



TechnoAmenity **Report 2021**



**NIPPON
SHOKUBAI**

Editorial Policy

Starting from 2019, Nippon Shokubai has published “**TechnoAmenity**” 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.

This report aims to help a broad range of stakeholders understand our initiatives to achieve the Nippon Shokubai Group’s Mission “**TechnoAmenity** – Providing affluence and comfort to people and society, with our unique technology.”

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.

Scope of this Report

The report covers the entire Nippon Shokubai Group (consolidated). The report on Responsible Care activities covers Nippon Shokubai and its seven Group companies in Japan and the six overseas Group companies listed on P.65.

Reporting period

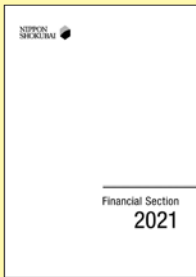
April 1, 2020 to March 31, 2021

Some topics in and after April 2021 are also contained in the report.

Publication date

November 2021

Overview of our Reporting Media

Financial data		Non-financial data	
Booklet / PDF  Financial Section (English)	PDF  TechnoAmenity Report (Japanese/English)	Booklet/PDF  RC Report (Japanese/English)	PDF  RC Report (Japanese/English)
Website pages  IR data https://www.shokubai.co.jp/en/ir/		 Sustainability https://www.shokubai.co.jp/en/sustainability/ Major ESG data https://www.shokubai.co.jp/en/sustainability/esg	

Contents

1 Profile

- 3 Nippon Shokubai's Businesses
- 5 Nippon Shokubai Group Mission
- 7 History of Value Creation

9 Commitment to Value Creation

- 10 Message from
the President



- 15 Nippon Shokubai's Value Creation
- 19 Business transformation
- 21 Strategic transformation for
environmental initiatives
- 23 Organizational transformation
Board Members' Talk



27 Review of the Medium-term Business Plan and Initiatives Planned for the Future

- 28 Review of the Medium-term Business Plan
"Reborn Nippon Shokubai 2020 NEXT"
- 29 Strengthen the Competitiveness of SAP business
- 31 Accelerate the Creation of
New Businesses and Products

35 Sustainability Initiatives

- 36 Nippon Shokubai's sustainability
- 37 CSR Medium-term Targets and
Initiatives, and Results for Fiscal 2020
- 39 Responsible Care (RC) Activities
- 40 Environmental Protection Initiatives
- 42 Process Safety and Disaster
Prevention Initiatives
- 43 Occupational Safety and Health Initiatives
/ Chemical Safety Initiatives
- 44 Quality Initiatives / Sustainability Activities
through Purchasing
- 45 Compliance
- 46 Risk Management
- 47 Our Relationship with our Employees
- 49 Promoting Diversity and Inclusion (D&I)

50 Governance

- 51 Corporate Governance
- 54 Message from Outside Members
of the Board
- 55 Management

57 Reference Data

- 57 11-Year Consolidated Financial Data
- 59 Overview of Business Results, etc.
- 61 Consolidated Financial Statements
- 65 Outline / Business Locations and
Production Sites

Nippon Shokubai's Businesses

Nippon Shokubai operates businesses in three segments: basic chemicals, producing chemical raw materials for a variety of fields and processes; functional chemicals, producing a variety of derivative products from raw materials using our unique technologies; and environment & catalysts, developing and producing catalysts and energy-related materials, which is the origin of all our businesses today; thereby contributing to realizing a sustainable society as valued partner for customers.

Basic Chemicals

Major relevant SDGs



Our basic chemicals business covers acrylic acid and ethylene oxide, as well as their derivative products. Derivative products of acrylic acid include acrylates, used mainly for paints, while derivative products of ethylene oxide include ethylene glycols, used as raw materials for PET bottles and polyester fibers, and secondary alcohol ethoxylates (SOFTANOL™), which are effective in improving the performance of detergents.

Major products

Applications in parentheses

● Acrylic acid

Used as raw material for paints, adhesives, superabsorbent polymers, etc.

● Ethylene oxide

Used as raw material for polyesters, construction products, detergents, etc.

Functional Chemicals

Major relevant SDGs



From basic chemical raw materials such as acrylic acid and ethylene oxide, our functional chemicals business uses our unique technologies to produce and sell a range of high value-added derivative products. Our products, including our superabsorbent polymers, or SAP (AQUALIC™ CA), high-performance acrylic resin (ACRYVIEWA™) and polymers for concrete admixtures (AQUALOC™), contribute to the reduction of environmental impact and the creation of an affluent society.

Major products

Applications in parentheses

● AQUALIC™ CA (disposable diapers)



Environment & Catalysts

Major relevant SDGs



Our environment & catalysts business produces and sells products that contribute to conservation of the environment, including De-NOx catalysts and dioxin decomposition catalysts for the purification of exhaust gas from power plants and waste incinerators, and wastewater treatment catalysts for catalytic wet air oxidation, capable of efficiently oxidizing and decomposing harmful substances in wastewater from plants.

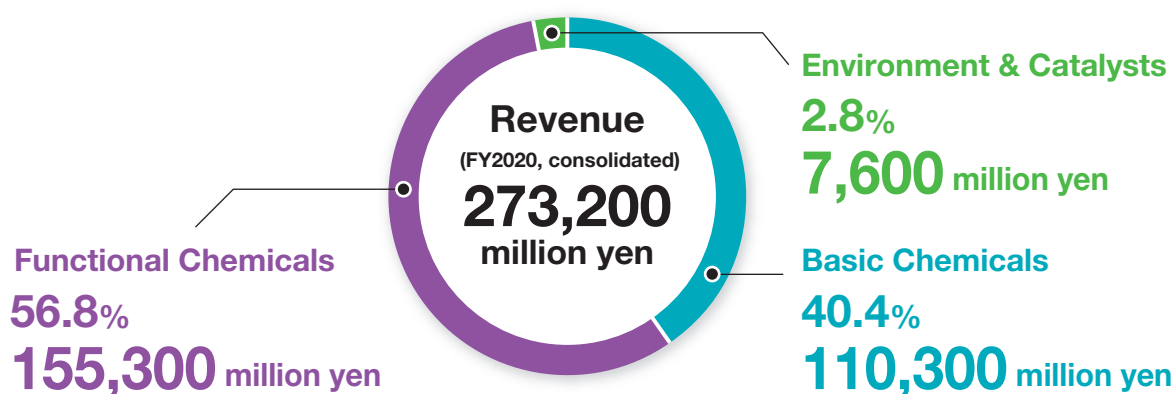
The environment & catalysts business also contributes to reducing both energy consumption and greenhouse gas (GHG) emissions through electrolyte sheets for solid oxide fuel cells and other products.

Major products

Applications in parentheses

● IONEL™ (lithium ion batteries)





● Acrylates (paints)



● Ethylene glycols (PET bottles)



● Acrylates (adhesives and tackifiers)



● SOFTANOL™ (detergents)



One of the leading acrylic acid producers in the world

Our unique catalysis and production technologies have enabled a high-quality, stable supply of acrylic acid, which is used as a raw material for SAPs, acrylates and other chemicals in various fields and applications. We maintain the position as one of the leading producers in the world, capable of responding to the expected future increase in demand in the long run.

Production capacity 880,000 tons/year

● ACRYVIEWA™, ACRYCURE™, etc.
(flat panel displays)● AQUALOC™
(polymers for concrete admixtures)

● VEEA™ (UV inkjet printing)



Top SAP producer in the world

Our SAPs (AQUALIC™ CA), which absorb 100 to 1,000 grams of water per gram of polymer, are not only used as the material in disposable diapers, where they help to reduce the work involved in childcare and nursing care, but also to improve the water retention capacity of soils threatened with desertification, proving useful in the area of environmental protection. With a production capacity of 710,000 tons, we are the top producer in the world.

Production capacity 710,000 tons/year

● Electrolyte sheets for solid oxide fuel cells



● Catalytic dioxin decomposition and removal system



IONEL™ attaining a high market reputation

Our electrolyte LIFSI (Lithium bis (fluorosulfonyl) imide, IONEL™), which dramatically improves the performance of lithium ion batteries installed in electric vehicles (EVs), has attained a high market reputation. We are planning to boost the production volume to respond to the expected future increase in demand.

Nippon Shokubai Group Mission

TechnoAmenity

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

Management Commitment

We conduct all of our corporate activities based upon a deep respect for humanity.

We aim at coexisting with society, and working in harmony with the environment.

We pursue technologies that will create the future.

We act on the global stage.

Pioneering Spirit with Vision

Nippon Shokubai has been in business as a growing company for 80 years now. Our second president, Taizo Yatagai, who is actually the founder of the company and renowned as a “passionate entrepreneur,” laid the foundation for the development of the company. As a result of the persistent R&D efforts to develop the company’s proprietary technologies instead of introducing existing technologies from American corporations, Yatagai succeeded in manufacturing ethylene oxide at our Kawasaki Plant for the first time in Japan in 1959. The “pioneering spirit with vision” demonstrated by him has guided us as a compass in conducting our business activities.

Corporate Credo

Safety takes priority over production.

Nippon Shokubai Code of Conduct

In the belief that it is our social responsibility to conduct business based upon the principles of compliance and self-responsibility for the sake of proper social development, we have set forth the following basic corporate behavior guidelines as the “Nippon Shokubai Code of Conduct.”

- ① Guided by our Group Mission of **TechnoAmenity**, we will conduct all of our actions as a good corporate citizen.
- ② We will comply with relevant laws both inside and outside of Japan, and act in accordance with in-house regulations.
- ③ We will create and nurture a sound, vibrant workplace, where each individual can hone their professional competence and find fulfillment in their career.
- ④ We will develop and market products and services that are both safe and useful, based upon an accurate understanding of social demands.
- ⑤ We will commit ourselves to eliminating labor hazards and accidents, and constantly strive to protect the global environment.
- ⑥ We will conduct business based on fair and open competition.
- ⑦ We will take a firm stance when dealing with unlawful or antisocial groups.
- ⑧ We will ensure frequent communications with our shareholders and members of society in general, and guarantee the appropriate disclosure of corporate information.
- ⑨ With respect for the culture and customs of every nation/region we serve, we will contribute to their development and wellbeing through community-based business undertakings.
- ⑩ We will ensure the solid and sustainable development of the company through business undertakings based soundly upon the above action guidelines.

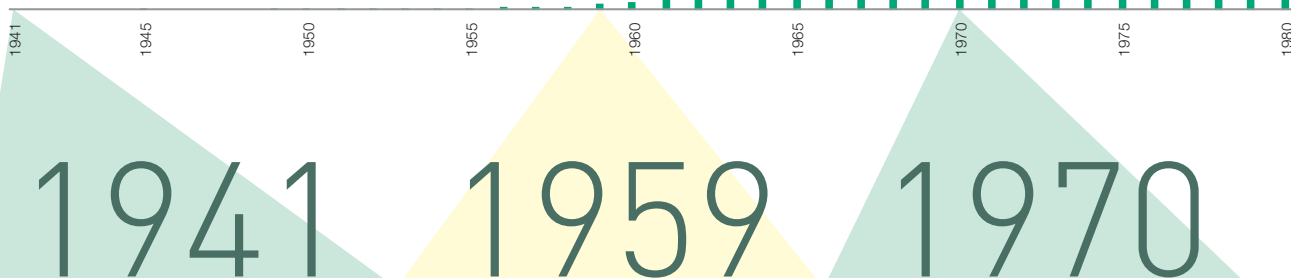
Creating New Values based on Inherited Corporate DNA

When the global financial crisis of 2008 hit, many companies had to cut back on capital investments. Instead, looking to the trends that would emerge after the crisis, at Nippon Shokubai we chose to expand our acrylic acid and superabsorbent polymers manufacturing facilities to continue supplying our customers with the products they needed. This indicates that our corporate DNA in the “pioneering spirit with vision” we have inherited since our founding lives on today. Based on this DNA, we will enhance our competitive advantage in a combination of R&D capabilities and production technology capabilities and create new, unprecedented value.

History of Value Creation

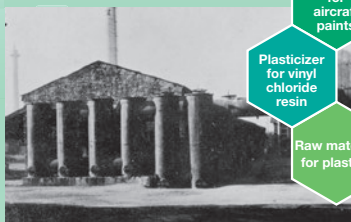
Numerous chemical industry firsts in Japan and worldwide are testimony to our history of success in evolving our R&D and production technology capabilities. We are an innovative chemical company that leverages new and existing core technologies to provide customer solutions.

Sustainable growth of the Company



Value creation for society

Unlike during the War, when the highest priority was placed on production of military supplies, postwar Japan saw demand soaring in various industries related to food, clothing and housing for recovery. Demand for phthalic anhydride, developed by Nippon Shokubai in 1941, initially increased as a raw material for aircraft paints and plastics. Later, after the War, it was used as a plasticizer for vinyl chloride resin for a wide range of uses, such as clothing and construction materials, contributing to the growth of the vinyl chloride industry.



Raw material for aircraft paints

Plasticizer for vinyl chloride resin

Raw material for plastics

Along with rapid economic growth, products for affluent lifestyles that would make people's life convenient and comfortable were increasingly demanded and put into mass production, boosting the demand for chemicals necessary for such products and their materials. Ethylene oxide, which we developed in 1959, contributed significantly to the development of Japan's petrochemical industry. It is now used as a raw material for PET resin for PET bottles, polyester fibers, construction materials, detergents and for other applications.



Construction materials

Raw material for polyesters

Raw material for detergents

Under severe economic circumstances, including 20% operation reduction imposed on synthetic fiber manufacturers due to the Japan-US trade friction and the crude oil price surge caused by OPEC, Nippon Shokubai began low-cost, high-volume acrylic acid production. Acrylic acid has been used as a raw material for paints and adhesives and has also generated various derivative products, including AQUALIC™ CA, superabsorbent polymers.



Raw material for paints

Raw material for superabsorbent polymers

Raw material for adhesives

Nippon Shokubai's unique technologies

Phthalic anhydride

After developing a proprietary method to oxidize naphthalene using a vanadium catalyst, Nippon Shokubai succeeded in commercial production of phthalic anhydride for the first time in Japan.

Ethylene oxide

Employing its unique contact oxidation technology, we succeeded in commercial production of ethylene oxide with only domestically developed technology for the first time in Japan.

*In Japan, we are a leading producer by volume.

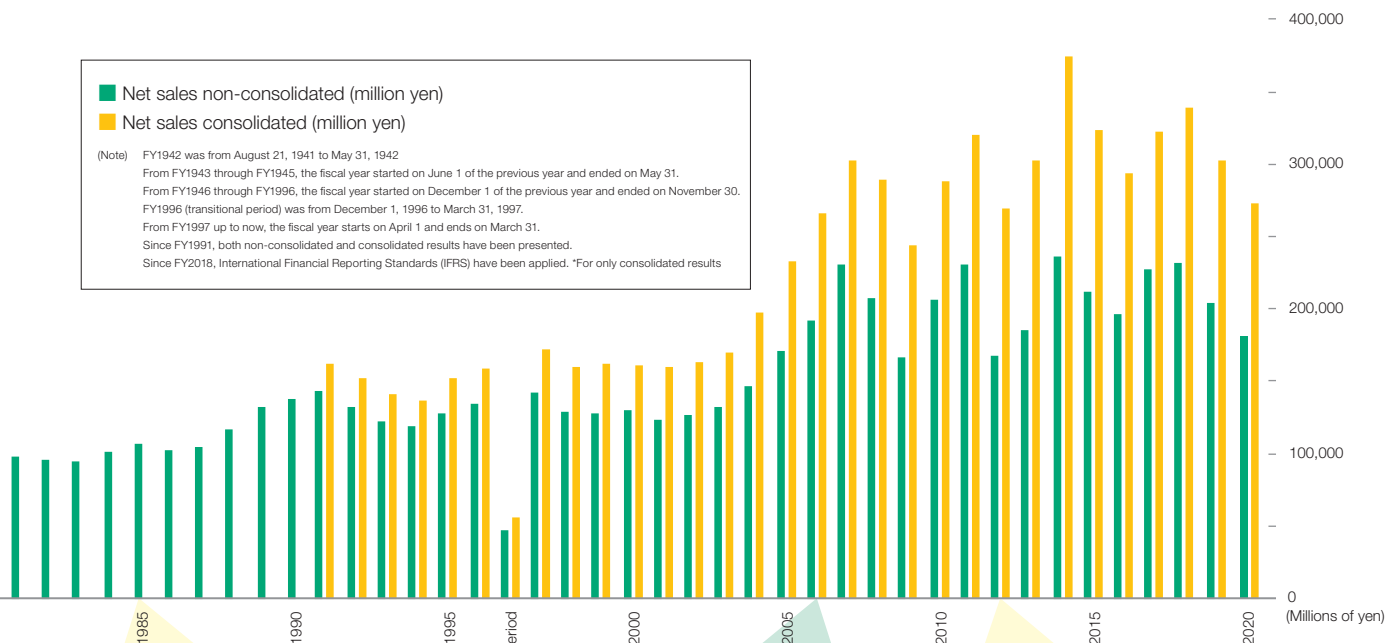
Acrylic Acid

We were the first in the world to commercialize acrylic acid through direct oxidation of propylene. Leading acrylic acid manufacturers worldwide have adopted our production technology and catalysts.

*We are one of the largest volume producers worldwide.

■ Net sales non-consolidated (million yen)
■ Net sales consolidated (million yen)

(Note) FY1942 was from August 21, 1941 to May 31, 1942.
From FY1943 through FY1945, the fiscal year started on June 1 of the previous year and ended on May 31.
From FY1946 through FY1996, the fiscal year started on December 1 of the previous year and ended on November 30.
FY1996 (transitional period) was from December 1, 1996 to March 31, 1997.
From FY1997 up to now, the fiscal year starts on April 1 and ends on March 31.
Since FY1991, both non-consolidated and consolidated results have been presented.
Since FY2018, International Financial Reporting Standards (IFRS) have been applied. *For only consolidated results



1985

2006

2012

In response to the demand for products that help ease the burden of childcare arising along with the progress in women's participation in society, Nippon Shokubai began mass production of superabsorbent polymers AQUALIC™ CA in 1985, which would dramatically improve the performance of disposable diapers for babies. Our superabsorbent polymers with an excellent ability to absorb and retain water were introduced for disposable diapers, resulting in easing the burden of childcare and thus contributing to the improvement of the quality of life.

Disposable
diapers

In line with the emergence and spread of larger and thinner LCD televisions and innovative smartphones, demand for optical films increased for flat panel displays. ACRYVIEWA™, a high-performance acrylic resin we commercialized in 2006, is a performance polymer with outstanding transparency, optical properties and heat resistance, contributing to the spread of digital devices.

Flat panel
displaysSmart
phones

Lithium ion batteries have supported the spread of cellphones and smartphones. IONEL™ is an electrolyte for lithium-ion batteries that works effectively, within a broad temperature range from low to high temperatures, in improving cycle durability, rate capability and preservation stability, as well as in preventing battery pack bulging. In line with the moves to mitigate climate change and promote efficient energy use, applications of IONEL™ are expected to expand especially in the fields of electric vehicles (EV) and electricity storage in the future.

Electric
vehiclesElectricity
storage
field

Superabsorbent Polymers

Since we began mass-producing superabsorbent polymers "AQUALIC™ CA" using acrylic acid as a raw material, we have continued to be the global technology and production leader in this market.

*With a worldwide production system, we maintain our position as the world's top producer (as of April 2020, according to Nippon Shokubai research).

ACRYVIEWA™

Using our new polymer design technology, we succeeded in commercial production of ACRYVIEWA™, a unique acrylic resin.

IONEL™

We were the first in the world to establish mass-production technology for IONEL™ using our proprietary synthesis and refining techniques.

Commitment to Value Creation

Aiming to respond to rapidly changing market needs and solve emerging social issues, Nippon Shokubai is committed to the ceaseless pursuit of value creation by bolstering its competitiveness through the fusion of its R&D capacities and production technology capabilities and creating “amazing materials” that are useful to society.

- 10 **Message from the President**
- 15 **Nippon Shokubai's Value Creation**
- 19 **Business transformation**
- 21 **Strategic transformation for environmental initiatives**
- 23 **Organizational transformation**
Board Members' Talk

Message from the President

**Under the new policy,
the Nippon Shokubai Group will
accelerate transformation
to achieve the goals in 2030.**

Yujiro Goto, President

Yujiro Goto

Celebrating the 80th anniversary

Nippon Shokubai celebrates its 80th anniversary in 2021. Based on a “pioneering spirit with vision,” which we have inherited since our foundation, we have constantly renewed our determination to create new, unprecedented value with our unique technologies that no other competitors have.

Over the past 80 years, however, Nippon Shokubai’s business has not always been smooth sailing. The Company faced rough waves several times and has overcome them. We have experienced various crises, including the oil crisis and the Lehman Shock, but the toughest was the explosion and fire that we caused

at our Himeji Plant in 2012. Before this accident, we had confidence in our technology capabilities in doing business. But the fact that we had caused a serious accident at our plant that produces acrylic acid, our main product boasting a large share in the world market, made us feel deeply sorry to society. It was an event that made us question whether our manufacturing was appropriate. Nippon Shokubai took this accident seriously and made the utmost, company-wide efforts to rebuild the business and restore trust. I remember that our unity generated at that time was really strong.

The determination and unity we have demonstrated

Long-term vision “**TechnoAmenity** for the future”

Long-term vision “**TechnoAmenity** for the future”

〈The Goals in 2030〉

- Providing materials and solutions required by people and society
- Chemical company that keeps evolving by identifying social changes
- Developing with various stakeholders inside and outside the company

〈Three transformations toward the goals in 2030〉

1. Business transformation

◆ Transforming portfolio from existing areas to growing areas

- Expanding the highly profitable Solutions business
- Strengthening the Materials business foundation by reestablishment of the business
- Improving productivity and creating new value through Digital transformation (DX) promotion

2. Strategic transformation for environmental initiatives

◆ Promoting sustainability to achieve carbon neutrality in 2050

3. Organizational transformation

◆ Transforming to be a continuously developing organization and company where diverse human resources work energetically

when transformation is required is a strength of Nippon Shokubai.

Now that the business environment surrounding us has changed significantly, and while chemical products are becoming more global and commoditized, the functions required for them are also diversifying. We are thus facing a very severe situation. It is also essential to tackle climate change. Chemicals have the potential to contribute in many ways to this field. The second half of the Medium-term Business Plan “Reborn Nippon Shokubai 2020 NEXT” ended in fiscal 2020, but we were not able to achieve the goals of the Plan. I think one of the major reasons for this result was our weakness in marketing. Although we have confidence in our technology development capabilities, our organizational power to grow a bud in R&D into 10 flowers, or even 100 flowers, working all the way to their commercial launch, seemed a bit weak.

In view of all these circumstances, going back to the spirit of our Group Mission **TechnoAmenity**, which was

aimed at contributing to the realization of a sustainable society, we have envisioned our goals in 2030, 10 years from now, in the Nippon Shokubai Group long-term vision “**TechnoAmenity** for the future.” Although our Group has been trying to strengthen the competitiveness of existing business and create new products and businesses, we have yet to achieve significant results. We cannot expect growth as an extension of the past. In short, “no growth without transformation.” We have such a strong sense of crisis. Thus, the long-term vision focuses on three transformations: “business transformation,” “strategic transformation for environmental initiatives,” and “organizational transformation.”

