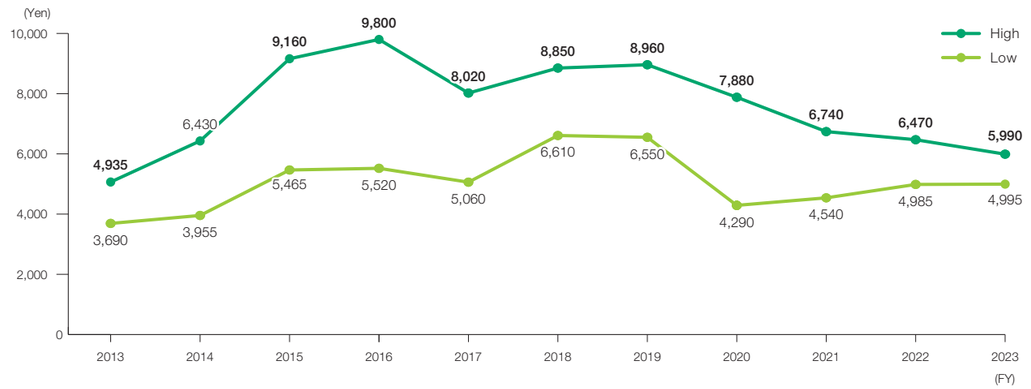
* There are treasury shares of 1,437 thousand shares held by the Company, which are not included in the above table. Treasury shares do not include 48,600 shares of the Company's stock held by Custody Bank of Japan, Ltd. (Trust Account) in connection with the performance-linked stock compensation plan.
* Treasury stock is excluded from the calculation for "Shareholding Ratio of the Total Shares Outstanding" above.
* Figures in "Number of Shares Owned" and "Shareholding Ratio of the Total Shares Outstanding" are truncated.

■ Distribution of Shareholders



* Treasury stock is included in "Individuals, others."

Historical Share Prices (11 years)



* The high and low share prices are from the first section or the Prime Market of the Tokyo Stock Exchange.
* The Company conducted a stock consolidation of its common shares at a ratio of one share for every five shares on October 1, 2015.
* The share prices before the fiscal year ended March 2015 are five times the price before the share consolidation.

TechnoAmenity

Providing prosperity and comfort to people and society,
with our unique technology.

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Website: https://www.shokubai.co.jp/en/

NIPPON SHOKUBAI

Our corporate symbol
represents the spirit of
TechnoAmenity

Hexagon	▶ One of the fundamental symbols used in chemistry
Cosmo yellow	▶ Represents the hidden energy of the sun
Earth green	▶ Represents the life-supporting nature of the earth
Horizon between two colors	▶ Represents the future we always seek

2023.11.80