Incidentally, the Medium-term Business Plan, a concrete action plan toward achieving the long-term vision, is scheduled to be formulated by the end of fiscal 2021 and put into action from April 2022. However, we set fiscal 2021 as “year zero” of the Medium-term Business Plan so as to start various initiatives before completion of the formulation of the Plan.

Establishing the long-term vision Our concept for the three transformations

Business transformation

For business transformation, we focus on transforming our portfolio from existing areas to growing areas. We have classified our products into two groups: “materials” such as acrylic acids, superabsorbent polymers (SAPs), and ethylene oxide and “solutions” to meet customer needs in various industries, in which we will leverage our advantage - the capability of developing key materials -

and provide original functions that no other companies have. Efforts will be made to make full use of the strengths of each group.

For Materials businesses, we will make efforts to enhance competitiveness, including continuing the SAP Survival project and the initiative to improve profitability of the ethylene oxide business. We will also promote decarbonization and recycling.

To strengthen marketing, which is a key to expanding

our Solutions businesses, we will create a cycle in which research departments and sales departments work together in examining needs and customer issues whenever identified and promptly proposing solutions. Also, to understand the real needs of customers, we will reinforce our evaluation technology to reproduce the issues by ourselves, thereby expanding businesses in target markets. Our experienced employees are good at marketing using their inspiration, experience and courage. From now on, I think marketing using hypotheses, verification, and data will be also important.

As the target for the business portfolio for 2030, we will increase the percentage of Solutions businesses in sales from 30% at present to 50% or more, including new businesses. By expanding the Solutions businesses, which have higher profit margins, we will raise the profitability of the entire Group, thereby transforming ourselves into a company capable of flexibly responding to changes in the business environment.

Strategic transformation for environmental initiatives

For Nippon Shokubai, to fulfill its social responsibilities and sustainably conduct businesses in the future, initiatives for sustainability, to be specific, initiatives to contribute to the realization of carbon neutrality in 2050, are particularly important.

Toward the realization of carbon neutrality, it is important to contribute to reducing greenhouse gases (GHG) not only by reducing CO₂ emissions in production processes but also by using our products or providing our technologies so as to enable the creation of environment-friendly downstream products. Various examinations on our contribution to carbon neutrality are now under way, and we plan to show quantitative targets for 2050 in the Medium-term Business Plan from fiscal 2022.

Among the fields in which our products may contribute

to the GHG reduction, battery materials are the most advanced and expected area today, and Europe is one of the major markets. In Europe, under the European Green Deal, governments are supporting demand for EVs and EV-related battery materials, as well as charging stations, which are planned to form a major industry. IONEL™, an electrolyte for lithium-ion batteries, helps extend service life of batteries for EVs and improve their performance in various ways. We therefore started planning to substantially enhance our production system in fiscal 2020. We are also making various preparations for local production in Europe, including dispatching some personnel specialized in marketing of battery materials to Nippon Shokubai Europe N.V. in Belgium.

For other environmental initiatives, our waste gas treatment catalysts, which are our conventional products, for example, and other materials capable of absorbing CO₂, are increasingly drawing public attention while our catalyst technology is expected to be useful in utilizing the absorbed CO₂. In cooperation with other companies that have strength in such applications, we will explore areas in which Nippon Shokubai has some potential and promote our technologies in such areas. Moreover, we believe that recycling of SAP collected from diapers is a task that Nippon Shokubai should promote as a responsibility of a major manufacturer in the world. We have therefore started working with our partners to establish a recycling-based ecosystem.

In March 2021, Nippon Shokubai announced support for the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD*). We will examine the impact of risks and opportunities of climate change on our business and promote information disclosure based on the TCFD framework.

* TCFD is a task force formed by the Financial Stability Board (FSB), an international organization participated in by central banks and financial regulators of major countries and regions of the world, to present a framework for voluntary climate-centered disclosures by companies facing risks and opportunities related to climate change.

Business strategy “Materials” and “Solutions”

Materials

Providing high-quality materials through high production technology

- **Basic materials**
(EO, its derivatives, etc.)
- **Acrylics**
(AA, Acrylates and SAP)

Solutions

To meet customer needs in various industries, we will leverage our advantage - the capability of developing key materials - and provide original functions that no other companies have

- **Industrial & Household**
(consumer products, vehicles, construction materials areas)
- **Energy & Electronics**
(battery, electronics areas)
- **Life sciences**
(health & medical, cosmetics areas)

Organizational transformation

Upon taking a step forward in an area or theme on which Nippon Shokubai is planning to focus efforts, it is necessary to transform ourselves into an autonomous organization that is capable of determining whether the area or theme really has the potential to grow and whether customer needs will not change and of making prompt and resolute decisions on Go or Stop. This transformation requires delegation of authority. And delegation of authority is associated with responsibilities. To raise awareness of this, we introduced a new personnel evaluation system for directors in April 2021. Specifically, the new system encourages directors to set ambitious goals from a medium- to long-term perspective instead of listing short-term, achievable targets. And the goals will be disclosed not only within their own departments but also to other departments. Then, these goals are backcast to set short-term milestones, based on which evaluation is made for a comprehensive achievement. The aim of this system is to have directors demonstrate their determination and ensure consistency, from management strategies to

goals in departments.

Also, to develop autonomous human resources, we will continue to promote diversity and inclusion (D&I) as one of our important measures. Innovations emerge from exchanges of diverse ideas. This is a crucial element for business transformation and various other transformations. When entering into a new field, we proactively introduce external knowledge as necessary through recruitment and M&As instead of trying to do everything by ourselves.

In terms of governance and internal control, we should be careful that we are not trying too hard but are maintaining a sound corporate culture in advancing the efforts to improve our business performance. This is a point that has been emphasized in training programs in the past. We will continue to promote compliance in education and by other means. Another important task related to governance is to organize the appropriate functions and roles of the Board Meeting. I think the most important role of the Board Meeting is to always identify the risks we have, particularly when we are trying a new thing, and what we have prepared or will prepare for such risks, as well as to show the policy of the Company.

Review of the 2nd Medium-term Business Plan “Reborn Nippon Shokubai 2020 NEXT”

Achievements

Although we were not able to achieve the overall goals of the 2nd Medium-term Business Plan, there were some achievements made. In the SAP Survival Project, one of the priority initiatives of the Plan, issues and problems in all our supply chains were identified, for which countermeasures have been implemented at all sites, including overseas operations. Like a sense of unity, which I mentioned earlier, all departments of all companies of the Group concentrated efforts in a theme. This experience has enabled them to have discussions across the boundaries of departments. Participation by people in different positions and with different knowledge in discussions is effective not only in maximizing advantages but also in finding overlooked disadvantages in risk management. This has made us feel greater confidence in implementing even the same measures as before.

As an initiative to accelerate creation of new businesses and products, we sought M&A partners by allocating a budget for strategic investment. The result was not successful as we were not able to reach any major deals. But we learned a lot in the aspect of calmly evaluating strengths of potential partners. To expand our

business into new fields and areas, I think cooperation with external partners is still an effective approach, which should be effectively employed in the future.

Initiatives of the 2nd Medium-term Business Plan have also raised our awareness of the importance of marketing to promptly identify and respond to the needs of customers, and we have thus worked to enhance the systems. We will place greater priority on this issue as a part of the “business transformation” initiatives in our long-term vision.

Cancellation of business integration with Sanyo Chemical Industries, Ltd.

Since 2019, Nippon Shokubai and Sanyo Chemical Industries, Ltd. had worked to move ahead with consideration toward the integration of the businesses of the two companies with the aim of raising corporate value by utilizing advantages of the two companies. However, we are sorry to announce that we reached the decision to cancel the integration on October 21, 2020. The business environment surrounding the two companies changed rapidly and significantly, which made it difficult to complete the business integration. We reached the conclusion that it is necessary for the

two companies to first improve their corporate value by separately exercising their respective advantages. We sincerely thank our stakeholders for supporting and understanding the business integration, and we also apologize for not meeting your expectations and for causing anxiety.

Rebuilding business performance

At present, I have a strong sense of crisis in the deterioration of our business performance. Now that more than a half of the year 2021 has past, the world economy is still suffering from the impact of the COVID-19 pandemic. Although signs of recovery have been continuously seen in China and the U.S., the condition in Europe remains severe while emerging countries in Asia are also in unstable situations. The future outlook remains unclear because of the impact of the prolonged trade friction between the U.S. and China,

the crude oil market trend, and other uncertainties. Under such circumstances, we should concentrate our efforts on rebuilding our business performance for a year or two to come. There is no miracle cure to this.

Besides increasing sales volume and reducing costs, it will become more important to revise prices through negotiations with customers in a timely manner according to fluctuations in prices of raw materials. We have had price negotiations once a year or once every six months. But we will have to arrange prices almost every month.

On the other hand, we see buds have emerged from the initiative to accelerate the creation of new businesses in the 2nd Medium-term Business Plan. We will grow these buds so that they blossom. To be specific, we are planning to grow businesses in the fields of life science, energy/resources such as batteries, and the environment. We will continue to concentrate investments in these fields to support their advancement.

Fostering a corporate culture based on the long-term vision

Having established the long-term vision, I believe that it is important, especially for young employees, to understand the necessity of having a vision in which they can have dreams and hopes for the future and motivation for work. Therefore, as we are beginning to put the vision into specific plans, not only directors and managers but young people should also be involved in discussions. To this end, it is very important to foster a sense of unity through close communication. I held dialogue meetings on the long-term vision. I directly listened to opinions of different people by visiting our sites by myself or by

online meetings for overseas sites. Since it is impossible to listen to all the opinions and questions raised, I set up a digital opinion box on our intranet so that I can see all of them and give feedback.

All employees will think and act by themselves based on the direction of the long-term vision. On this occasion, toward achieving a significant transformation, we renew our determination to foster a corporate culture in which each member always has a “pioneering spirit with vision” in taking action.



Nippon Shokubai's Value Creation

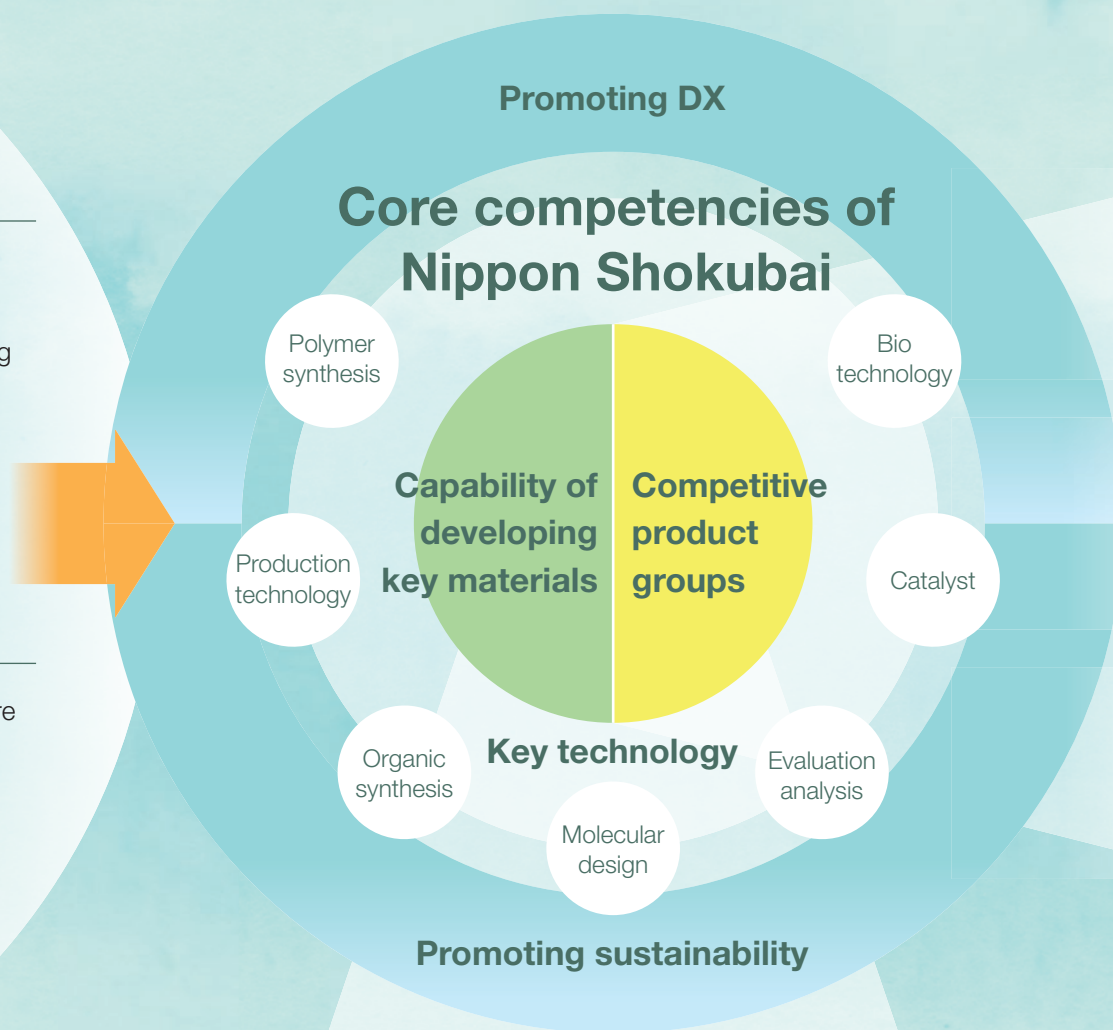
Core competencies of Nippon Shokubai are its capability of developing key materials and competitive product groups with them as a core. We will invest resources to strengthen our proposal capability (marketing resources), R&D capabilities, such as evaluation technology, and production and supply systems. By utilizing these competencies to propose solutions to customer issues in a timely manner, we will contribute to solving social issues in the fields of life science, energy and the environment.

Social trends

- Population growth
- Aging society
- Development of emerging economies
- Diversified needs
- Development of digital technology, etc.

Social issues

- Realization of safe, secure and healthy life
- Response to the climate change issue
- New materials to support technological development, etc.



**Nippon Shokubai
Group Mission**

Materials

Providing high-quality materials through high production technology

Solutions

To meet customer needs in various industries, we will leverage our advantage - the capability of developing key materials - and provide original functions that no other companies have

Consumer products, vehicles, construction materials, water-related areas, etc.

Improving profitability

**Acrylics
(including SAP)
Basic Materials**

Strengthening competitiveness through thorough cost reductions and alliances with other companies

Positively working on bio-based chemicals/recycling

Promoting decarbonization and recycling

**Industrial
&
Household**

Expanding business in the peripheral market Improving products contributing to the environment

Providing solutions to customer issues in a timely manner by combining multiple products and technologies in addition to providing a single material

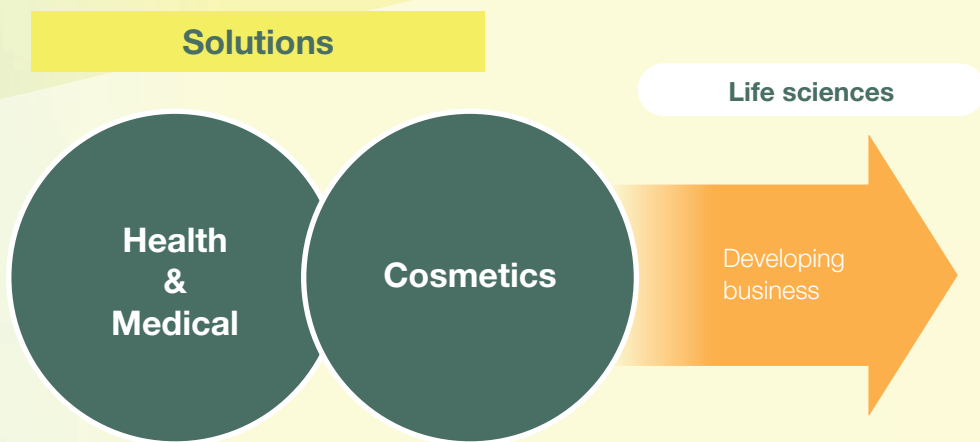
Solving customer issues

**Energy
&
Electronics**

Establishing business in growing markets

Batteries, energy, electronics, and environmental areas

Nippon Shokubai's Value Creation



Three transformations

Business transformation

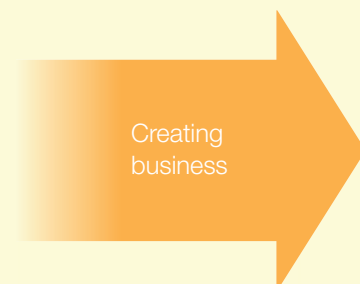
Transforming portfolio from existing areas to growing areas

Strategic transformation for environmental initiatives

Promoting sustainability to achieve carbon neutrality in 2050

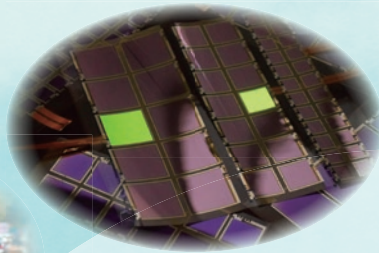
Organizational transformation

Transforming to be a continuously developing organization and company where diverse human resources work energetically



Growing areas

Target areas for contribution

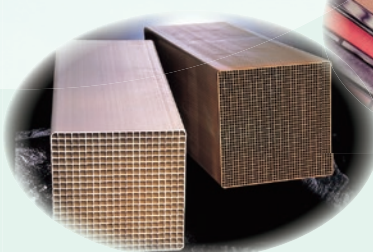


Long-term vision

“**TechnoAmenity** for the future”

〈 The Goals in 2030 〉

- ☐ Providing materials and solutions required by people and society
- ☐ Chemical company that keeps evolving by identifying social changes
- ☐ Developing with various stakeholders inside and outside the company



Business transformation

Transforming portfolio from existing areas to growing areas

To respond flexibly to changes in the business environment and continue to grow, Nippon Shokubai will reorganize its businesses into the two segments of Materials and Solutions from fiscal 2022 (see p.12). In the Materials business segment, we aim to provide high-quality materials globally through high production technology, while in the Solutions business segment, we aim to meet customer needs in various industries by leveraging our capability of developing key materials and providing original functions that no other companies have.

Expanding the Solutions business

Our solutions business is aimed at contributing to solving customer issues in a timely manner by combining multiple products and technologies in addition to conventional solutions of providing a single material.

To strengthen our marketing capability, which is the key to the expansion of the Solutions business, we have revised our organizational structure to be able to properly identify the needs and issues of customers and promptly propose solutions. We will also enhance our R&D capabilities by establishing an evaluation technology with which customer issues can be reproduced and promoting digital transformation (DX) to accelerate development, and we will develop a production and supply system that is capable of responding to demand for small-volume production.

■ Strengthening marketing capability

Nippon Shokubai will further focus on development and marketing activities for new businesses in the target area and work to strengthen capabilities for market development and solutions deployment from a medium-to long-term perspective. Specifically, the existing Business Planning & Development Department will work in collaboration with the New Business Development

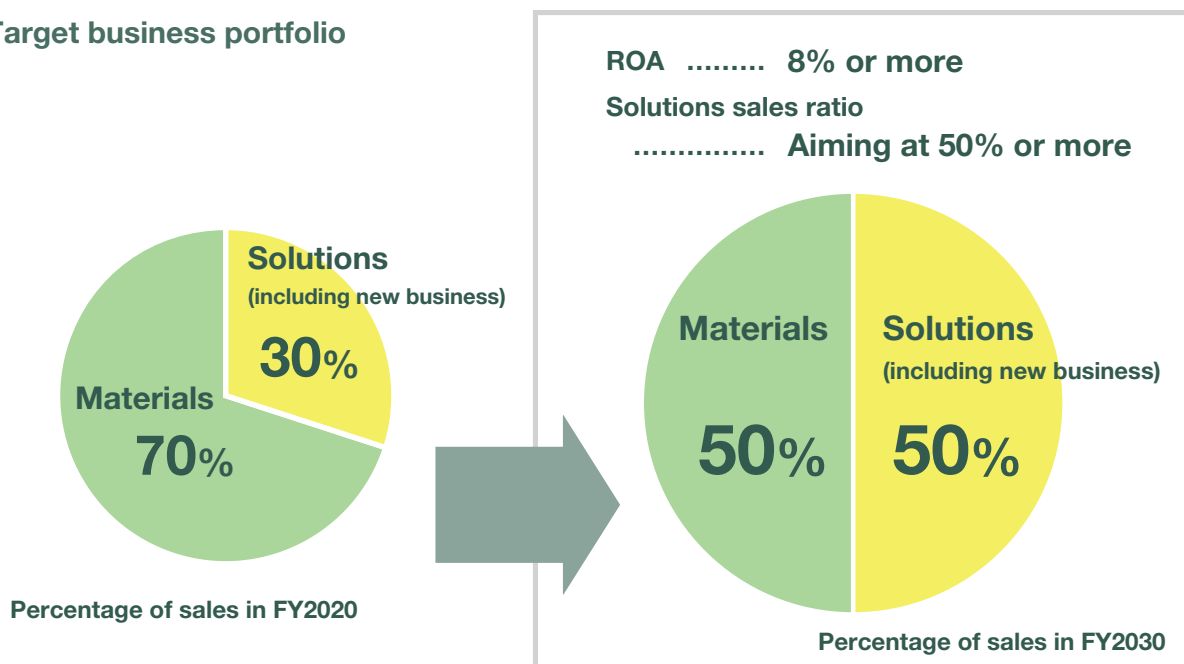
Department, which was reorganized in the R&D segment in April 2021, so that customer information can be integrated from the development stage. This will enable prompt response to customer needs and proper allocation of resources, with the aim of accelerating the growth of the business buds. As part of this initiative, we have also employed digital marketing since 2020. By setting up a special website for marketing and distributing email magazines, we aim to increase customers and product applications. If we find any new business idea emerging from these initiatives to be strongly promoted, we will set up a commercialization promotion project, aiming for early commercialization of the business.

Furthermore, we have set up the R&D Management Department as a section under direct control of top management, to be in charge of seeing comprehensively the entire R&D organization across business departments and the Innovation & Business Development Division, and formulating innovation strategies from both short-term and medium-to long-term perspectives and the promotion measures thereof. Paying attention to changes in our business environment, we will also promote open innovation through collaboration with startups, utilization of overseas R&D sites, and development of human resources for new business creation.

■ Data analysis in R&D

Since the demand for responding to diversifying

Target business portfolio



customer needs and shortening the lead time to commercialization in overall product development has been stronger than before, Nippon Shokubai has established the Data Science & Informatics (DS & I) Promotion Office in 2020. We will further develop our technologies and knowledge that we have accumulated in data science and materials informatics and will enhance data-driven research and development throughout the company. The DS & I Promotion Office will carry out far-sighted capital investment and technology demonstration. At the same time, we attach great importance on cultivating data literacy of our R&D staff, and we will also aim to foster relevant researchers continuously and allocate them in all research departments appropriately.

In the medium to long term, we will focus on building a cross-departmental information infrastructure, toward transforming our data resources into further strengths in R&D strategy, that will dramatically improve certainty and speed of exploratory research to commercialization.

Achieving resilient Materials business

For the Materials business, we will strengthen competitiveness through thorough cost reductions and alliances with other companies, in addition to continuing

the SAP Survival project. Also, by strongly promoting decarbonization and recycling, we will make this business resilient.

Improving profitability

In both the 1st and 2nd terms of the Medium-term Business Plan, we promoted the SAP Survival Project as one of the priority initiatives of the Plan to thoroughly reduce costs (see p. 30). We will continue and complete the initiative and will apply the results to other businesses. As one of such applications, we have launched the EO Resilience Project, aimed at improving profitability of the ethylene oxide business. By also promoting DX, we will further improve productivity and reduce costs.

Promoting decarbonization and recycling

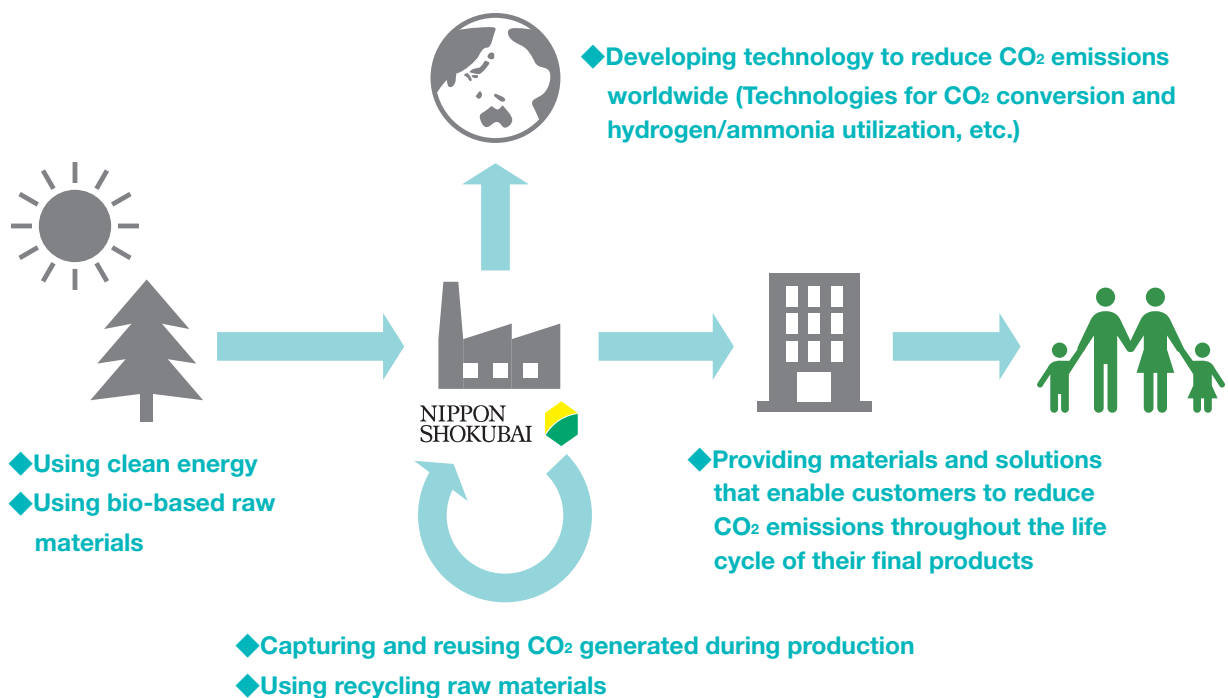
For sustainable growth of business, it is essential to reduce its impact on the global environment. Nippon Shokubai is working to advance the supply of products made from biomass materials (such as acrylic acid, SAP, and ethylene oxide) and realize a system for recycling of used diapers, thereby promoting decarbonization and recycling.

Strategic transformation for environmental initiatives

Toward achieving carbon neutrality by 2050

Nippon Shokubai will promote strategic transformation for environmental initiatives to achieve the Goals in 2030 declared in its long-term vision “**TechnoAmenity** for the future.” We will strongly promote sustainability initiatives, including using clean energy, manufacturing from bio-based raw materials, capturing and reusing CO₂ generated during production process, using recycling raw materials, and providing materials and solutions that help customers reduce their CO₂ emissions. We will also work on developing technologies to reduce CO₂ emissions worldwide, such as CO₂ conversion and hydrogen/ammonia utilization, thereby contributing to the realization of carbon neutrality by 2050.

In August 2021, the Green Innovation Department was established as a part of the Innovation & Business Development Division to enhance strategies and functions for creating businesses. By integrating the sustainable project set up in the previous year and organizations for research, planning and development related to energy and resources, we can consolidate our in-house technologies and knowledge, develop strategies with a view to collaboration with other companies, and work on developing technologies led to expectations for significant ripple effects.



Announcing support for the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

In March 2021, Nippon Shokubai announced support for the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD*). We will examine the impact of risks and opportunities of climate change on our business and promote information disclosure based on the TCFD framework.

*TCFD: Task Force on Climate-related Financial Disclosures is a task force formed by the Financial Stability Board (FSB), an international organization participated in by central banks and financial regulators of major countries and regions of the world, to present a framework for voluntary climate-centered disclosures by companies facing risks and opportunities related to climate change.

Initiatives

Recycling technology for superabsorbent polymers (SAP)

New
valueWaste reduction achieved by
conversion from “disposable”
to “recycling”

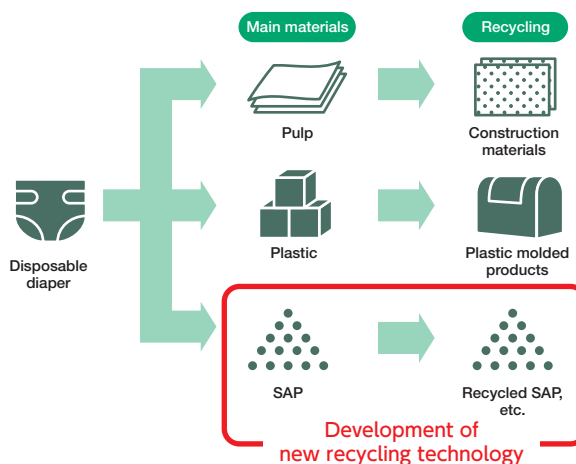
Disposable diapers are mainly composed of pulp, plastic, and SAP. Recycling of used diapers has been put into practice by Total Care System for a part of their raw materials. The recycled pulp has been effectively used as raw materials for building materials (e.g., exterior and interior wall materials) and plastic has been thermally recovered as solid fuel.

Nippon Shokubai began to examine the recycling technology for SAPs, which has not been in practice, and succeeded in the development of new recycling technologies jointly with Livedo Corporation, a major manufacturer of diapers for adults, and Total Care System. This technology consists of two techniques: 1. a technique to increase the recovery rate of paper pulp through processing SAP that had been swollen from absorbing urine, to improve the separation from paper pulp and 2. a technique to collect SAP while minimizing the performance degradation of SAP and also paying attention to energy saving and water quality conservation of rivers and other bodies of water.

These technologies are applicable to all SAPs produced by Nippon Shokubai, as well as to various SAPs of other companies. We will improve these technologies to a practical

level, advance the development of easy-to-recycle materials and treatment technology, and work with the two partner companies to build a recycling system.

Recycling of used disposable diapers



Molding technology for heat storage devices

New
valueHeat storage of renewable
energy to expand
applications

For effective utilization of renewable energy sources, which are susceptible to sunlight or wind conditions, technology for temporary storage of the obtained energy is necessary. As a reasonable means for energy storage, heat storage devices are attracting attention.

Nippon Shokubai, together with Takahiro Nomura, associate professor of the Center for Advanced Research of Energy and Materials, Graduate School of Engineering, Hokkaido University, and the National Institute of Advanced Industrial Science and Technology (AIST), obtained a contract for the research and development of high-speed and high-density heat storage technology based on alloy-based latent heat storage microcapsules under the NEDO New Energy and Environmental Technology Development Program.*1 The microcapsules (h-MEPCM*2) developed by Associate Professor Nomura can store heat as latent heat by melting the metal core sealed in an alumina shell with a high melting point. In the contracted program, h-MEPCM in powder form will be processed into easier-to-use molded forms, such as pellets and honeycombs, using Nippon Shokubai's catalyst molding technology, and their performance as heat storage devices will be evaluated. The program further aims to construct a simulation model and evaluate

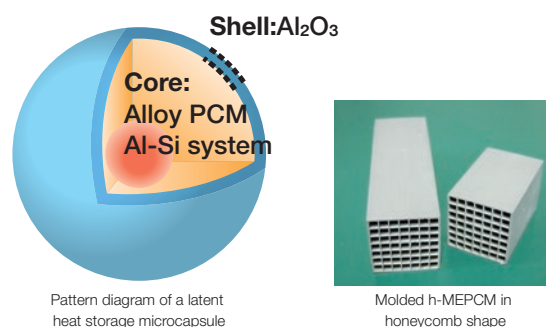
the effectiveness in their presumed applications to advance social applications.

Heat storage devices can be used not only for storage of renewable energy but also for various types of surplus heat. Nippon Shokubai will work to achieve practical application of storage devices to promote effective utilization of energy and help curb climate change.

*1: Nippon Shokubai news release

<https://www.shokubai.co.jp/en/news/news0255.html>

*2: h-MEPCM : Microencapsulated phase change materials
h stands for Hokkaido University.



Organizational transformation

Board Members' Talk

Kuniaki Takagi

Member of the Board,
Managing Executive Officer
(Administration)
Director of General Affairs and
Human Resources Division

Miyuki Sakurai

Outside Member
of the Board

Date: June 3, 2021 (held with appropriate measures against COVID-19 taken)

We will create new value by promoting diversity and inclusion (D&I)

Why D&I?

The situation of D&I in Japan

Takagi: Nippon Shokubai is a chemical manufacturer with an 80-year history, where male employees account for a very high percentage partly due to the slow progress in the development of a work environment friendly to women at manufacturing sites. At meetings, I see mostly men. Female members are very few, and employees of foreign nationalities are also very few. I joined Nippon Shokubai two years ago. Before that, more than 10 years ago, I lived in Singapore for about eight years for my previous job. In those days, the term “diversity and inclusion” (hereinafter, “D&I”) did not even exist. But in Singapore, the percentage of female employees at the workplace was high, and there were many female managers playing active roles. I experienced a world where no attention was paid to gender and nationality. So, after returning to Japan, I was surprised that the Japanese government and Japanese companies were beginning to promote diversity. Recognizing the situation of women’s participation in Japanese society, I felt like having returned to the past.

Sakurai: Since the time of the previous Abe administration, the Japanese government has called for promoting women’s active participation in society, and it set a target of raising the percentage of women in management positions to 30% and launched various other measures. But it seems not much progress has been made. Recently, the percentage of women who have left their jobs due to COVID-19 is higher than that of men, demonstrating the gap in status between men and women. I heard that at Nippon Shokubai, the percentage of women among new recruits (for administration and chemistry work) is around 20% each year, and female employees accounted for 8.6% of all employees in fiscal 2020. Because the percentage of female new recruits is low, the total number is low. As a corporate culture, Nippon Shokubai today still seems to be a male-dominated society. I think your determination to change this culture is wonderful.

D&I will contribute to creating innovation and improving productivity

Takagi: By promoting D&I, I think we can reach solutions

to some of the management challenges facing Nippon Shokubai. One of them is the creation of innovation. We fear that we may lose our competitive advantage if we continue to allow our existing, homogenous workplaces to develop products. In the so-called era of VUCA*, D&I will play a key role in creating new value, and this is why “promoting D&I” was positioned as an initiative for organizational transformation in our long-term vision “**TechnoAmenity** for the future.”

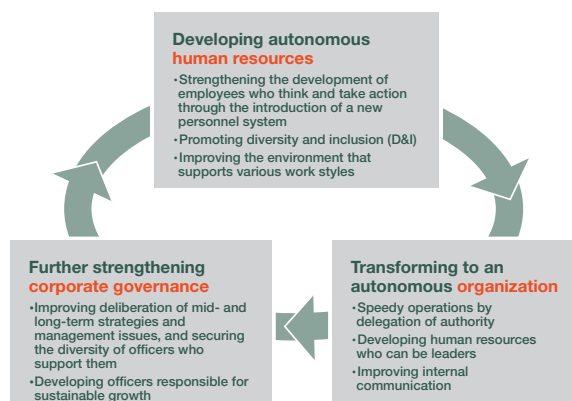
*VUCA: Volatility, Uncertainty, Complexity and Ambiguity

Sakurai: When people with diverse backgrounds, regardless of gender, age, nationality, way of thinking and sense of value, gather, speak from different viewpoints and share ideas, we can have in-depth discussions and findings. I think that understanding values that are different from what you have taken for granted will lead to creation of innovation. To promote D&I, we are also required to change our style of working. For example, by changing the meeting time to the time of the day that is convenient to everyone, those with limited time can easily participate in meetings. By establishing a system that allows women and all those who have not been able to fully utilize their abilities to feel motivated to work, I think you can raise the productivity of the entire company.

Developing “autonomous human resources” and promoting D&I

Takagi: Another management challenge is to achieve sustainable growth of individuals and the organization. We declare “developing autonomous human resources” for organizational transformation in the long-term vision. This means fostering individuals who are capable of paving their way and walking on their own, a task being upheld in our ability building systems. However, we have not seen much progress so far. As we regret that our business has been conducted mainly by male employees who have similar ways of thinking and values, we are strongly determined to develop autonomous human resources by promoting D&I

Early realization of the mechanism in which individuals and the organization can be developed



and thereby transform ourselves into an autonomous organization.

Sakurai: A company consists of individual employees. So, if each of them becomes a person who is capable of thinking and acting autonomously, I think the company can grow sustainably. Nippon Shokubai has positioned D&I as a driving force to achieve this, and top management has issued a message on it. I highly appreciate the significance of this. At the same time, it is necessary to develop a system for evaluating autonomous human resources and a working environment to support diverse working styles. These initiatives will lead to acquiring competent human resources. For women, for example, enhancing programs to support women’s participation or establishing and disseminating successful role models will be important.

Takagi: Acquiring diverse and competent human resources, including women, as well as seniors and foreigners, is crucial for a company to maintain its competitiveness and support its sustainable growth. To this end, it is important to launch various initiatives, such as developing a working environment friendly to women and encouraging active participation of experienced seniors, and to have them known throughout the company. Having employees with a greater diversity and having diverse ways of thinking and values disseminated within the company will be a powerful appeal to outside of the company.

Nippon Shokubai’s D&I

Aim and purpose of a new organization for D&I promotion

Takagi: In April 2021, we established the D&I Promotion Group within our Human Resources Department. When proceeding with an initiative, I think not only its content but also the format is important. The aim of establishing an organization for promotion was to demonstrate how serious we are about D&I promotion.

Sakurai: In promoting D&I as a company-wide strategy, establishment of a dedicated department to work across segments is very important. As you work on various D&I-related initiatives, you can gather issues in or communicate useful information from this department. The progress in each division can also be traced. Having an axis in the company will help maintain the accuracy in initiatives. It is expected also to play a central role in setting effective KPIs in the future.

Takagi: At present, it has just set off as a group within the Human Resources Department. But I hope it will gradually fulfill such a role. However, my ideal is a condition where such a special department is no longer necessary. The name D&I Promotion Group includes the word “promotion” because D&I is not yet achieved at present. A leader is needed until certain progress has been made. But once everyone has become unconsciously familiar with D&I throughout the company, the special department can be eliminated.

Organizational transformation

Board Members' Talk

How the D&I Promotion Policy was formulated

D&I Promotion Policy

1. We will create a working environment and culture where employees can work with diversity and mutual respect and can grow together.
2. Each employee, as a professional, will make every effort to show his or her individuality and ability, which will lead to innovation
3. By enriching and balancing each employee's work and life, he or she will improve his or her motivation and maximize his or her ability, thereby making great achievements.

Sakurai: I would like to ask about the D&I Promotion Policy. Could you explain why and how these three policies were formulated?

Takagi: The D&I Promotion Policy was established in August 2020. But actually, over a year earlier, we launched a project to promote women's participation, under which five female employees in core managerial positions served as project members, and began to discuss how to promote D&I. The project was later upgraded to a company-wide project of the Work Innovation Committee, chaired by the president. Initially, the project focused only on women's participation, but its proposal to the president covered a broader area. In response to that, not limited to promoting women's participation, we decided to aim at developing a workplace environment where diversity is ensured, respected, and fully utilized. And this aim was developed into these three policies.

Sakurai: What kind of discussions were held in the project to promote women's participation? Did you find any of the issues pointed out by the project members particularly impressive?

Takagi: What was often pointed out by the members was that we should not think that all women are the same. Some women get married, give birth, and return to work after raising children, while others are single. I think this is a viewpoint that seems obvious but is often overlooked. It was also pointed out that although we had a good support system, it was not effectively utilized because it was not known among employees. Another opinion was that employees could not share their career design with their managers due to lack of smooth communication.

Sakurai: I agree with the point that we should not think that all women are the same. It is important to eliminate so-called unconscious biases and pay attention also to

differences in how they see their workstyle and motivation for promotion. And it will be necessary to offer human resources development programs tailored to each individual and support for balancing work and private life.

What is necessary for successful D&I?

Change in mindset of male managers and employees (transformation of organizational culture)

Sakurai: Changing the mindset of male managers and employees is a challenge facing us in promoting D&I. I think top management should first communicate a message. At Nippon Shokubai, President Goto has already transmitted a message to all employees. I know President Goto places importance on dialogue with employees. I recommend that he make opportunities to have dialogue with different groups of employees, such as groups of women, those who are striving to balance work and family care, and young employees, and listen to opinions and consider issues of each group. At the same time, it would be nice if the president could communicate what he feels or thinks about D&I directly to employees.

Takagi: After the women's participation project submitted its proposal to the president, the president and the project members were scheduled to have a friendly meeting. But it was postponed due to COVID-19. Since the president is positive about such dialogue, we will plan various events to provide opportunities for that.

Sakurai: I think it is also necessary to change the mindset of women as well. It may be women themselves who restrict their ways of working. If they have opportunities to learn in practice how to treat their subordinates as managers, for example, they can understand what kind of abilities are needed and will naturally become aware of diverse ways of working. It is therefore very important to develop systems and training programs to support such ability development.

Takagi: Nippon Shokubai will eliminate restrictions on working styles of employees associated with their academic background, gender and other attributes. For the groups of employees for whom we have not offered opportunities to think about their career, we are planning to conduct application-based training, with the aim of encouraging them to draw their career plans.

Developing a personnel system and workplace environment to support diverse working styles

Sakurai: In April 2021, you set targets for promoting women's participation in the workplace and encouraging male employees to take childcare leave. As a plan under the Next-Generation Children Act and the Women's Participation and Advancement Promotion Act, you set 30% or more for the percentage of women among new recruits, 6% or more for the percentage of female managers, and 30% or more for the percentage of men



taking childcare leave, as targets to be achieved by March 2025. These are related to your priority issues. What is the prospect for their achievement?

Takagi: I think we will be able to achieve the target for the percentage of women among new recruits. The percentage of female managers rose from 1.6% in 2015 to 4% in 2020. We have increased recruitment of female university graduates since around 2000, and some of them have been steadily developed as candidates for managers in the future. In addition, we have been boosting mid-career recruitment of competent human resources regardless of gender, and I think that the target of 6% is likely to be achieved. As for the rate of male employees taking childcare leave, it is important that managers encourage their eligible subordinates to take the leave. Furthermore, superiors should have a talk with their eligible subordinates in advance to confirm their intention to take childcare leave and systematically develop systems for their own departments by improving work efficiency and eliminating jobs fixed to certain persons. We have made available related information, including a guidebook to support work-life balance, so that employees can refer to it whenever they like.

Sakurai: You are planning to reform your personnel system to introduce measures to promote D&I, such as enhancing women's participation in the workplace and increasing male employees who take childcare leave. What specific measures are being considered?

Takagi: The new personnel system is scheduled to be introduced in April 2022, and we are currently advancing discussion. We are considering establishing a system not based on academic background and age but capable of properly evaluating individual capabilities and performance that will lead to promotion, as well as considering setting up a region-specific placement program. We are also considering a return-to-work program for employees who once left the company for childbirth or another reason. We will ensure that this reform rewards more than before those who have worked hard.

Sakurai: In terms of rewarding those who have worked hard, I think it is important to focus on how they have worked hard. It does not mean working long hours, of course, but how productive they have been in doing their work, how efficiently they have worked, and whether the work is associated with their satisfaction with work and life will be important factors. As you have introduced flextime and teleworking systems, I think a framework for fair and equitable evaluation is necessary.

Promoting D&I of Board Members and managers (management positions)

Sakurai: The corporate governance code was revised for the first time in three years in June 2021. This was part of the moves in preparation for the reorganization of the Tokyo Stock Exchange scheduled in fiscal 2022. As features of the revision, the new code has provisions for the percentage of outside members at the Board Meeting, promotion of diversity, and ensuring diversity when recruiting core personnel. What actions will Nippon Shokubai take in response?

Takagi: For the Board Meeting, we have appointed three

independent members of the Board, including you. As to diversity, I think we have human resources with diverse backgrounds and abilities, including you and mid-career recruits like me. In response to reorganization of the Tokyo Stock Exchange, we will consider increasing the percentage of independent outside members of the Board and other measures to further promote diversity. For managers, we will establish a system to select and train competent employees to be candidates for next-generation executives while paying attention to diversity, and we will promote them to general managers or directors.

Sakurai: I have been appointed an outside member of the board also for other companies, and I have always been the only woman among members of the Board. It will become important that people with diverse backgrounds, not limited to women, will be appointed. I myself have never found it difficult to give my opinions because of my gender, nor have I been conscious of my being a woman in giving my opinions. However, to have active diverse discussions, both men and women are necessary, and if there is more than one woman, it will be easier for them to express their opinions. I think a bottom-up approach is also necessary to develop next-generation executives. This is to prevent people who have the qualities in becoming leaders from not being selected. I think efforts should be made to ensure that no one, whether a man or woman, who is expected to be part of valuable human resources, will leave the company or lose motivation for work.

Takagi: Keidanren (Japan Business Federation) has announced a goal of raising the percentage of female officers to 30% or more by 2030, and Nippon Shokubai has agreed with this goal. While the definition of an officer is based on the definition of it in the Companies Act, it may include executive officers and those in similar executive positions. However, it is still a tough target. Since it is important to take steps forward, even though small steps, toward the goal, we are beginning to consider various measures for the future. Although Nippon Shokubai's D&I promotion is not limited to women's participation, childcare leave taken by male employees, and LGBT issues, I think working toward achieving numerical targets set based on the Next-Generation Children Act and the Women's Participation and Advancement Promotion Act is the first step. To allow all employees to play active roles by making the best of their diverse characteristics, we will strive to develop a work environment in which diverse working styles are accepted and employees can keep on growing.



Review of the Medium-term Business Plan and Initiatives Planned for the Future

After formulating the 2nd Medium-term Management Plan “Reborn Nippon Shokubai 2020 NEXT” toward creation of medium- to long-term value, Nippon Shokubai, up until fiscal 2020 as the final year of the Plan, worked to strengthen the competitiveness of the SAP business and create new businesses and products, such as medial materials, cosmetics and energy conversion.

28 Review of the Medium-term Business Plan “Reborn Nippon Shokubai 2020 NEXT”

29 Strengthen the Competitiveness of SAP business

31 Accelerate the Creation of New Businesses and Products

32 Life sciences

33 Energy and resources

34 ICT

Review of the Medium-term Business Plan “Reborn Nippon Shokubai 2020 NEXT”

For the four-year period of the 2nd Medium-term Business Plan from fiscal 2017 to fiscal 2020, Nippon Shokubai worked on various initiatives under the slogan “Reborn Nippon Shokubai 2020 NEXT.” However, the results were far from achieving the numerical targets. Based on the achievements made and issues found, we established the long-term vision in April 2021, and we are now proceeding with the formulation of the new Medium-term Business Plan to be started in fiscal 2022. Setting fiscal 2021 as “year zero” of the new Plan, we will start implementing various initiatives before completion of the formulation of the Plan.

Outline of the Plan

Business Policies

- Focusing on profitability over sales
- Safe, reliable production activities

Priority Challenges

- Survival of SAP business
- Launch of new businesses in high-growth potential markets as our future key driver

Basic Posture

Create products and services which market needs, and provide the products and the services when market needs.



Numerical targets for 2020 (IFRS)*

Sales revenue

400 billion yen

Sales increase during the period: 106.0 billion yen

(Sales revenue: 294 billion yen in FY2016 → 400 billion yen in FY2020)

Profit before tax

40 billion yen (profit margin on sales revenue: 10%)

ROA

7.4%

* Starting from fiscal year ended March 2019, Nippon Shokubai has voluntarily adopted the International Financial Reporting Standards (IFRS) for consolidated financial statements in the securities report. Accordingly the figures for numerical targets have been adjusted.

Results

We had satisfactory results from fiscal 2017 to 2018, with sales revenue of 338.9 billion yen and operating income of 26.2 billion yen marked for fiscal 2018. However, affected by a decline in sales volume mainly due to the impact of China-US trade conflict and the spread of COVID-19, intensifying competition for the SAP business, failure to achieve the planned targets for sales expansion of new businesses and new products, and impairment losses recorded by consolidated subsidiaries, we ended up with sales revenue of 273.2 billion yen and operation loss of 15.9 billion yen in fiscal 2020, both far from the targets.

Policies for Priority Challenges

● Strengthen the competitiveness of SAP business →P.29

Under the SAP Survival Project, we worked to reduce costs and improve productivity. Despite certain achievements made, however, we failed to realize the goal because the desired effects were not obtained from production increase due to sluggish sales volume. We will continue efforts to ensure flexible and quick response to changes in the business environment and reduce costs, with the aim of enhancing competitiveness.

● Accelerate the creation of new businesses and products →P.31

We targeted three sectors with eight areas and made progress in each field, but we failed to achieve the goal due to delay from the initial plan. We will accelerate creation of new businesses and new products through further promoting selection and concentration for early commercialization, strengthening market-oriented approach, and enhancing inter-departmental cooperation and cooperative relationships.

Targeting Sustainable Growth

● Develop an active corporate team and organization

Workstyle innovation activities have been carried out since fiscal 2017 in three working groups under the themes of business process re-engineering, workstyle reform, and IT solutions. Over the past four years, we implemented 23 initiatives, including business process reform and IT infrastructure development, with the aim to reduce work hours and improve work efficiency, and supporting diverse workstyles. Toward the goal of transforming to be a continuously developing organization and company where diverse human resources work energetically, we will continue to advance initiatives for delegation of authority, introduction of a new personnel system, and further IT utilization.

● Strengthen our Group management

We worked to improve the Group value, through initiatives to fully utilize the management resources that each Group company has accumulated over time, and to support each company with their efforts to revitalize their organizations and develop human resources. With our overseas Group companies, we worked to reinforce our global production systems mainly for acrylic acids and SAPs and thereby promoted integrated management within the Group. Our Group companies in Japan, which are engaging in a diverse range of businesses, including not only manufacturing and sales of chemicals but also transportation and trading, enhanced Group synergy by deepening ties between different fields (effective utilization of production facilities of the companies within the Group, exchange of human resources of companies within the Group, etc.). We will continue to make efforts to maximize our Group value.

● Enhance the confidence of stakeholders →P.36-49

Besides activities for environmental protection, such as energy saving and reduction of CO₂ emissions, we worked on initiatives to improve our corporate governance and enhance information security, with the aim of reinforcing our business foundation. We also worked to strengthen our supply chain management through initiatives such as establishing the Purchasing Policy and conducting CSR supplier surveys.

In fiscal 2020, we revised our system for promoting sustainability and set up the **TechnoAmenity** Promotion Committee chaired by the President. Through the Committee, which is in charge of determining policies and strategies related to the Nippon Shokubai Group's sustainability activities, such as initiatives for tackling climate change, we will further promote our sustainability activities.

Strengthen the competitiveness of SAP business

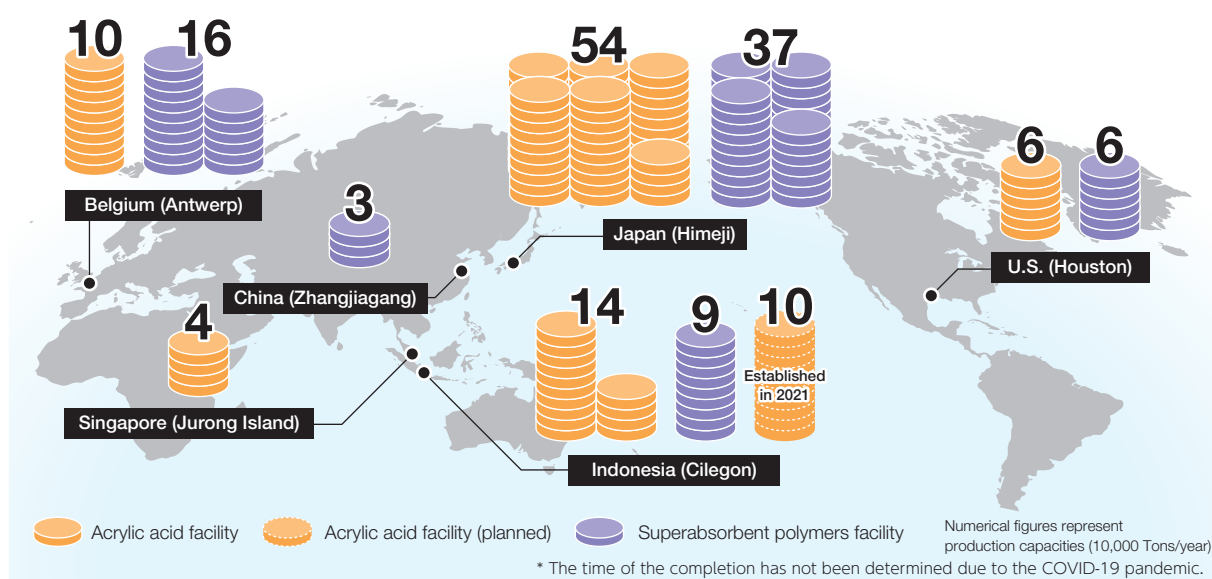
Competitive advantage of the acrylic acid and superabsorbent polymers (SAP) business

Nippon Shokubai boasts of being one of the world's leading producers of superabsorbent polymers (SAP) and acrylic acid, their raw material, based on its unique technology capabilities. We have established a stable supply system on a global scale through production sites in Japan, the U.S., Indonesia, Belgium, China and Singapore.

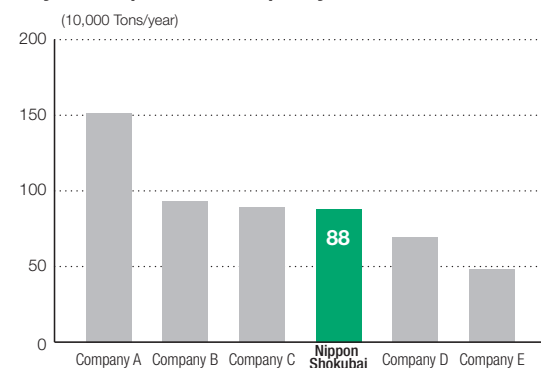
Since it succeeded in the industrialization of acrylic acid by direct oxidation of propylene for the first time in the world in 1970, Nippon Shokubai has continued to advance its production technologies and has provided its technologies broadly to major acrylic acid manufacturers worldwide. For SAP, not only taking advantage of our integrated production from acrylic acid as a raw material, we continuously innovate our technologies

by employing our product development capabilities to create various new products, production technology capabilities to build highly efficient manufacturing processes, intellectual property strategies to protect our technologies, and other strengths.

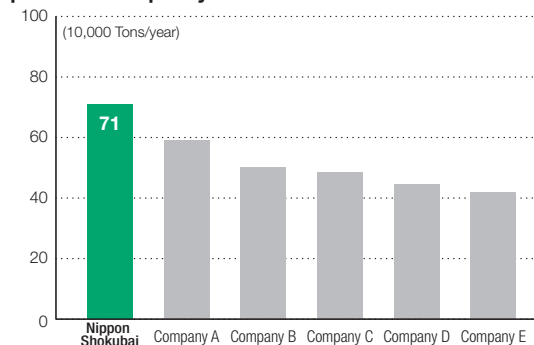
To strengthen the acrylic acid and SAP business foundation by properly responding to the growth of demand, we have also been enhancing our production capacities. When the acrylic acid production facility with a production capacity of 100,000 tons/year, which is currently under construction in Indonesia, starts operations, our Group will have production capacities of acrylic acid and SAP of 980,000 tons/year and 710,000 tons/year, respectively.



Acrylic acid production capacity



Superabsorbent polymers (SAP) production capacity



Source: Survey by Nippon Shokubai

Business environment

Although acrylic acid and SAP are both growing fields, the business environment in 2020 was severe due to the impact of COVID-19 associated with a decline in demand globally. In 2021, demand is on a recovery trend, and we assume an annual increase of 3 to 5% for both acrylic acid and SAP in the medium term. While

market expansion in emerging countries is expected to continue due to the spread of disposable diapers for babies, demand for high-value-added SAP is increasing for sanitary materials for adults (diapers for adults, sanitary napkins, urinary incontinence pads, etc.) with functions appropriate for each purpose.

Developing new SAP products

SAP is required to have not only the capacity to absorb a lot of liquid. It is required to have diverse characteristics for different applications, such as fast-drying capacity to absorb liquid quickly, liquid retention capacity not to leak absorbed liquid, and high absorption capacity under weight-bearing pressure. It is also required to satisfy multiple needs at a time. Nippon Shokubai has digitalized a huge volume of data it has accumulated on the correlation between capacities of SAP and capacities of disposable diapers, SAP surface control technology, and other information. By employing data science and

informatics technologies, including statistical modeling and machine learning, we have been accelerating development of high-value-added products.

Another important theme is to reduce environmental impact of SAP. In addition to the efforts to reduce CO₂ emissions and promote energy saving by improving production processes, we are advancing the development of a system for recycling of used diapers (→ p.22), consideration of SAP made from biomass materials, and the development of biodegradable SAP, with the aim of contributing to carbon neutrality.

Improving profitability

During the period of the 2nd Medium-term Business Plan from 2017 to 2020, we promoted the SAP Survival Project as an initiative for improving profitability. Under this project, besides working to improve production efficiency, we also examined our entire supply chain, from the procurement of raw materials to manufacturing, storage, transportation and sales, throughout the Group, and we implemented various measures, including not only short-term cost reduction measures but also capital investments to improve productivity and measures to

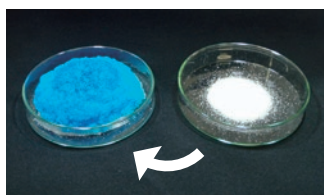
improve efficiency of maintenance and logistics, at our sites around the world.

Unfortunately, due to a decrease in sales volume in 2020, the effect of production increase has not been fully utilized. However, we will work to ensure stable operation of production facilities to demonstrate the effect of the project and work to advance efforts to enhance cost competitiveness and reduce fixed costs, thereby further strengthening the competitiveness of our Group businesses.

Close Up

What is a superabsorbent polymer (SAP)?

Disposable diapers, which absorb the urine of babies, are indispensable in child-raising today. Superabsorbent polymers (SAP) are resin with an excellent ability to absorb and retain water. Just 1 g of the resin can absorb 100 to 1,000 g of water. Various ideas to make babies more comfortable are reflected in the resin, such as making diapers thinner and smaller.



Can absorb approximately 100 to 1,000 times the quantity of water



Creation of New Businesses and Products

Achievement of the initiatives for the creation of new businesses and products in 3 sectors

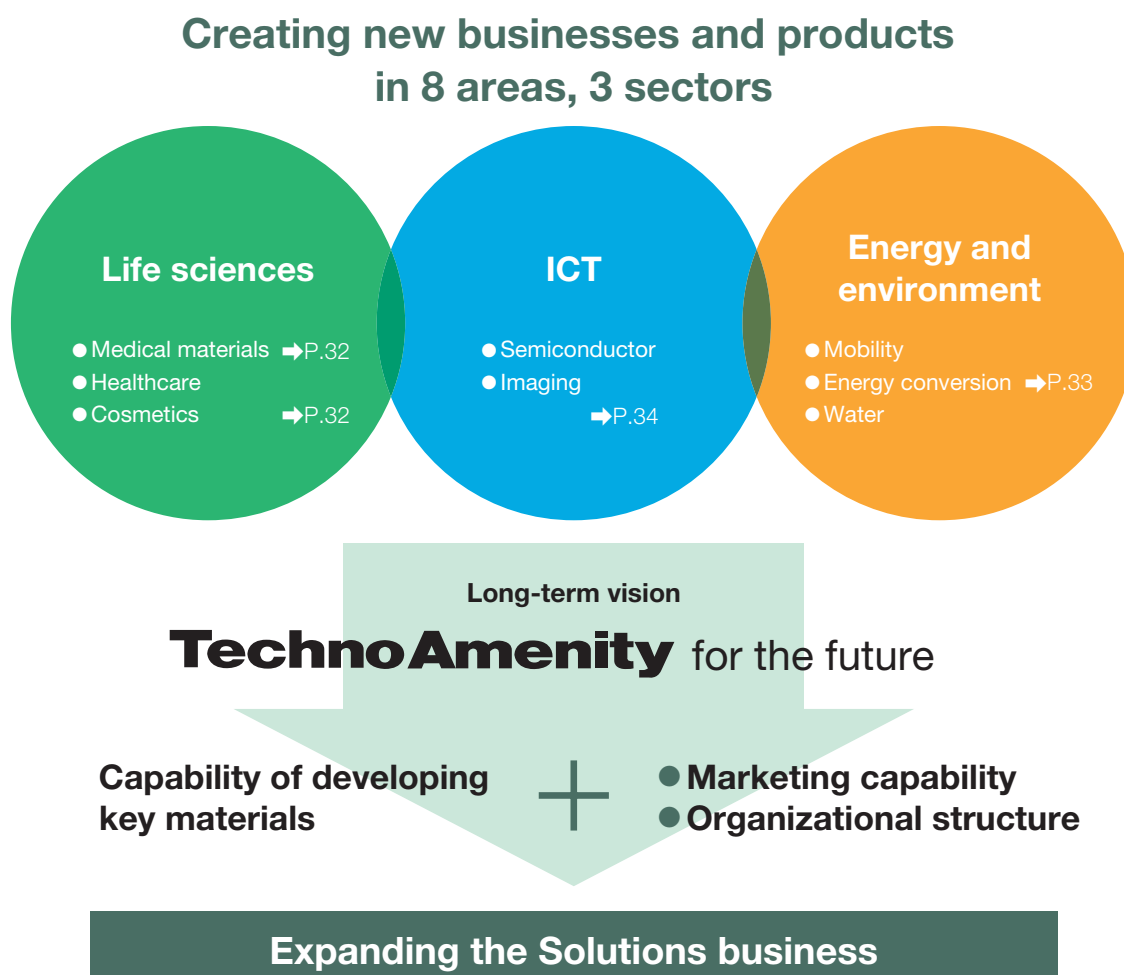
In the 2nd Medium-term Management Plan “Reborn Nippon Shokubai 2020 NEXT,” Nippon Shokubai selected eight areas in three sectors as new high-growth-potential business fields and worked on creation of new businesses and products. Aiming to develop key businesses in the future, the Company has invested a total of 57.7 billion yen for R&D over four years until fiscal 2020, restructured organizations mainly in the R&D segment and promoted market-oriented R&D activities in collaboration with external parties.

As for the life sciences business sector, medical materials area, we constructed an API synthesis production facility with one of the largest production capacities in Japan at the Suita Research Center and started commercial operation. In the cosmetics area, while conducting the joint development with several other companies, we began sales of products in April 2019 and have worked to expand the business by providing materials that meet the needs of customers.

For the energy & environment business sector, we

have worked on the development of materials that would contribute to conversion to next-generation energy, such as new rechargeable batteries and green hydrogen, in the energy conversion area. In both sectors, several products with the potential to become core products in the future have advanced to the full-scale development stage. At the same time, responsibility for the development has been transferred from the Innovation & Business Development Division to relevant business departments to accelerate the initiatives.

Toward achieving the Goals in 2030 declared in our long-term vision “**TechnoAmenity** for the future,” we will expand the Solutions business by accelerating the creation of new businesses and products and achieve transformation of our portfolio. Based on the capability of developing key materials, which is one of our strength, we will build an organizational structure that can help enhance our marketing and promote commercialization of businesses.



Life sciences

Medical materials area / Pharmaceutical

Basic strategy

We have a mass production facility dedicated to the production of APIs, an active pharmaceutical ingredient of middle-molecule drugs, and offer integrated contract manufacturing services, from drug discovery and clinical development to commercial production. Through collaboration with drug discovery ventures having promising seeds for middle-molecule drugs, such as oligonucleotide drugs and peptide drugs, we will also contribute to drug discovery support and development. The target sales for medical materials businesses in fiscal 2025 is over 10 billion yen.

Value proposition

Middle-molecule drugs are expected to serve as innovative drugs for intractable diseases that are difficult to treat with conventional small-molecule drugs and antibody drugs, such as cancers and inherited disorders. With a view to providing patients suffering from such diseases with new medical treatment as soon as possible, we will establish and develop a middle-molecule drug discovery business.

The first API synthesis production facility for contract manufacturing and shipment of oligonucleotide drugs under GMP

Nippon Shokubai has been working on joint commercialization of oligonucleotide drugs (development code: TAKC-02) with TAK-Circulator Corporation, with which we have a capital relationship. In March 2021, we completed GMP^{*1} manufacturing of the drug at our API synthesis production facility^{*2} and shipped its APIs for the Phase I clinical trials. TAKC-02 is expected to serve as a treatment drug that satisfies the medical needs related to steroid-resistant refractory severe asthma, for which existing drugs show no efficacy. We will accelerate manufacturing of APIs and provide support for clinical development so that the drug will contribute to treatment of patients as soon as possible.

The API synthesis production facility, which started full-scale operation in April 2021, has several production lines that are compliant with GMPs in Japan, the US and the EU and the PIC/S Guide^{*3}. With this facility, we will respond to various manufacturing needs for APIs ranging from research scale (mg-g) to commercial production scale (some 100 g).

^{*1}: Good Manufacturing Practices, referring to the standards for production management and quality management of pharmaceuticals.

^{*2}: One of the largest facilities in Japan equipped with a synthesizer for oligonucleotide and peptide drugs, a large-scale separation and purification apparatus, a freeze dryer and other production equipment, and analysis equipment for QC testing

^{*3}: Pharmaceutical Inspection Convention and Pharmaceutical Inspection Co-operation Scheme, referring to an international framework to promote the establishment of GMP and mutual inspections.



API synthesis production facility

Cosmetics area

Basic strategy

Focusing on skin care and peripheral market as the core target, we develop cosmetics materials with multiple functions, using our proprietary catalyst and organic synthesis technologies. In addition, by acquiring natural materials and new techniques through external partnerships, we aim to develop a proposal-based cosmetics business capable of presenting a story for customers and achieve sales of 10 billion yen in fiscal 2030.

Value proposition

Demand for skin care cosmetics for whitening, moisturizing, anti-aging, and sun care have been growing worldwide among those who are worried about dry skin, spots, dullness, wrinkles, etc. due to aging and UV. We will propose solutions to respond to these needs and exploit new markets utilizing our materials and technologies.

New, multifunctional polymer “KP Series,” effective in inactivation of SARS-CoV-2 and sterilization/reduction of dandruff-causing bacteria and acne bacteria

We have confirmed that the “KP Series,” a multifunctional polymer developed by Nippon Shokubai, has the effect of inactivating the novel coronavirus (SARS-CoV-2) and an antibacterial effect against dandruff-causing bacteria and acne bacteria.

The KP Series is a cationic acrylic polymer developed by using our synthesis and polymerization technologies, which are our strengths. Its effects of preventing adhesion of pseudo-pollen and PM2.5, which are urban-type pollutants, antibacterial effect against environmental bacteria (*Escherichia coli*, *Staphylococcus aureus*, etc.), antifungal effect against black mold, and moisturizing property had been confirmed earlier. The newly discovered characteristics are expected to suppress skin troubles caused by long exposure to external environmental factors, such as viruses, bacteria and urban pollutants, and enhance the skin barrier by moisturizing the skin, thereby helping maintain a healthy skin condition.

- Antibacterial effect against *Escherichia coli*, and *Staphylococcus aureus*, etc.
- Effect of preventing adhesion of pollen and PM2.5
- Moisturizing effect
- Antivirus effect against SARS-CoV-2 and influenza viruses
- Sterilization of dandruff-causing bacteria and acne bacteria, suppression of their proliferation

Accelerate the Creation of New Businesses and Products

Energy and resources

Energy conversion area

Basic strategy

Use of renewable energy has been increasingly promoted to help reduce CO₂ emissions, and for the storage and use of such energies, new materials are required in the production of storage batteries and green hydrogen. In the field of green hydrogen production, dramatic growth is expected for utilization of the water electrolysis technique. In the field of storage batteries, improved safety and performance in terms of energy storage has become more important than ever. Nippon Shokubai will develop materials that can contribute to effective utilization of energy by employing the organic and inorganic synthesis technology and polymer technology it has cultivated.

Value proposition

By providing separators, which play a key role in green hydrogen production, polymer electrolytes to realize long-life and safe all-solid-state lithium-ion batteries, and other battery-related materials, we will contribute to reducing CO₂ emissions and mitigating climate change.

Separator for alkaline water electrolysis, contributing to the spread of green hydrogen and the reduction of CO₂ emissions

The separator for alkaline water electrolysis is used for alkaline water electrolysis^{*1}, a technique attracting attention as the production method for green hydrogen^{*2}. Hydrogen energy does not emit CO₂ when used and therefore its applications have been expanding as fuel cells for automobiles and houses.

The separator has a significant impact on the hydrogen production efficiency and therefore is required to have two characteristics: high electrolysis efficiency (low ionic resistance) and not cross leaking the generated hydrogen and oxygen (high gas barrier property). Under the severe conditions of high-temperature, high-concentration alkaline water, the number of both practical and durable separators is limited. However, Nippon Shokubai has succeeded in the development of a product that ensures both of these characteristics by applying our unique organic/inorganic hybrid technology and sheet manufacturing technology.

This separator is expected to show several advantages, including reduction of power consumption and improvement of the purity of the

hydrogen produced, thereby contributing to the spread of green hydrogen and a reduction in CO₂ emissions.

^{*1}: Method of water electrolysis using strong alkaline solution, such as potassium hydroxide
^{*2}: Hydrogen produced using renewable energy with reduced CO₂ emissions

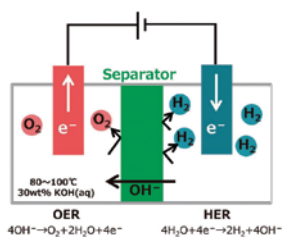


Image of alkaline water electrolysis



Separator for alkaline water electrolysis

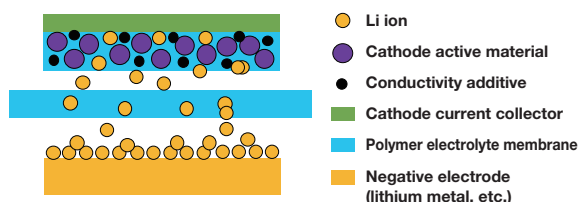
Succeeded in the development of polymer electrolyte rechargeable at room temperature, contributing to improved performance of all-solid lithium-ion batteries

We have succeeded in the development of a high-performance polymer electrolyte membrane that dramatically improves the performance of all-solid lithium-ion batteries. All-solid-state batteries are known as next-generation batteries with long life and high safety. However, polymer electrolytes show low lithium-ion conductivity, and therefore the batteries are heated to 50°C or higher for practical use.

We developed high lithium-ion conduction technology in the polymer electrolyte membrane. The new polymer electrolyte shows more than five times higher lithium-ion conduction than that of conventional polyethylene oxide-based electrolytes, which enables battery operation at room temperatures.

In comparison to conventional all-solid state batteries, the new polymer electrolyte membrane is expected to show shorter charging

time, higher energy density, and fewer heat sources to heat batteries, which will bring new applications of all-solid lithium-ion batteries.



ICT

Imaging area / Semiconductor

Basic strategy

As ICT-related technologies, such as imaging and semiconductor technologies, have been rapidly advancing, demand for materials has been increasingly sophisticated. It is increasingly important to stably supply materials that have excellent thermal, optical and mechanical properties in a balanced manner. Nippon Shokubai aims to create key materials that have unique performance characteristics by utilizing various technologies it has developed for synthesis and control of inorganic materials and fine particles.

Value proposition

By stably supplying graphene oxide excellent in heat dissipation, highly controlled particle materials, and other functional materials, we contribute to the development of ICT-related technologies and the realization of a rich and comfortable lifestyle.

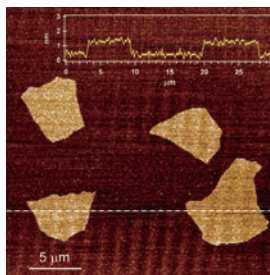
Mass production of graphene oxide, a new nanocarbon material with high thermal conductivity that will contribute to the spread of 5G communication

We have been working on the development of graphene oxide, a new nanocarbon material attracting public attention these days, using our unique technologies. In view of commercialization of the material, we are advancing proposals for customers and developing mass production technologies.

Graphene oxide has sheet structure of approximately one nanometer thick each. It is made by oxidizing graphite with a strong oxidant while increasing the interplanar spacing between layers of the graphite and then exfoliating thin flakes. Graphene oxide of a water-dispersible type, which is uniformly dispersible in water, and of an organic solvent-dispersible type, which is available for a wide range of organic solvents, such as MEK (methyl ethyl ketone), are highly appreciated for their easiness in coating for films and kneading into resin.

Possible applications in the future include parts related to 5G (5th generation communication), as well as other materials required to

have heat dissipation capability, such as materials for automobiles and batteries.



AFM image of graphene oxide



Appearance of graphene oxide dispersion

Developed the dispersed silica nanoparticles, applicable for hard coating of displays, etc.

We have developed the IX-3-NP series, a new grade of SEAHOSTAR™, our silica particle product, for particle diameters of 100 nanometer or less. As micro materials of nano-level size are increasingly demanded along with the advancement of functions of electronic information materials, such as next-generation displays and semiconductors, Nippon Shokubai has established optimal production conditions for nanoparticles based on its unique synthesis technologies and know-how about inorganic oxide cultivated in its catalysis business.

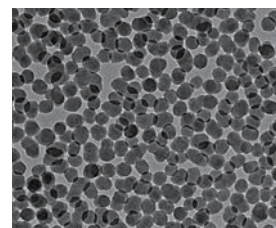
A silica nanoparticle is a spherical amorphous silica particle, with a diameter controllable between 10 and 100 nanometers. It shows a sharp particle size distribution and its purity is high.

In addition, our advanced surface treatment technology has allowed it to have good dispersibility in diverse solvents and enabled surface design appropriate for customer compositions. With the ability to improve hardness and scratch resistance while maintaining high

transparency, it is expected to be applied not only for transparent, hard coating of optical films but also as a material to add hardness to various items, including nano fillers for semiconductor peripheral materials and dental materials.



Appearance of dispersed silica nanoparticles (20 nm)



TEM image of dispersed silica nanoparticles (20 nm)

Sustainability Initiatives

Nippon Shokubai's businesses are managed in a way that is friendly to the environment and society to earn the confidence of stakeholders, thereby ensuring sustainable growth and enhancing its corporate value in the medium to long term.

- 36 **Nippon Shokubai's sustainability**
- 37 **CSR Medium-term Targets and**
- Initiatives, and Results for Fiscal 2020
- 39 **Responsible Care (RC) Activities**
- 40 **Environmental Protection Initiatives**
- 42 **Process Safety and Disaster**
- Prevention Initiatives
- 43 **Occupational Safety and**
- Health Initiatives /
- Chemical Safety Initiatives
- 44 **Quality Initiatives /**
- Sustainability Activities through
- Purchasing
- 45 **Compliance**
- 46 **Risk Management**
- 47 **Our Relationship with our Employees**
- 49 **Promoting Diversity and Inclusion (D&I)**

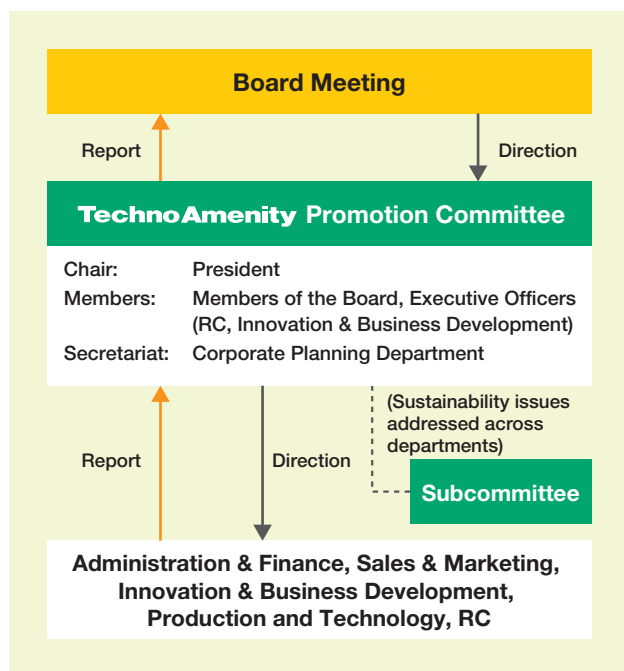
Nippon Shokubai's sustainability

Sustainability Policy

We conduct business activities with the determination to contribute to society, under the Group Mission “**TechnoAmenity** - Providing affluence and comfort to people and society, with our unique technology.” We believe that promoting sustainability activities is equivalent to practicing the Group Mission. Based on this belief, we take a comprehensive view of our corporate behavior that encompasses the economy, society and the environment. We therefore prioritize corporate governance, compliance, Responsible Care, risk management, human rights and labor, social contribution, and information disclosure. In implementing actions to increase our corporate value, we emphasize dialogue with our customers, business partners, employees, the communities we serve, public administrators, shareholders and investors and all other stakeholders. We also endeavor to solve social issues through business activities, thereby contributing to the realization of a sustainable society.

Management system for promoting sustainability

The **TechnoAmenity** Promotion Committee chaired by the President has been organized to implement sustainability initiatives.



Roles of TechnoAmenity Promotion Committee

- Determines the group's policies and strategies relating to promoting sustainability initiatives.
- Instructs each department to create plans and measures and evaluates their performance and progress.
- Considers other significant matters relating to promoting sustainability initiatives.
- Disseminates information about the initiatives to the stakeholders.

Operation for TechnoAmenity Promotion Committee

- In principle, the Committee meeting is held at least twice a year.
- When it is necessary to consider and adopt measures for important sustainability issues across departments, the Committee will establish a subcommittee to assume responsibility for them.

Nippon Shokubai signs United Nations Global Compact

In October 2020, Nippon Shokubai signed the UN Global Compact (UNGC). The Company supports the UNGC's 10 principles, which consist of the four fields of "human rights," "labour," "environment," and "anti-corruption," and we are promoting initiatives in each of these four areas. We will take on the challenge of resolving social issues through business activities and continue working for contribution to the realization of a sustainable society.

* The UNGC is a global initiative that encourages companies and organizations to act as good members of society and achieve sustainable growth by demonstrating responsible and creative leadership.



CSR Medium-term Targets and Initiatives, and Results for Fiscal 2020

To promote company-wide CSR activities, we have formulated CSR medium-term targets and initiatives spanning the same four years as the second half of the Medium-term Business Plan “Reborn Nippon Shokubai 2020 NEXT.”

We implement PDCA for each fiscal year and release achievements and progress for the year.

CSR Medium-term Targets and Initiatives, and Results for Fiscal 2020

Stakeholder	Subject		Medium-term Targets & Initiatives
Company-wide	Compliance		To continue to emphasize Compliance while strengthening our regulatory compliance structure and enhancing various training programs
	Risk Management		To endeavor to expand our risk management while regularly analyzing risk, including undertaking a review of our current Business Continuity Plan
	Corporate Governance		To further strengthen and enhance corporate governance, including improving the functioning of the Board Meeting, in order to enhance corporate value and achieve sustainable growth
	Information Security		To revise regulations covering information management in order to focus on the utilization of electronic data To establish an information security system to implement the above
Environment     	Environmental Protection	Preventing Global Warming	1) To reduce energy consumption by an amount equivalent to 8,000 kL of crude oil (over 4 years) 2) To reduce energy intensity by 5% from fiscal 2015 levels by fiscal 2020 3) To reduce CO ₂ emissions intensity (by energy origin) by 5% from fiscal 2015 levels by fiscal 2020 4) To reduce fuel consumption intensity for road transport by 5% from fiscal 2015 levels by fiscal 2020 To promote modal shift
		Waste	To maintain zero emissions (Quantity of final off-site landfill) ≤ (Total amount of waste generated × 0.1%)
		PRTR	To reduce emissions of substances subject to the PRTR Law by 25% from fiscal 2015 levels by fiscal 2020
Customers	Quality		Promotion of company-wide quality initiatives 1) To improve customer satisfaction 2) To attain more trust from customers 3) To achieve “Zero serious quality complaints”
	Chemical Safety		To achieve zero problems related to chemical safety (legal or social problems)
Suppliers  	Logistics Safety		To achieve zero accidents during logistics transportation
	Procurement		To continue implementing green procurement To promote CSR procurement.
Shareholders & Investors	Information Disclosure		To continue to disclose information in accordance with our corporate governance code and to aim for more relevant responses in order to maintain high-quality constructive dialogue with shareholders and investors.
Community 	Social Contribution		To enhance the social contribution initiatives of the Nippon Shokubai Group as a whole To formulate and implement the Third-term Plan (fiscal 2018–fiscal 2022) addressing our forest development initiatives
	Process Safety and Disaster Prevention		To achieve zero severe process safety accidents
	RC Communication		To promote dialogue on Responsible Care initiatives with local residents and implement appropriate information disclosure
Employees   	Human Resources		To identify and train leaders who can lead the organization; to promote Diversity & Inclusion
	Occupational Safety		To achieve zero injuries with or without loss of workdays, including contractors
	Occupational Health		To provide all workers with a supportive and ideal work environment; to promote a healthy work-life balance
Government	Collaboration		To continue to cooperate with the administration through industrial associations and other avenues

Profile	Commitment to Value Creation	Review of the Medium-term Business Plan and Initiatives Planned for the Future	Sustainability Initiatives	Governance	Reference Data
Achievements (Fiscal 2020 Results)					
	Implemented corporate ethics training for new employees and employees being promoted and training on various individual laws and regulations (Unfair Competition Prevention Act, competition laws).				
	- Conducted periodic risk surveys and addressed individual risks as necessary. - Established a system to respond to large-scale earthquakes according to changes in working styles due to the impact of COVID-19.				
	- Evaluated the effectiveness of board meetings and enhanced provision of information to external board members based on the evaluation results. - Verified the appropriateness of cross shareholdings at board meetings. And the exercise of voting rights was decided based on specific quantitative standards.				
	Assessed vulnerability of our company network and confirmed there is no significant vulnerability. Also, enhanced digitization of paper documents in association with the general affairs division's initiative to promote paperless offices.				
	1) Reduced energy consumption by 3,490 kL (total energy consumption reduced in four years was 11,604 kL). 2) Increased energy intensity by 0.2% from fiscal 2015 levels. 3) Reduced CO ₂ intensity (by energy origin) by 6.5% from fiscal 2015 levels. 4) Reduced fuel consumption intensity by 0.3% from fiscal 2015 levels. Continued to promote modal shift.				
	Continued to implement zero emissions policy.				
	Reduced emissions of substances subject to the PRTR Law by 22.8% from fiscal 2015 levels.				
	Promoted company-wide quality activities through the priority initiatives of the 10th Medium-term RC Basic Plan (Quality). 1) Improve customer satisfaction: Unachieved 2) Attain more trust from customers: Achieved 3) Serious customer complaints: Received one complaint (yet-to-be-determined as of July 31, 2021)				
	Registered zero legal or social problems related to chemical safety.				
	Registered zero accidents during product transportation.				
	- Conducted surveys on containers and packaging materials in addition to raw materials. - Conducted a CSR supplier survey.				
	- Continuously disclosed financial results and other materials. - Conducted IR meetings for analysts and institutional investors in May and November. - Published the TechnoAmenity Report, providing financial and non-financial data.				
	Continued to implement forest development initiatives in Japan, China and Indonesia according to the Third-term Five-year Plan.				
	Registered zero severe process safety accidents.				
	Published the RC Report.				
	- Established Diversity & Inclusion Promotion Policy and designated priority challenges. After that, communicated the message from the President to all employees. Specific measures include conducting D&I management training for officers and managers. - Conducted management training for employees being promoted to positions equivalent to subsection chiefs, managers, and positions equivalent to general managers. Continued to conduct plant manager training aimed at developing candidates for section managers in the manufacturing departments.				
	Target not reached: Registered four injuries with loss of workdays and 11 injuries without loss of workdays.				
	- Continued activities to reduce overtime hours and encourage taking paid leave through regular meetings of the Labor-Management Committee. - Introduced teleworking and enhanced the flextime system as measures to support diverse working styles of employees. - Set up the harassment reporting desk at each business site.				
	Participated in a plan to contribute to the emergence of a low-carbon society formulated by the Japan Chemical Industry Association and reported the results.				

Responsible Care (RC) Activities

We actively promote RC initiatives in priority areas of environmental protection, process safety and disaster prevention, occupational safety and health, chemical safety, quality and communication with society.

RC Initiatives

All companies in the chemical industry responsible for handling chemical substances voluntarily agree to protect the environment, safety and health in all processes ranging from the development of chemical substances to their manufacture, transportation, use, end consumption, disposal and recycling. By disclosing the results of these activities to the public, the companies hold dialogues and communicate with society. These efforts are known as Responsible Care (RC). The RC Global Charter was released in 2006 and revised in 2014 by the International Council of Chemical Associations (ICCA), which promotes RC worldwide.

Nippon Shokubai has participated in the Japan Responsible Care Council (currently known as the Japan Chemical Industry Association's Responsible Care Committee) since it was established in 1995, and has been advancing various initiatives by introducing relevant systems, such as the environmental management system under ISO 14001, the quality management system under ISO 9001, and the occupational safety and health management system (OSHMS).

We are determined to continue contributing to society while fulfilling our corporate social responsibility through our group-wide commitment to RC activities.



President's signature on the RC Global Charter (Revised 2014 version)

RC Policy

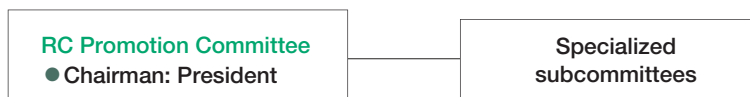
In conformity with the Nippon Shokubai Group Mission, Management Commitment, Corporate Credo, and the Nippon Shokubai Code of Conduct, we rank it as an important management measure to provide products and technologies that contribute to society and environmental protection. In addition, while paying due respect to the principle of Sustainable Development, we are determined to conduct all activities in accordance with the following policy related to environmental protection, safety, and quality that will bring our business operations into harmony with the global environment.

We will implement this RC Policy in all our business operations by ensuring all employees have a thorough understanding and awareness of its importance. The president shall be the person with the ultimate responsibility for implementing this policy.

- | | |
|---|---|
| 1 | Aim at environmental protection and reduction of negative environmental impact throughout the entire life cycle of a product, from development to disposal. |
| 2 | Ensure the safety of our employees and our communities by targeting zero accidents and zero injuries with a commitment to the Corporate Credo, "Safety takes priority over production." |
| 3 | Confirm the safety of chemical materials, intermediates and products, and consider the health of our customers, employees of our logistics subcontractors, our employees, and others. |
| 4 | Stably supply products and associated services that meet customer satisfaction and inspire their trust. |
| 5 | Publicly announce the results of these activities and make an effort to communicate for proper understanding. |

RC Promotion Organization

The president is chairman of the RC Promotion Committee, under which specialized subcommittees are established, to promote company-wide RC activities.



Environmental Protection Initiatives

We promote initiatives to reduce the environmental impact of our business operations, including tackling climate change and reducing waste through our supply chains.

Environmental Protection through Our Products

Environmental Contribution Products

Chemical products have an impact on the environment because they are produced using the Earth's resources and involve the discharge of CO₂ and other waste. However, looking at the entire product lifecycle from raw material extraction to product disposal, in some stages chemical products contribute to a reduction in the environmental load.

We evaluate how our products are used to reduce the environmental load through the supply chain to produce the various products in our daily lives and as equipment to produce our products and in the social infrastructure.

At Nippon Shokubai, an internal certification committee certifies the Environmental Contribution Products after examining the checklist items and numerical data. In fiscal 2020, three products were newly certified.

Environmental Contribution Products

Types of contribution		Product life stage	Applications	Certified products
Global warming prevention Energy conservation	Greenhouse gas reduction	Manufacturing	Aquaculture feed binders	AQUALIC™ H (for feed)
			Concrete admixtures	AQUALOC™
		Use	Lithium-ion battery materials	IONEL™
			Solid-state battery materials	ICPDAP™, ICPSEB™
		Disposal	Paint and adhesive raw materials, reactive diluents	Isobornyl acrylate
			Paint and adhesive raw materials	Ethyl acrylate
	Energy conservation	Manufacturing	UV-curable reactive diluents	VEEA™
			Solid oxide fuel cell components	Electrolyte sheets for solid oxide fuel cells
		Use	Automotive damping materials	ACRYSET™ (for damping materials)
			Optical and electronic materials	ZIRCOSTAR™
Chemical emission reduction Air quality conservation	Chemical emission reduction	Use	Water-based paints	UWR™, ACRYSET™ (for water-based paints)
			Water-based adhesives	EPOCROS™
	Air pollution prevention	Use	Removal of HC (hydrocarbon), NOx, dioxin and other pollutants from exhaust gas	Automotive catalysts
				Waste gas treatment catalysts
				Denitrification catalysts and equipment
Water resource conservation Water quality conservation Biodiversity conservation	Water contamination prevention	Use	Oxidation and decomposition of harmful substances in wastewater	Wastewater treatment catalysts for catalytic wet air oxidation
		Disposal	Water treatment additives	EPOMIN™
	Biodegradability	Disposal	Detergent builders	AQUALIC™ L (for detergent)
			Detergent ingredients	SOFTANOL™
Resources use reduction	Resources use reduction	Use	Hollow fiber membranes	Polyvinylpyrrolidone
Waste reduction	Waste reduction	Disposal	Concrete admixtures	AQUAGUARD™

Promoting CO₂ emissions reductions throughout the product lifecycle

We employ the cLCA (carbon Life Cycle Analysis) method to assess the degree to which our products contribute to reducing CO₂ emissions.

The cLCA method assesses CO₂ emissions throughout the lifecycle of a final product incorporating a specific chemical product compared with a product that does not contain the chemical product. The difference in the volume of emissions is calculated as the net volume of emissions that would be avoided as a result of using that chemical product.

AQUAGUARD™	Calculation of CO ₂ emissions avoided in one year when all apartments are built as long-lasting structures	3,400,000 tons
ACRYSET™ (for damping materials)	Calculation of CO ₂ emissions avoided when an application-type vibration-damping material is installed in all automobiles manufactured in one year	310,000 tons
ZIRCOSTAR™	Calculation of CO ₂ emissions avoided when ZIRCOSTAR™ is incorporated in all smartphones manufactured in one year	220,000 tons
VEEA™	Calculation of expected CO ₂ emissions avoided from the use of all the UV curable inks produced in one year	330,000 tons
AQUALIC™ H (for feed)	Calculation of CO ₂ emissions avoided when all aquaculture feed produced in one year is replaced with moist pellets	80,000 tons
IONEL™ ICPDAP™, ICPSEB™ Electrolyte sheets for solid oxide fuel cells	(1) Calculation of CO ₂ emissions avoided when solid batteries are utilized as a regulated power supply for the use of renewable-energy-derived electricity supplied in one year (Use for electric vehicles is not included.) (2) Calculation of CO ₂ emissions avoided from the use of fuel cells	5,960,000 tons in total

For details, please refer to RC Report 2021.

Tackling Climate Change

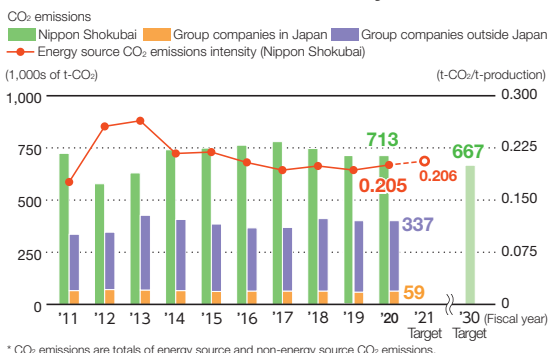
Promoting CO₂ emissions reductions

At Nippon Shokubai, in line with the targets set in the commitment to a low carbon society by the Japan Chemical Industry Association, the RC Promotion Committee, chaired by the President, has formulated the Medium-term RC Basic Plan. Based on this Plan, each plant implements activities to reduce energy consumption under the initiative of the energy management committee. Furthermore, setting the greenhouse gas emissions reduction target for fiscal 2030 to be 10% or more compared to the level of fiscal 2014 by referencing the CO₂ emissions reduction target for fiscal 2030 set by the Japan Chemical Industry Association in March 2019 (10.7% reduction compared to FY 2013), we have been making efforts for reduction.

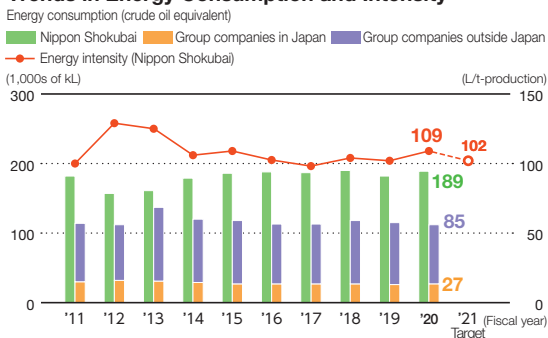
In fiscal 2020, despite the efforts to conserve energy, the results were 109 L/t-production for energy intensity and 0.205 t-CO₂/t-production for energy source CO₂ emissions intensity, mainly due to a decrease in production volume.

Furthermore, in April 2021, the Japanese government substantially raised the greenhouse gas emissions reduction target for fiscal 2030 to 46% compared to the fiscal 2013 level. Accordingly, we are considering revision of our target for fiscal 2030.

Trends in CO₂ Emissions and Intensity



Trends in Energy Consumption and Intensity



We started solar power generation (on-site power generation) at the Hiraji Plant from fiscal 2021.

*1: A regulatory system that requires the reporting of emissions of designated chemical substances into the air, water and soil as well as the volume of waste transferred. Data compiled and submitted to governmental agencies are disclosed to the public.

Initiatives for Eco-friendly Distribution

As a way of fighting global warming through our logistics operations, we are taking steps to reduce our CO₂ emission intensity and implement exhaust gas countermeasures to control air pollution.

Although changing economic conditions can affect the amount of goods we transport and our CO₂ emissions, we are advancing initiatives to reduce our CO₂ emission intensity.

These include modal shifts, improved transport efficiency, introduction of digital tachometers interlocked with GPS and drive recorders, and energy-efficient vehicle operation such as minimal idling and the installation of energy-efficient tires.

Pollution Control Initiatives Targeting Air and Water

We are monitoring our SO_x, NO_x and dust emissions, and we have installed denitrification equipment that we developed inhouse for NO_x and dust scrubbers to prevent air pollution.

For SO_x, we are reducing our fuel oil consumption and progressing with converting fuel to natural gas to reduce emissions. We use the exhaust gas treatment catalysts we developed inhouse for purification of unreacted raw materials generated in production processes.

To prevent water pollution, we are using waste liquid treatment equipment to reduce the environmental impact of wastewater from production processes.

In addition to reusing cooling water for more effective use of our water resources, we have adopted high-performance activated sludge treatment equipment that can stably process even high impact substances and are working on reducing sludge waste as well.

Waste Reduction Initiatives

Reducing waste is a necessary initiative to support the creation of a society committed to recycling. Toward the goal of achieving and maintaining "zero emissions" (defined as "reducing the quantity of waste subject to final disposal at off-site landfills to less than 0.1% of the total amount of waste generated"), we are introducing sorting for the recovery and recycling of our waste.

In fiscal 2020, we are continuing to implement our zero emissions policy by reducing the amount of waste subject to final disposal at off-site landfills. In addition to implementing comprehensive sorting for recovery and recycling, we are achieving this by redesigning our processes to reduce waste, reusing byproducts and processing product leftovers on site.

Chemical Substances Control Initiatives

In fiscal 1995, we participated in a voluntary PRTR survey undertaken by the Japan Chemical Industry Association and have set out to reduce our emissions of chemical substances into the environment.

In fiscal 2020, we released 83 tons of substances subject to the PRTR Law, which represents a 22.8% decrease in emissions compared to fiscal 2015 levels. However, we were not able to achieve our target of 25% reduction from fiscal 2015 levels.

Process Safety and Disaster Prevention Initiatives

Under the Corporate Credo “Safety takes priority over production,” all our employees take part in various activities to ensure safety.

Basic Approach to Safety Issues

We have incorporated the lessons learned from the accident at the Himeji Plant in 2012 to reinforce our basic approach to safety issues. We have clarified our Corporate Credo, Safety Oath, and the safety management principles below, as well as the roles of the company at each organizational level, and are ensuring that all employees stay fully informed.

Safety management principles

We are putting into practice the fundamental principles for safety management, behavior principles during production activities and other guidelines that are established in the Safety Management Regulations of our company.

<Fundamental principle of safety management (excerpt)>

- (1) Assure safety based on our Corporate Credo, “Safety takes priority over production.”

<Behavior principles during production activities>

- (1) Stop operation immediately if you discover something abnormal in the functioning of equipment. No one will ask who was responsible.



Corporate Credo, “Safety takes priority over production”

Promotion of Voluntary Safety Initiatives

Since its foundation, Nippon Shokubai has ensured safe production with the technologies we developed in-house, and the voluntary safety initiatives we have introduced are aimed at zero Class A*¹ and Class B*² severe process safety accidents.

Efforts to prevent accidents and malfunctions

We employ HAZOP*³ to identify latent risks in a plant. We are working to prevent incidents by systematically implementing HAZOP for both routine and non-routine work, and also by conducting change management and non-routine work management.

Systematic implementation of safety measures

When an accident happens, we investigate the cause in stages and introduce measures to prevent any recurrence. Long-term maintenance of facilities is incorporated in our maintenance plans and implemented according to the plans.

We are also systematically dealing with the aging degradation of our facilities.

*1: Level 9 or higher according to the Nippon Shokubai method on the Japan Petrochemical Industry Association chart

*2: Level 3 to 8 according to the Nippon Shokubai method on the Japan Petrochemical Industry Association chart

Earthquake preparedness

Following the Great East Japan Earthquake of 2011, we reviewed our earthquake preparedness in the event of a future major earthquake and tsunami from both the tangible and intangible aspects and are adopting the necessary measures, which are periodically reviewed and reinforced.

Improving emergency drills

We have established disaster prevention arrangements at every workplace, and we systematically conduct a variety of emergency drills every year.

In fiscal 2020, we conducted emergency drills while paying special attention to COVID-19 infection.

By feeding back issues that were identified in the emergency drills in subsequent training sessions, we will continue to review and strengthen our disaster prevention, including related arrangements, education and training.



Emergency drills

Maintenance and improvement of safety management efforts

Each year, RC inspections are conducted by executive management at both Himeji and Kawasaki plants. In fiscal 2020, they verified the safety management activities at both plants.

The Executive Officer of the Responsible Care Division at our Head Office conducted audits as the head of the auditing committee, to ensure continuous improvements to our safety management.

High-pressure gas safety accredited plants

The Ministry of Economy, Trade and Industry accredited the Chidori Plant and the Ukushima Plant located at our Kawasaki Plant as “Accredited Completion Inspection Executors and Accredited Safety Inspection Executors” for high-pressure gas.

Reaccreditation inspections are conducted every five years.

This accreditation permits continuous operation of high-pressure gas production facilities and autonomous safety inspections by companies with competent self-managed safety systems.

*3: A safety evaluation method for systematically evaluating the adequacy of safeguards in plants and eliminating latent risks in plants through comprehensive detection

Occupational Safety and Health Initiatives

To achieve our target of zero industrial injuries, we implement activities to ensure occupational safety and health, including improving the working environment, reducing risk factors, and creating pleasant workplaces.

Ensuring Continuous Improvement of Occupational Safety and Health

We have been continuously improving our occupational safety and health, mainly through our Occupational Safety and Health Management System (OSHMS). In addition, we are working to reduce industrial injuries by systematically implementing various basic safety initiatives, including “kiken yochi (KY)” risk prediction, “hiyari hatto” near miss and “5S” campaigns, as well as by conducting a variety of education and training courses.

Risk assessment

In accordance with the Occupational Safety and Health Management System, we have been undertaking risk assessment of tasks and risk assessment of chemicals handled to reduce or eliminate the sources of risks.

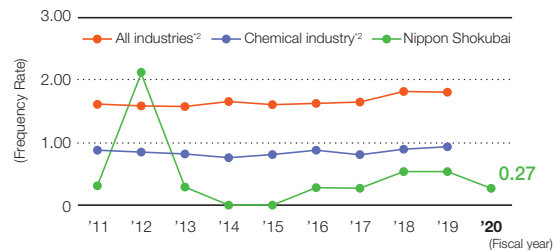
Occurrence of industrial injuries

In fiscal 2020, we experienced one injury with loss of workdays and nine injuries without loss of workdays. Our contractors experienced three injuries with loss of workdays and two injuries without loss of workdays.

In recent years, industrial injuries have occurred frequently among young workers at Nippon Shokubai while they have occurred frequently among less-experienced workers at our

contractors. We are therefore enhancing safety education for young or less-experienced workers to raise their safety awareness.

Trends in Frequency Rate of Injuries with Loss of Workdays¹



Basic safety initiatives

In an effort to prevent industrial injuries, we are committed to daily safety activities targeting work-related risks. Specifically, we remain focused on our “5S” campaign in the workplace, our “hiyari hatto” practice of collecting reports on near miss incidents, and our “KY” or risk prediction campaign before work.

To maintain and enhance the sensitivity to danger, we conduct KY training and KY workshops using case sheets, with the aim of improving the level of daily safety activities.

Chemical Safety Initiatives

To achieve our goal of zero legal and social problems related to chemical substances throughout the lifecycle of products, we are committed to managing chemicals properly through initiatives including complying with laws and regulations and providing related information.

Comprehensive management of chemical substances throughout the product lifecycle

To achieve our goal of zero legal and social problems related to chemical substances throughout the lifecycle of products, from the R&D stage to disposal at the end of the product service life, Nippon Shokubai is committed to managing chemicals properly by implementing a variety of initiatives, including upgrading our internal systems to comply with national and international laws and regulations related to chemical products, and providing customers with information on relevant laws and regulations as well as product safety information.

Ensuring the safety of new products

We have introduced a gate system at each stage from R&D to commercialization. We apply our technical expertise to examine the safety of chemical products throughout the product lifecycle and determine at each stage whether to proceed to the next stage.

Product Safety Initiatives

We prepare GHS-compliant SDSs, warning labels, and Yellow Cards and provide information to customers while providing training sessions for our employees. Regarding application-specific products used in pharmaceutical raw materials, pesticides, cosmetics and food additives, our Product Safety Review Subcommittee conducts strict checks while ensuring compliance with the Product Liability Act.

Accommodating chemical registration requirements within and outside Japan

In collaboration with specialized institutions and our Group companies outside Japan, we are responding appropriately

to laws and regulations that require us to register chemical substances, including the Act on the Evaluation of Chemical Substances and Regulations of their Manufacture, etc. and the Industrial Safety and Health Act in Japan, as well as TSCA in the United States and REACH in Europe.

Addressing import/export controls

To ensure legal compliance regarding imports and exports, we have streamlined our process for strengthening company regulations, keeping our employees informed about whether a product has been subject to import/export restrictions and improving our shipping management system for coordination with our enterprise resource planning (ERP) backbone accounting system. We also conduct regular internal training on import/export management.

Promoting a voluntary initiative of the JCIA

We participate in GPS/JIPS*, a voluntary initiative for strengthening chemical management promoted by the Japan Chemical Industry Association, which prepares and releases a safety summary to the public.

Establishment of a chemical substance management system

We have created and are operating a comprehensive chemical substance management system that can respond quickly to risk assessments, the issuance of SDS, and customers' requests for the survey of chemical substances contained in our products or products by providing centralized management of various types of information encompassing chemicals, raw materials, hazardous materials and regulations. We are working on updating information and improving the system functions.

* The initiative promoted by the Japan Chemical Industry Association to achieve the UN-mandated goal of “minimizing chemical risks to human health and the environment from manufacturing and using chemical products with the aim of achieving the targets by 2020”

Quality Initiatives

Our basic policy related to quality is to provide products and services that fully satisfy our customers while earning their trust. We also work to maintain or improve our quality levels.

Customer satisfaction initiatives

All our plants and all Group companies inside and outside Japan engaged in manufacturing and logistics have obtained the certification of ISO 9001, an international standard for quality management systems. We implement our quality assurance initiatives from the customer's perspective, from the product development stage through manufacturing and delivery.

We are dedicated to the continuous improvement of our quality management system to ensure our customers are satisfied with the stable high quality of our products and services.

We respond quickly to any complaints or inquiries from customers concerning our products. At the same time, we prevent quality issues from occurring through company-wide

distribution of information related to complaints and issues, including those that arose in fiscal 2020, at meetings of the quality department managers.



Quality control convention

Initiatives toward gaining greater public trust

We have established quality management systems that ensure the safety and reliability of our products. In response to growing social demands for product quality and reliability, the quality assurance department of our Head Office has conducted quality audits of our plants and Group companies to check the quality assurance systems and the status of quality management at all production sites.

In quality audits for fiscal 2020, as a part of the initiatives in response to the revised Food Sanitation Act enforced from June 1, 2020, the status of management of food additives manufactured at our plants was checked as a priority theme.

These audits confirmed that the plants properly responded to the revised law and the inspection data was reliable.

Sustainability Activities through Purchasing

We are promoting sustainable procurement activities throughout the supply chain toward realizing a sustainable society.

Basic posture for sustainable procurement activities

Toward achieving our Group Mission, "**TechnoAmenity**," we promote purchasing activities under the Nippon Shokubai Corporate Ethics Behavior Guidelines. We sincerely ask our suppliers and business partners for their understanding of our activities and take coordinated action.

Sustainable procurement initiatives

We aim to put our Group Mission into practice throughout the supply chain, from procurement of raw materials to the manufacture, sales, use and disposal of products. In our purchasing activities with our suppliers and business partners, to provide safe and reliable products, we will work to disseminate the concept of sustainable procurement in accordance with our Sustainability Policy and the Corporate Ethics Behavior Guidelines. We have also formulated the Procurement Fundamental Policy, which declares our determination to promote continuous sustainability activities.

To fulfill our social responsibilities, we continue to confirm that we do not procure so-called conflict minerals.*¹ We continuously monitor the actual situations at our suppliers, and stop procurement promptly if the use of conflict minerals is discovered.

*1: Gold (Au), tantalum (Ta), tungsten (W) and tin (Sn) that are being mined and sold by local armed groups in the Democratic Republic of the Congo and adjoining countries. Also cobalt (Co) in the CAHRAs (conflict-affected and high-risk areas).

Green procurement initiatives

For substances that are regulated or highly hazardous, we have independently assigned them to two categories: "prohibited substances" and "restricted substances." We are developing green products and procuring raw materials with low environmental impact while controlling the inclusion of such substances in our products.

For information transmission sheets, we are using those of chemSHERPA.*²

*2 A shared system for transmitting information about chemicals contained in products to supply chains. Full-scale utilization began in April 2018.

Conducting CSR Supplier Surveys

We recognize that the understanding and cooperation of our suppliers and business partners is indispensable in order to enhance sustainability throughout the supply chain.

Therefore, we have been conducting CSR questionnaire surveys of our suppliers. By asking them to reply to the questionnaires, we confirm whether they conduct business activities in accordance with our "Procurement Fundamental Policy." We will continue to strengthen cooperation with our suppliers and business partners and promote sustainable procurement initiatives.

Compliance

We are committed to various group-wide initiatives intended to further improve and strengthen our compliance systems in accordance with our Corporate Code of Compliance.

Compliance structure

In order to reinforce our compliance, our Board Meeting has established group-wide compliance policies, the "Nippon Shokubai Code of Conduct" and other codes of conduct, and the executive officer responsible for compliance decides medium- to long-term and annual action plans.

Under the supervision of the executive officer responsible for compliance, the Legal Department promotes various group-wide initiatives for the entire Group, including affiliated companies.

Activities to improve compliance

Rank-based training

We provide systematic training courses on corporate ethics for employees, targeting three specific employee ranks, new employees, promoted mid-level employees, and promoted managerial employees, according to their respective job positions and roles.

Awareness initiatives in each workplace

To ensure the penetration and adoption of compliance throughout the workplace, we conduct training courses on compliance for each workplace once every six months. This training has become a forum for active discussion within each workplace based on a training program that covers violations of corporate ethics and legal violations and similar actions prepared based on situations that actually arose at other companies. We have been implementing this program also at our Group companies in Japan.

Corporate Ethics Guidebook distribution

We have prepared the Nippon Shokubai Corporate Ethics Guidebook, and we distribute it to our employees and revise it as appropriate. We have also prepared the Nippon Shokubai Group Corporate Ethics Guidebook for our Group companies in Japan, and we distribute it to the employees in each company.

The content of these guidebooks serves to increase individual awareness of compliance and supports learning activities.

The books include behavior guidelines that should be followed not only in daily work but also in private life, commentaries and a Q&A section, for example. They are also effectively used for employee training.



Nippon Shokubai Corporate Ethics Guidebook



Nippon Shokubai Group Corporate Ethics Guidebook

Awareness activities on our portal

Our corporate intranet hosts a portal titled "Understandable Corporate Ethics." It lists various kinds of manuals including the manuals as to basic information on contracts, competition laws in various countries, observance of anti-bribery laws and subcontract law, links to websites covering related laws and regulations, and a FAQ page. This site presents the latest available information, and it is updated whenever the relevant laws and regulations are revised.



Portal "Understandable Corporate Ethics"

Compliance with anti-bribery laws of respective countries

Nippon Shokubai Group companies strictly prohibit any corruption in breach of applicable laws in our business activities.

In order to express and give shape of such group policy, we adopt the group code of conduct, which all the individuals working for the Nippon Shokubai Group companies should comply with.

Compliance with competition laws of respective countries

Nippon Shokubai Group companies will conduct all business transactions based on the free and fair market competition principle.

In order to express and give shape of such group policy, we adopt the group code of conduct, which all the individuals working for the Nippon Shokubai Group should comply with.

Whistleblower System

As part of our initiatives to implement compliance, we have established the Whistleblower System under which facts or suspicions of compliance violations inside the company can be freely reported to the internal reporting desks we have set up both inside and outside the company. The intention of the whistleblower is always respected in determining whether or not to disclose the details of the information and the name of the whistleblower, with the objective of protecting the whistleblower.

Risk Management

We are implementing a variety of measures to accurately identify and respond to risks that accompany changes in the management and business environments and that could impact the long-term continuation of our Group, in accordance with our Risk Management Regulations.

Risk Management System

At the Nippon Shokubai Group, we classify various internal and external risks that threaten our Group into “serious Group-wide risks” and “department risks,” and we develop a risk management system appropriate for each risk category, thereby maintaining and improving our corporate value.

For “serious Group-wide risks,” potential serious risks underlying execution of the Group’s management strategies, sustainable improvement of corporate value, and acquisition of trust from stakeholders are subject to risk management, and we have established a system in which the Board Meeting identifies and assesses the risks, decides whether they should be addressed, and supervises the status of risk management by the executive section.

For “department risks,” on the other hand, potential risks underlying execution of business strategies or business operations by each department or affiliated company are subject to management, and we have established a system in which each department or affiliated company is responsible for risk management, thereby promptly responding to the risks.

With these two systems, we aim to develop and enhance the Group-wide risk management system, which includes our affiliated companies.

Business Continuity Management (BCM)

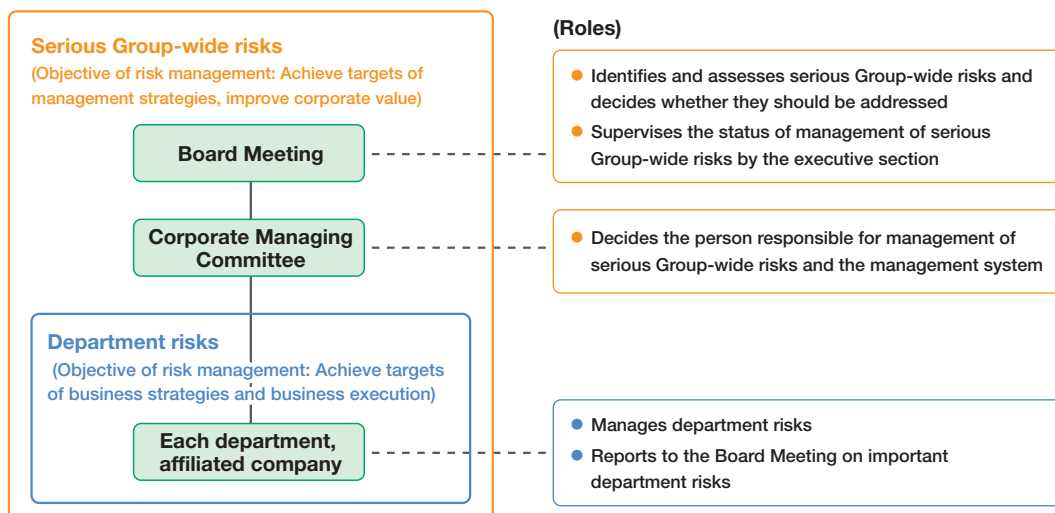
We have established a Business Continuity Plan (BCP) with countermeasures for earthquakes, influenza outbreaks and other incidents. We are working to strengthen Business Continuity Management (BCM) by regularly reviewing our BCP, as well as by implementing earthquake response training and other measures.

In fiscal 2020, assuming a large-scale earthquake taking place when few people are working at the office due to the shift to teleworking as a measure against the COVID-19 infection, we revised the system to respond to large-scale earthquakes. We are communicating the revision details and providing related education for employees, with the aim of enhancing preparedness for occurrence of a large-scale earthquake.

Response to the COVID-19 pandemic

In response to the global spread of COVID-19 infection, Nippon Shokubai has set up a company-wide COVID-19 task force led by the President. To ensure employees’ health and continue business activities, various measures have been implemented, including familiarizing employees with infection preventive measures, promoting staggered working hours and teleworking using the flextime program, recommending online meetings, and suspending business trips.

Risk Management System



Our Relationship with our Employees

Under our Management Commitment to conduct all corporate activities with a deep respect for humanity, we work to provide and maintain a positive work environment while facilitating a high level of job satisfaction for every employee.

Respect for human rights

Respect for human rights

Our Management Commitments state that “we conduct all of our corporate activities based upon a deep respect for humanity” and our action guideline states that “we always strive to maintain a healthy working environment, respect the human rights of each person, and will never engage in discrimination or any other violation of human rights.” Thus our commitment is clear: we will never conduct any unreasonable act of discrimination or harassment based on place of birth, nationality, race, ethnicity, creed, religion, position, gender, age, sexual orientation or physical characteristics and are working to cultivate a culture of respecting human rights.

We all accept and respect each other and the personality and individuality of everyone.

Prevention of harassment

We have made available a harassment prevention manual to our employees and set up a consultation desk. We also provide training for managers to raise awareness in a timely manner.

Prohibition of forced labor and child labor

We have employment relationships based on the free will of our employees and do not force them to work. We also comply with laws and regulations and strive to prevent child labor through appropriate recruitment and employment procedures.

Human capital development

Human resources management system

Work to invigorate our people and organizations forms the basis of the second half of our Medium-term Business Plan “Reborn Nippon Shokubai 2020 NEXT” and the sustainable growth of our Group.

With the theme “Think & Act,” which means always being conscious of one’s accountability in order to maximize value for the customer, we have implemented a human resources management system based on Management By Objectives (MBO). We continuously review the system itself and its operation, and we are creating an improved environment in which employees are given the freedom to achieve the desired results.

Provisions for managers

Managers are the drivers behind what needs to be accomplished under our “Vision.” Under the keyword of “Think & Act,” this system is designed to reward those who demonstrate their best efforts in fulfilling their roles.

Provisions for non-managerial employees

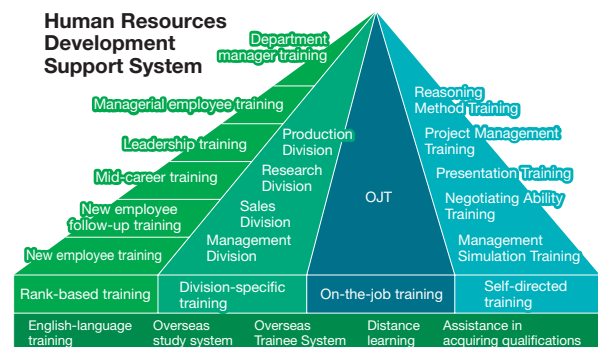
To make employees feel motivated and satisfied with their work, this system is designed to ensure fair treatment according to their roles, achievements and abilities. To ensure fair and convincing evaluation, we have set up criteria for

job classes and secure opportunities for managers to have interviews with those working under them. Feedback of the results is utilized for ability development of employees.

human resources development

Personnel objectives

- (1) Self-starters capable of taking the initiative in identifying and resolving issues
- (2) Personnel capable of flexibly adapting themselves and their organizations
- (3) Personnel capable of demonstrating experience and expertise
- (4) Personnel capable of working with a diverse international community



Developing autonomous human resources

We have been advancing development of “autonomous human resources” who have intention to grow themselves and are capable of thinking and taking action on their own initiative. Specifically, we have introduced programs unlike conventional group learning, such as online English training and e-learning, and thus established a system that enables each person to develop his/her abilities effectively and efficiently.

Developing human resources for leaders

We are implementing a variety of measures to cultivate leaders who can drive the organization. Specifically, the management round-table talk that had been initially held for general managers throughout the company began to be held continuously also for section managers at each business site. Moreover, training for employees being promoted has been improved. For the development of candidate personnel for section managers in the manufacturing departments, in particular, year-and-a-half manufacturing manager training is provided.

We will continue to plan and implement programs to develop management personnel and innovative human resources.



Leaders training

● Developing human resources who will be active Globally

Nippon Shokubai has over 14 overseas affiliated companies, in which over 50 Japanese expatriates are working. As our overseas sales revenue accounts for around 50% of our Group's total sales, it is increasingly important to develop human resources who can play active roles on a global scale.

We have a program to dispatch young employees to our overseas affiliates as trainees for short periods of time, and also use foreign trainers to provide training for employees who are likely to be seconded overseas to give them various multicultural skills, such as cross-cultural communication, presentation and negotiation skills.



Global human resources training program

Promoting work-life balance

Providing balanced assistance for work, child care and nursing care

To create a better environment that supports employees with their parenting and nursing responsibilities while employed, we are working to establish systems and raise the awareness of our employees. We have published a guidebook that summarizes our balanced support system to keep the users of the system informed, while working to improve the system so that users can easily obtain the understanding of and cooperation from their superiors and coworkers.

* Number of persons taking childcare leave of absence:
28 (FY 2020 total)

* Number of persons using reduced working hours system for childcare: 27 (FY 2020)

The Osaka Labour Bureau of the Ministry of Health, Labour and Welfare granted us an authorization for complying with Standards for General Employers under the Next Generation Nurturing Support Measures Promotion Law.



● Reducing overtime work hours and encouraging the taking of leave

At Nippon Shokubai, the Working Hours Management Committee has been established by both labor and management to check the monthly overtime work hours of each employee and endeavor to reduce them by enhancing the teleworking and flextime systems. Employees who have worked long hours are encouraged to speak with an industrial physician or receive a health check via a medical questionnaire every month.

Based on the results of the health check, the employee's

supervisor receives guidance or instructions from the industrial physician. To encourage employees to take paid leave, the company has introduced a system to allow paid leave to be taken by the hour.

We will continue to make efforts to create a working environment friendly to employees by paying attention to their work-life balance.

* Average monthly overtime hours per person:

15 hours (FY2020)

* Percentage of annual paid leave taken: 64% (FY2020)

Promoting mental and physical health management

To maintain and improve the mental and physical health of our employees, we have introduced various measures to help them to manage their health. Administered by our industrial physicians and occupational health staff, these efforts revolve around the health promotion office in each of our business offices. Specifically, we conduct general and specialized health examinations and provide tailored health advice in cooperation with the Nippon Shokubai Health Insurance Union. Together, we arrange health checks with dentists in addition to family health checks and the like. We also offer educational activities such as in-house lectures and physical strength measurement sessions on a regular basis.

We have formulated a Mental Health Plan aimed at staving off mental and physical illnesses. At the same time, we are working to improve productivity and create a bright and lively workplace by providing stress checks and rank-based training focusing on mental health education for all employees. In fiscal 2019, we held 10 sessions of line care training targeting around 550 managers throughout the company. In fiscal 2020, we provided web video training for around 400 leaders.



Mental health training

Toward a sound labor-management relationship

Nippon Shokubai and the Nippon Shokubai Labor Union, a member of the Japanese Federation of Energy and Chemistry Workers Unions, maintain a dialogue based on mutual respect as their basic stance. Respecting the three rights of labor and through a good labor-management relationship based on mutual understanding and trust, we are addressing the resolution of various issues and achievement of goals through cooperation.

Regarding collective bargaining, we have specified the scope of negotiations, procedures, the method of settlement, and other matters in collective labor agreements so that various issues can be properly solved and overcome through dialogue. Moreover, meetings of the central labor-management council and meetings of the branch labor-management council at each plant are held periodically as forums for exchanging opinions between labor and management.

The company and the union have concluded a union shop agreement under which all our regular employees join the union.

Promoting Diversity and Inclusion (D&I)

Through promoting diversity and inclusion (D&I), we will create a culture where diverse human resources can play active roles and develop the environment and systems therefor. It is one of our important management issues to lead these efforts to sustainable growth of individuals and organizations and creation of innovations.

We formulated our D&I Promotion Policy in 2020. Having identified our priority issues (fostering a D&I mindset, promoting empowerment of employees, supporting work-life balance, diversifying corporate systems), we are advancing various measures to address them.

D&I Promotion Policy

- 1** We will create a working environment and culture where employees can work with diversity and mutual respect and can grow together.
- 2** Each employee, as a professional, will make every effort to show his or her individuality and ability, which will lead to innovation.
- 3** By enriching and balancing work and life, each employee will improve his or her motivation and maximize his or her ability, thereby making great achievements.

Promoting active participation of diverse human resources

● Initiatives of fiscal 2020

For the purpose of “fostering a D&I mindset,” one of the priority issues, we conducted D&I management training targeting all officers and line managers (around 150 people). Group work and discussions were held on important themes, including management of diverse human resources, unconscious bias, and psychological safety. At the same time, a video of this training was distributed to approximately 500 managers (management positions) with the aim of raising awareness of management personnel.

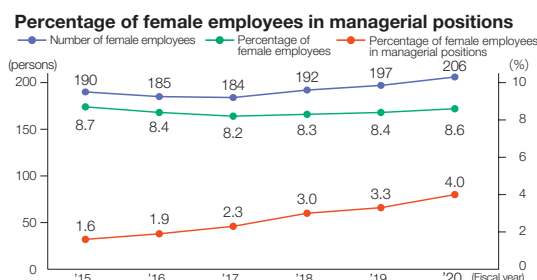
As a part of the “supporting work-life balance” initiative, we updated the contents of the guidebook on work-life balance support and notified employees of the update.



D&I management training

● Promoting female employees' active participation

Nippon Shokubai has been working actively to ensure gender neutral recruitment and institutional development. In fiscal 2019, we launched a project with female employees as members, who identified problems regarding women's participation and advancement in the workplace at the Company and proposed solutions to the problems. This project has led to the D&I promotion initiatives of today.



● Effective use of re-employment system

Aiming to help stabilize the lives of retired employees, we set the period of re-employment until the age of 65, ensuring employment in a familiar work environment. This initiative, intended to provide employees with a sense of security and improved motivation for work, has encouraged over 100 experienced senior employees to contribute to the handover of core techniques and the development of young human resources.

* Re-employment rate of retired employees: 89% (fiscal 2020)

● Promoting employment of people with disabilities

We are committed to employing people with disabilities, who are playing active roles in various jobs at each of our workplaces.

Moreover, NS Green Co., Ltd., our designated Group subsidiary established from the perspective of promoting the employment of people with disabilities, is in charge of the management of green spaces of manufacturing plants, and also grows seedlings of chrysanthemum in small pots every year. The pots are distributed to approximately 300 organizations for free, thereby supporting the urban greening project by the prefectural government.

● Employment of foreign nationals

In anticipation of further expansion of our business across the globe, we continue to hire foreign nationals in Japan as well as in our Group companies in other countries.

Initiatives under the Next-Generation Children Act and the Women's Participation and Advancement Promotion Act

Based on the Act on Advancement of Measures to Support Raising Next-Generation Children (Next-Generation Children Act) and the Act on Promotion of Women's Participation and Advancement in the Workplace (Women's Participation and Advancement Promotion Act), we set goals and an action plan for the period from April 1, 2021 to March 31, 2025.

Goal 1 Raise the percentage of women among new recruits for administration and chemistry work to 30% or higher.

[Challenge]

The percentage of female employees is low.

[Fiscal 2020 result]

8.6%

[Measures]

- Introducing the Company's female role models for active participation and explaining their work
- Developing an environment/system to allow women to continue to work and play active roles, etc.

Goal 2 Increase the percentage of female managers (management positions) to 6% or higher.

[Challenge]

The percentage of female managers (management positions) is low in comparison to the percentage of female employees.

[Fiscal 2020 result]

4.0%

[Measures]

- Developing female leaders
- Enhancing career design seminars, etc.

Goal 3 Raise the percentage of male employees taking childcare leave to 30% or higher.

[Challenge]

The percentage of male employees taking childcare leave is low.

[Fiscal 2020 result]

4.9%

[Measures]

- Fostering a D&I mindset among managers (management positions)
- Familiarizing eligible male employees and their managers with the childcare leave system, etc.

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.

51 **Corporate Governance**

54 **Message from Outside Member
of the Board**

55 **Management**

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's Mission of **TechnoAmenity** — “Providing affluence and comfort to people and society, with our unique technology” — we will increase our corporate value and achieve sustainable growth.

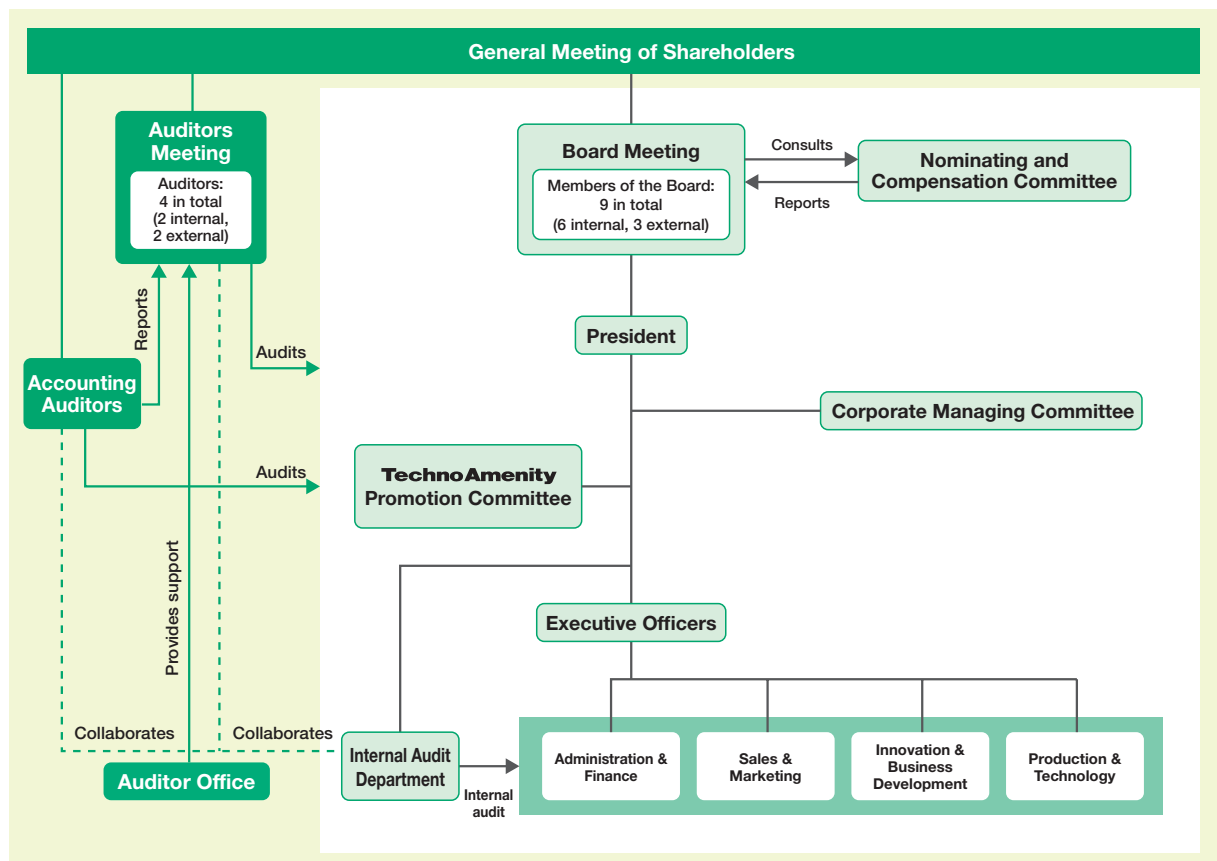
We consider viable corporate governance to be essential and have adopted initiatives toward that end. We ensure the rights and equality of our shareholders and maintain an open dialogue, collaborate with various stakeholders as appropriate, disclose information as appropriate and ensure transparency, 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 Nominating and Compensation 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)

Our corporate governance system (as of June 22, 2021)



Roles and Functions of Various Bodies and Committees

Board Meeting

Comprising nine Members of the Board, including three Outside Members of the Board, Board Meeting supervises the business operations of each Member of the Board through reports, deliberations, and resolutions regarding important matters. In general, meetings are convened monthly under the chairmanship of a Member of the Board selected from members who are not executive officers 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 appointed by the President, this committee generally convenes twice monthly (with all executive officers in attendance at one of these meetings) 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.

Nominating and Compensation 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 compensation and bonuses for Members of the Board.

Nominating and Compensation Committee members

Name	Status	Attendance rate
Yujiro Goto	President and Member of the Board	100%
Tetsuo Setoguchi	Outside Member of the Board	100%
Miyuki Sakurai	Outside Member of the Board	100%

TechnoAmenity Promotion Committee

We promote sustainability activities based on our belief that promoting sustainability means implementing the Nippon Shokubai Group Mission “**TechnoAmenity** - Providing affluence 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 thereof, 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 enhancing internal control of the Company. It also works in cooperation with Statutory Corporate Auditors and the Accounting Auditor through mutual exchange of information and opinions, thereby improving internal audit operations.

Outline of the executive remuneration system

The remuneration system for internal Members of the Board of the Company is intended to have them put the Company's mission into practice, give them an incentive to sustainably enhance corporate value, and have them share interests with shareholders according to the Company's business results and commensurate with their responsibilities. The remuneration is, as its basic policy, set at a reasonable level in light of the Company's business results, the level of the employee salary, and that of other companies.

Specific components of the remuneration for internal Members of the Board are basic remuneration, which consists of fixed remuneration and performance-linked remuneration, and bonuses, which are performance-linked remuneration.

For the performance-linked remuneration portion of the basic remuneration, ROA (return on assets before tax) is used as the index. The total amount of bonuses under performance-linked remuneration is determined at the General Meeting of Shareholders each time payment is made, taking thoroughly into account the profit for the relevant fiscal year, status of dividend payment and other circumstances.

Outside Members of the Board and Statutory Corporate Auditors receive only basic remuneration (in principle, fixed remuneration) because they oversee business operations from an independent standpoint.

Also, the Nominating and Compensation Committee, a voluntary organization consisting mainly of independent Outside Members of the Board, has been established to receive advice on remunerations and bonuses of Members of the Board, thereby ensuring transparency and fairness.

Ratio of the remuneration for internal Members of the Board

Basic remuneration	Bonuses
Fixed remuneration (about 40%)	Performance-linked remuneration (about 60%)

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

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

Category of positions	Aggregate amount of remuneration (million yen)	Aggregate amount of remuneration by type (million yen)				Number of persons to be paid
		Fixed remuneration	Performance-linked remuneration	Bonuses	Aggregate amount	
Members of the Board (Outside Members of the Board)	231 (35)	171 (35)	60 (—)	(—)	60 (—)	12 (4)
Statutory Corporate Auditors (External Statutory Corporate Auditors)	65 (18)	65 (18)	(—)	(—)	(—)	5 (3)
Total (Outside Officers)	296 (53)	236 (53)	60 (—)	(—)	60 (—)	17 (7)

*1 The number of persons and the amounts of remuneration above include four Members of the Board and one Statutory Corporate Auditor who stepped down during the fiscal year under review.

*2 Bonuses under performance-linked remuneration were not paid during the fiscal year under review, taking thoroughly into account the profit, status of dividend payment and other circumstances.

Corporate Governance

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

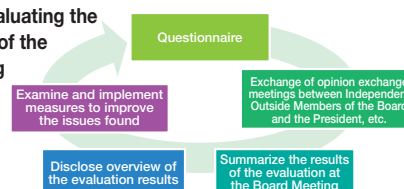
The Board Meeting, including three independent Outside Members, decides on election/dismissal of management executives and nomination of candidates for Members of the Board and Statutory Corporate Auditors, taking thoroughly into account their expertise, experience, achievements, qualities, abilities, personalities and the like. Also, the Nominating and Compensation 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.

Evaluation of the effectiveness of the Board Meeting

Based on the results of analysis and evaluation of responses to a questionnaire, which was distributed to all Members of the Board and Statutory Corporate Auditors, an opinion exchange meeting was held between all independent Outside Members of the Board and the President and Representative Member of the Board. Based on these, the evaluation of the effectiveness of the Board Meeting was summarized at a Board Meeting.

Process of evaluating the effectiveness of the Board Meeting



	Points that required improvement	Evaluation of the efforts made during the year and the points that require further improvement
FY2019	● Enhance reports to the Board Meeting on important strategies and issues of Group companies ● Report to the Board Meeting on the status of talks with shareholders and institutional investors ● Set opportunities, besides the Board Meetings, to explain strategies and progress of new businesses	The evaluation confirmed that the measures formulated in response to the points that required improvement identified in the evaluation of fiscal 2018 have been well implemented. At the same time, with a view to further increasing the effectiveness of the Board Meeting, the evaluation identified points that require improvement, such as continuous and more detailed explanations and discussions of the important strategies and issues of our Group companies and business strategies and issues in both existing and new fields, as well as explanations and discussions of the status of cooperation with our stakeholders, including not only shareholders and investors but also customers and employees.
FY2020	● Report to the Board Meeting on important medium-term plan strategies and issues for the year of Group companies ● Continuous and detailed explanations and discussions on business strategies and issues in existing and new fields ● Explanations and discussions of the status of cooperation with our stakeholders, including not only shareholders and investors but also customers and employees	The evaluation confirmed that the measures formulated in response to the points that required improvement identified in the evaluation of fiscal 2019 have been well implemented. At the same time, with a view to further increasing the effectiveness of the Board Meeting, the evaluation identified points that require improvement: explanations and discussions to aid understanding of the entire business on “issues, risks and outlook” and “business environment and strategies including review of decision making in the past” of Group companies and in existing and new fields, which have been continuously conducted; improvement in preparation of materials and documents; holding opinion-exchange meetings for outside officers; and enhancement of training programs.

Cross shareholding

Under the Nippon Shokubai Group's Mission of **TechnoAmenity** — “Providing affluence 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-shareholding 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 2020, we sold all shares of one issue and a part of the shares of two issues. As a result, the number of issues of cross-held shares as of March 31, 2021 decreased from 70 as of the end of the fiscal year before introduction of the Corporate Governance Code (March 31, 2015) to 45.

Message from Outside Members of the Board

Become a company attractive for workers 10 years from now

Shinji Hasebe Outside Member of the Board

Imagining a carbon-neutral society in 2050, will the chemical industry remain attractive to employees or job-seeking students 10 years from now? To achieve carbon neutrality of a country as a whole, carbon-negative should be achieved for some areas. The new long-term vision announces the intention to introduce bio-based raw materials and promote recycling. Carbon in solid form can be stored for a longer period of time than carbon gas. In consideration of this point, Nippon Shokubai should also consider developing products that may contribute to carbon-negative by utilizing the potential of the chemical industry, in addition to efforts to achieve the goal above, as part of its super-long-term vision. For example, it is not carbon neutrality achieved by incinerating or biodegrading biomass-derived plastic after use but carbon negative achieved by long-term storage. Like the way we have overcome pollution in the past, it is important to make all-out efforts to tackle the challenge of climate change and make the chemical industry as a whole more attractive. I hope I can contribute to some extent to this end.



Working to achieve “three transformations”

Tetsuo Setoguchi Outside Member of the Board

The long-term vision announces “three transformations” toward achieving the Goals in 2030. In preparation for change in the business environment, Nippon Shokubai has worked to achieve transformation necessary to enhance competitiveness and explore new businesses. The impact of COVID-19, lasting since 2020, and the rapid changes in the market environment associated therewith has reminded us of the importance of transformation and its speed. Transformation needs enormous energy and is sometimes associated with pain. It is difficult to change ourselves or others. But the results of the questionnaire survey conducted after dialogue sessions between the president and employees indicate that many employees are aware of the need for transformation. Management must bravely lead the three transformations, taking advantage of the technology capabilities which have been cultivated since Nippon Shokubai’s foundation and of competent human resources. To continue to increase the value of all stakeholders, including shareholders, while working to realize a sustainable society, multi-faceted and highly transparent discussions based on diverse experience and values should be held at the Board Meetings. And I will contribute to this end, paying attention to expectations and responsibilities of outside members of the Board.



Management

Members of the Board

		Major careers	Reasons for appointment	Attendance at meetings
	Yujiro Goto President and Representative Member of the Board	August 1980 Joined the Company. June 2012 Executive Officer, Plant Manager of Kawasaki Plant June 2015 Member of the Board, Managing Executive Officer April 2017 President and Representative Member of the Board (current position)	He has achievements in playing a key role in our management through his years of experience as Representative Member of the Board. We believe that he will appropriately make decisions on our management and provide supervision based on his achievements.	15/15 Board Meetings
	Jiro Iriguchi Representative Member of the Board, Senior Managing Executive Officer Production & Technology Production Division Engineering Division Indonesia Project DX Promotion Team IONEL Construction Team	April 1984 Joined the Company. April 2004 General Manager of Fine & Specialty Chemicals Production Department, Himeji Plant April 2009 General Manager of Chemicals Production Department, Himeji Plant April 2011 Deputy Plant Manager, Himeji Plant June 2013 Director, Nippon Chemicals Co., Ltd. June 2018 Member of the Board, Managing Executive Officer June 2021 Representative Member of the Board, Senior Managing Executive Officer (current position)	He has been engaging in production and technology divisions for a long time and has achievements in stably operating manufacturing sites and smoothly managing subsidiaries, etc. We believe that he will appropriately make decisions on our management and provide supervision based on his achievements.	15/15 Board Meetings
	Kazuhiro Noda Member of the Board, Managing Executive Officer Director of Corporate Planning Division	April 1986 Joined the Company. April 2005 General Manager, Superabsorbents Sales Department April 2011 General Manager, Corporate Planning Division April 2015 Deputy Director, Corporate Planning Division and General Manager, Group Management and Project Planning Department April 2017 Director, Superabsorbents Business Division June 2018 Executive Officer June 2020 Member of the Board, Managing Executive Officer (current position)	He has been mostly engaging in corporate planning and sales & marketing divisions for a long time and has achievements in planning and promoting managerial measures and strengthening the competitiveness of the superabsorbent polymer business. We believe that he will appropriately make decisions on our management and provide supervision based on his achievements.	11/11 Board Meetings
	Kuniaki Takagi Member of the Board, Managing Executive Officer Administration, HR, Finance, Accounting Director of General Affairs & HR Division IT Management Department ERP Innovation Project	April 1987 Joined Sumitomo Chemical Co., Ltd. April 2019 Joined the Company as an entrusted worker. May 2019 Director, General Affairs & HR Division (current position) 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. We believe that he will appropriately make decisions on our management and provide supervision based on his achievements.	11/11 Board Meetings
	Masahiro Watanabe Member of the Board, Managing Executive Officer Sales, Marketing, Purchasing, Logistics Business Planning & Development	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. (current position) June 2021 Member of the Board, Managing Executive Officer (current position)	He has been engaging in work in the 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. We believe that he will appropriately make decisions on our management and provide supervision based on his achievements.	Took office in June 2021.
	Yasutaka Sumida Member of the Board, Managing Executive Officer Innovation & Business Development Director of Innovation & Business Development Division R&D Management Department	April 1991 Joined the Company. April 2017 General Manager of Research Center April 2020 Director of Innovation & Business Development Division (current position) June 2020 Executive Officer June 2021 Member of the Board, Managing Executive Officer (current position)	He has been engaging in work in the research and development divisions for a long time and has achievements in strengthening research and development capabilities and promoting open innovation, etc. We believe that he will appropriately make decisions on our management and provide supervision based on his achievements.	Took office in June 2021.

		Major careers	Reasons for appointment	Attendance at meetings
 Shinji Hasebe Member of the Board External Independent		April 1993 Associate Professor, Faculty of Engineering, Kyoto University August 2003 Professor, Graduate School of Engineering, Kyoto University June 2018 Outside Member of the Board at the Company (current position) April 2019 Program-Specific Professor, the Institute for Liberal Arts and Sciences, Kyoto University (current position)	We expect that he will offer valuable opinions and proposals that would benefit our 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.	15/15 Board Meetings
 Tetsuo Setoguchi Member of the Board External Independent		April 1981 Joined Osaka Gas Co., Ltd. April 2015 Representative Director, Executive Vice President of Osaka Gas. April 2018 Director of Osaka Gas Chairman and Director, Gas and Power Co., Ltd. June 2018 Outside Member of the Board at the Company (current position) Advisor to Osaka Gas Co., Ltd. (current position) April 2020 Osaka Gas Urban Development Co., Ltd. Chairman and Director (current position)	We expect that he will offer valuable opinions and proposals that would benefit our management and provide supervision from an independent position based on his experience 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.	15/15 Board Meetings
 Miyuki Sakurai Member of the Board External Independent		April 1992 Registered as an attorney-at-law. Joined Nishimura Law and Accounting Office. May 2003 Partner, Hanamizuki Law Office (current position) March 2015 Auditor, Nissay Life Foundation (current position) April 2016 Auditor, Osaka University (current position) June 2017 External Director, Nippon Shinyaku Co., Ltd. (current position) June 2020 Outside Member of the Board of the Company (current position)	We expect that she will offer valuable opinions and proposals that would benefit our 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.	11/11 Board Meetings

Statutory Corporate Auditors

	Reasons for appointment		Reasons for appointment
 Yoshihiro Arita	We believe that he will contribute valuable opinions to Board Meeting and properly audit the legality of management execution, etc. based on his wealth of experience at corporate planning, responsible care and finance & accounting divisions, in addition to his past achievements as a Statutory Corporate Auditor.	 Teruhisa Wada	We believe that he will contribute valuable opinions to Board Meeting and properly audit the legality of management execution, etc., based on his wealth of experience at the general administration & personnel division.
 Yoritomo Wada External Independent	We believe that he will contribute valuable opinions to Board Meeting and properly audit the legality of management execution, etc., from an objective position, based on his highly professional expertise and a wealth of experience as a certified public accountant.	 Tsukasa Takahashi External Independent	We believe that he will contribute valuable opinions to Board Meeting and properly audit the legality of management execution, etc., from an objective position, based on his highly professional expertise and a wealth of experience as attorney-at-law and achievements as Outside Officers of other companies.

Managing Executive Officers

Masaya Yoshida

Takashi Kobayashi

Yukihiro Matsumoto

Katsunori Kajii

Executive Officers

Kazukiyo Arakawa

Naoki Hijikuro

Kenta Kanaida

Shinya Kataoka

Gun Saito

Yoshihisa Oka

Kazuhiro Sakuma

11-Year Consolidated Financial Data

Japanese GAAP	2010	2011	2012	2013	2014	2015	
For the fiscal year							
Net sales	288,345	320,704	269,520	302,136	374,873	323,124	
Gross profit	66,549	68,341	44,619	48,955	65,738	70,001	
Operating profit	29,813	31,100	10,034	13,752	26,133	31,234	
Ordinary profit	30,955	33,114	13,824	16,647	29,941	34,342	
Profit attributable to owners of parent	21,119	21,257	8,401	10,503	19,089	26,003	
Cash flows from operating activities	31,706	43,857	27,322	16,992	32,697	53,264	
Cash flows from investing activities	- 16,696	- 21,747	- 31,878	- 25,141	- 18,941	- 12,963	
Cash flows from financing activities	- 3,050	- 9,671	81	- 2,519	- 10,237	- 20,012	
Depreciation	15,619	16,767	15,402	16,995	18,971	17,875	
Capital investments	14,403	23,684	29,137	25,067	12,346	15,156	
R&D expenses	11,246	11,938	11,441	11,161	11,948	12,303	
As of the end of the fiscal year							
Total assets ^{*1}	329,332	356,407	352,373	398,396	419,634	407,997	
Net assets	194,266	209,070	220,248	242,193	270,128	282,485	
Interest-bearing debt	64,278	59,507	64,872	68,553	66,842	50,680	
Per share information							
Profit attributable to owners of parent per share (Yen) ^{*2}	110.30	104.71	41.38	51.74	470.28	640.69	
Net assets per share (Yen) ^{*2}	938.67	1,006.48	1,059.85	1,164.10	6,535.66	6,870.84	
Dividends (Yen) ^{*2}	22.00	22.00	16.00	16.00	120.00	150.00	
Payout ratio	19.9%	21.0%	38.7%	30.9%	25.5%	23.4%	
Management index							
Shareholders' equity ratio ^{*1}	57.9%	57.3%	61.1%	59.3%	63.2%	68.3%	
ROA (Ratio of ordinary profit to total assets) ^{*3}	9.7%	9.7%	3.9%	4.4%	7.3%	8.3%	
ROE (Ratio of profit to shareholders' equity) ^{*4}	12.1%	10.8%	4.0%	4.7%	7.6%	9.6%	
Overseas sales ratio	46.9%	45.3%	46.5%	47.3%	51.3%	49.8%	

*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).

(Unit: Millions of yen)

(Unit: Millions of yen)

2016	2017	IFRS	2017	2018	2019	2020
		For the fiscal year				
293,970	322,801	Revenue	313,939	338,869	302,150	273,163
60,471	66,137	Gross profit	67,544	66,577	53,484	48,047
21,151	26,727	Operating profit (loss)	25,610	26,170	13,178	- 15,921
24,664	32,293	Profit before income tax (loss)	29,805	32,119	15,748	- 12,926
19,361	24,280	Profit attributable to owners of parent (loss)	22,641	23,849	11,094	- 10,899
37,474	38,823	Cash flows from operating activities	44,206	35,918	37,499	35,277
- 44,515	- 27,498	Cash flows from investing activities	- 31,563	- 31,316	- 32,806	- 30,623
- 3,533	- 9,762	Cash flows from financing activities	- 10,601	- 9,982	- 7,859	- 12,750
17,957	16,997	Depreciation and amortization	22,918	25,626	28,653	29,470
37,289	25,827	Capital investments	30,355	29,919	30,440	26,726
13,283	13,266	R&D expenses	14,251	13,996	14,774	14,603
		As of the end of the fiscal year				
433,610	467,386	Total assets	480,316	481,668	475,641	471,617
292,275	310,762	Total equity	316,188	329,227	326,108	323,725
58,040	58,064	Interest-bearing debt	58,474	56,633	63,375	61,572
		Per share information				
478.36	608.84	Basic earnings per share (loss) (Yen)	567.71	598.05	278.21	- 273.33
7,238.33	7,705.05	Equity attributable to owners of parent per share (Yen)	7,750.24	8,099.97	8,017.17	7,959.07
150.00	160.00	Dividends (Yen)	160.00	170.00	180.00	90.00
31.4%	26.3%	Payout ratio ⁵	28.2%	28.4%	64.7%	—
		Management index				
66.6%	65.7%	Rate of equity attributable to owners of parent	64.3%	67.1%	67.2%	67.3%
5.9%	7.2%	ROA (Ratio of profit before income tax to total assets) ⁶	6.4%	6.7%	3.3%	- 2.7%
6.8%	8.1%	ROE (Ratio of profit to equity attributable to owners of parent) ⁷	7.6%	7.5%	3.5%	- 3.4%
49.0%	48.0%	Overseas sales ratio	52.8%	53.8%	53.9%	55.1%

Overview of Business Results, etc.

Overview of Business Results for FY 2020 (April 1, 2020 to March 31, 2021)

The world economy in the current fiscal year saw economic activities recover in steps from the impact of COVID-19, but degrees of economic recovery were mixed by country and industry. While there was a pickup in economy in the United States, economic activities in Europe were suppressed and remained sluggish due to another wave of infections. In China, the economy has been recovering gradually, and although harsh conditions continued in Asian emerging countries, there were some signs of bottoming out and moves toward recovery.

As for the Japanese economy, production and exports which decreased due to COVID-19 began to rise, and there was a move toward improvement in corporate earnings, despite lingering weakness in the non-manufacturing sector.

The chemicals industry has been picking up as seen in a sign of recovery in demand, although the business environment continued to be harsh.

Overview

Under these conditions, the Group's revenue in the current fiscal year decreased 9.6% year-on-year to 273,163 million yen, down 28,987 million yen. Contributing factors included a decline in sales prices on account of a fall in raw material costs and weak market conditions for products outside of Japan due to COVID-19, along with slowdown in the global economy and a decline in sales volume.

With regard to profits, operating loss of 15,921 million yen was recorded, which was a year-on-year decrease of 29,098 million yen. This was due to lower production and sales volume, as well as narrowed spreads owing to a decline in product prices in excess of the decrease in raw materials costs, 11,903 million yen posted in impairment losses of non-current assets recorded by the Company's consolidated subsidiary NIPPON SHOKUBAI EUROPE N.V. (hereinafter, "NSE"), 9,282 million yen posted in impairment losses of goodwill and technology-related assets, etc. associated with SIRRUS Inc., and 1,713 million yen in business integration expenses associated with the cancellation of the business integration between the Company and Sanyo Chemical Industries, Ltd.

Loss before tax was 12,926 million yen, a year-on-year decrease of 28,674 million yen, due to decreases in operating profit and share of profit of investments accounted for using equity method, despite improved foreign exchange loss.

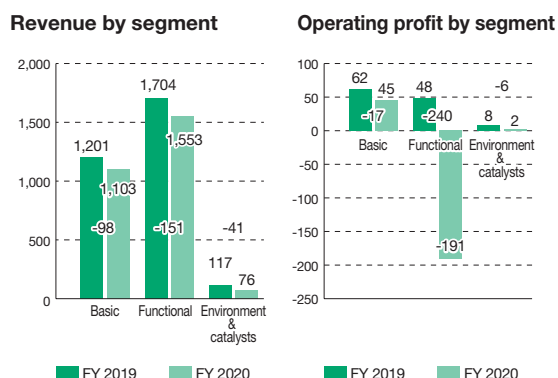
As a result, loss attributable to owners of parent of 10,899 million yen was posted, down 21,994 million yen year-on-year.

Furthermore, the profit before income tax to revenue ratio was lower than that of FY 2019 due to a decrease in sales volume, narrowed spreads, and impairment losses recorded by consolidated subsidiaries.

In addition, the asset turnover ratio declined from FY 2019 due to a decrease in sales revenue associated with a decrease in sales volume.

Consequently, ROA (ratio of profit before income tax to total assets) fell 6.0 points from 3.3% to -2.7%.

Overview of Business Results by Segment



[Basic Chemicals]

Sales of acrylic acids and acrylates decreased due to declined sales prices on account of lower raw material costs accompanying a drop in domestic naphtha prices.

Sales of ethylene oxide decreased due to a decline in sales prices on account of lower raw material costs accompanying a drop in domestic naphtha prices, despite increased sales volume.

Sales of ethylene glycol decreased due to a decline in sales prices accompanying lower market conditions for products outside of Japan and decreased sales volume.

Sales of secondary alcohol ethoxylates decreased due to a decline in sales prices on account of lower raw material costs, despite increased sales volume.

As a result of the above, revenue in the basic chemicals segment decreased 8.2% year-on-year to 110,261 million yen.

Operating profit decreased 27.4% year-on-year, to 4,535 million yen. This was due to factors such as narrowed spreads, and an increase in processing costs such as inventory valuation difference.

[Functional Chemicals]

Sales of superabsorbent polymers decreased due to lower sales prices as a result of falling raw material costs and market conditions for products outside of Japan.

Sales of special acrylates decreased due to lower sales prices as a result of falling market conditions for products outside of Japan and decreased sales volume

on account of sluggish demand associated with a slowdown in the world economy caused by COVID-19.

Sales of polymers for concrete admixture, ethyleneimine derivatives, water-soluble polymers for raw materials of detergents and resins for paints decreased due to decreased sales volume as a result of lower demand.

Sales of maleic anhydride decreased due to lower sales prices as a result of falling raw materials cost, despite increased sales volume.

Sales of electronic information material and adhesive products decreased due to lower sales volume, despite higher sales prices.

Sales of resin modifiers increased due to higher sales volume, despite lower sales prices.

Sales of iodine compounds increased due to higher sales prices and sales volume.

As a result, revenue in the functional chemicals segment decreased 8.9% year-on-year to 155,272 million yen.

Operating loss of 19,119 million yen was posted, a year-on-year decrease of 23,957 million yen. This was due to factors such as lower production and sales volume, narrowed spreads and impairment losses recorded associated with NSE and SIRRUS Inc.

[Environment & Catalysts]

Sales of process catalysts, De-NOx catalysts and waste gas treatment catalysts decreased due to lower sales volume.

Sales of fuel cell materials decreased due to lower sales prices.

Sales of materials for lithium-ion batteries increased due mainly to higher sales volume.

As a result of the above, revenue in the environment & catalysts segment dropped 34.8% year-on-year to 7,629 million yen.

Operating profit in the segment decreased 75.9% year-on-year to 203 million yen, on account of decreased production and sales volume.

Overview of Financial Position for FY2020

Total assets at the end of the current fiscal year decreased by 4,024 million yen from the end of the previous fiscal year to 471,617 million yen. Current assets decreased by 2,953 million yen compared to the end of the previous fiscal year. This was mainly due to decreases in cash and cash equivalents and inventories, despite an increase in trade receivables in line with current recovery in demand.

Non-current assets were 1,071 million yen lower than at the end of the previous fiscal year. This was due to decreases in property, plant and equipment, goodwill, and intangible assets associated with the recording of impairment losses, despite an increase in other financial assets in line with an increase in the market value of

stocks held.

Total liabilities decreased by 1,641 million yen compared to the end of the previous fiscal year to 147,891 million yen.

This was mainly due to repayments of borrowings.

Total equity decreased by 2,383 million yen compared to the end of the previous fiscal year to 323,725 million yen. This was due to a decrease in retained earnings due to the posting of a loss, despite an increase in other components of equity.

The ratio of profit to equity attributable to owners of parent rose 0.1 percentage points, from 67.2% at the end of the previous fiscal year to 67.3%. Equity attributable to owners of parent per share decreased by 58.10 yen compared to the end of the previous fiscal year to 7,959.07 yen.

Overview of Cash Flows for FY 2020

Cash and cash equivalents at the end of the current fiscal year amounted to 36,341 million yen, a decrease of 7,529 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 35,277 million yen, a decrease of 2,223 million yen from a cash inflow of 37,499 million yen in the previous fiscal year. Despite a decrease in income taxes paid and the recording of impairment losses, profit before tax deteriorated and inflows increased from changes in inventories and trade payables, while trade receivables, which decreased in the previous fiscal year due to progress in settlement, increased during the current fiscal year in line with current recovery in demand.

(Cash flow from investing activities)

Net cash used in investing activities in the current fiscal year totaled 30,623 million yen, a decrease of 2,182 million yen from a cash outflow of 32,806 million yen in the previous fiscal year, mainly due to a decrease 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 12,750 million yen, an increase of 4,891 million yen from a cash outflow of 7,859 million yen in the previous fiscal year, mainly due to progress in repayments of short-term borrowings, despite a decrease in repayments of long-term borrowings for capital investment.

Consolidated Financial Statements

Consolidated Statement of Financial Position

	(Unit: Millions of yen)	
	March 31, 2020	March 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	¥ 43,869	¥ 36,341
Trade receivables	74,570	82,053
Inventories	60,762	57,612
Other financial assets	9,894	9,661
Other current assets	5,663	6,140
Total current assets	194,759	191,806
Non-current assets:		
Property, plant and equipment	200,252	193,197
Goodwill	4,303	—
Intangible assets	10,239	5,989
Investments in associates and joint ventures accounted for using equity method	19,823	20,108
Other financial assets	33,748	44,285
Net defined benefit assets	7,540	11,571
Deferred tax assets	3,179	3,093
Other non-current assets	1,796	1,568
Total non-current assets	280,881	279,811
Total assets	¥ 475,641	¥ 471,617

	(Unit: Millions of yen)	
	March 31, 2020	March 31, 2021
Liabilities and equity		
Liabilities		
Current liabilities:		
Trade payables	¥ 44,741	¥ 45,912
Bonds and borrowings	17,177	23,981
Other financial liabilities	8,289	8,671
Income taxes payable	2,370	1,422
Provisions	4,879	4,734
Other current liabilities	4,971	6,030
Total current liabilities	82,427	90,750
Non-current liabilities:		
Bonds and borrowings	38,854	28,887
Other financial liabilities	7,110	8,023
Net defined benefit liability	14,509	14,162
Provisions	1,929	2,157
Deferred tax liabilities	4,704	3,914
Total non-current liabilities	67,105	57,142
Total liabilities	149,532	147,891
Equity:		
Share capital	25,038	25,038
Capital surplus	22,472	22,472
Treasury shares	△ 6,281	△ 6,286
Retained earnings	280,555	267,729
Other components of equity	△ 2,086	8,420
Total equity attributable to owners of parent	319,699	317,373
Non-controlling interests	6,410	6,352
Total equity	326,108	323,725
Total liabilities and equity	¥ 475,641	¥ 471,617

Consolidated Statement of Income and Consolidated Statement of Comprehensive Income

Consolidated Statement of Income

(Unit: Millions of yen)

	Years ended March 31,	
	2020	2021
Revenue	¥ 302,150	¥ 273,163
Cost of sales	248,666	225,116
Gross profit	53,484	48,047
Selling, general and administrative expenses	41,903	41,486
Other operating income	3,080	2,297
Other operating expenses	1,483	24,778
Operating profit (loss)	13,178	-15,921
Finance income	1,741	1,922
Finance expenses	1,811	369
Share of profit of investments accounted for using equity method	2,640	1,441
Profit before income tax (loss)	15,748	-12,926
Income tax expense	4,157	-2,635
Profit (loss)	¥ 11,590	¥ -10,291
Profit (loss) attributable to:		
Owners of parent	11,094	-10,899
Non-controlling interests	496	608
Profit (loss)	¥ 11,590	¥ -10,291
Earnings per share (loss):		
Basic earnings per share (loss) (Yen)	278.21	-273.33
Diluted earnings per share (Yen)	—	—

Consolidated Statement of Comprehensive Income

(Unit: Millions of yen)

	Years ended March 31,	
	2020	2021
Profit (loss)	¥ 11,590	¥ -10,291
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	-3,647	7,827
Remeasurements of defined benefit plans	-523	3,186
Share of other comprehensive income of associates and joint ventures accounted for using equity method	-7	20
Subtotal of items that will not be reclassified to profit or loss	-4,178	11,033
Items that may be reclassified to profit or loss:		
Exchange differences on translation of foreign operations	-2,476	2,954
Share of other comprehensive income of associates and joint ventures accounted for using equity method	-610	41
Subtotal of items that may be reclassified to profit or loss	-3,086	2,995
Total other comprehensive income	-7,264	14,028
Comprehensive income	¥ 4,327	¥ 3,737
Comprehensive income attributable to		
Owners of parent	3,875	3,064
Non-controlling interests	452	674
Comprehensive income	¥ 4,327	¥ 3,737

Consolidated Financial Statements

Consolidated Statement of Changes in Equity

FY2019(April 1, 2019 to March 31, 2020)

(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, 2019	¥ 25,038	¥ 22,472	¥ -6,274	¥ 276,934	¥ 3,942	¥ —
Profit	—	—	—	11,094	—	—
Other comprehensive income	—	—	—	—	-3,642	-469
Comprehensive (loss) income:	—	—	—	11,094	-3,642	-469
Purchase of treasury shares	—	—	-6	—	—	—
Disposal of treasury shares	—	—	—	—	—	—
Cash dividends	—	—	—	-7,178	—	—
Transfer from other components of equity to retained earnings	—	—	—	-296	-173	469
Total transactions with owners	—	—	-6	-7,474	-173	469
Balance as of March 31, 2020	¥ 25,038	¥ 22,472	¥ -6,281	¥ 280,555	¥ 126	¥ —

(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, 2019	¥ 896	¥ 4,838	¥ 323,008	¥ 6,219	¥ 329,227
Profit	—	—	11,094	496	11,590
Other comprehensive income	-3,108	-7,219	-7,219	-44	-7,264
Comprehensive (loss) income:	-3,108	-7,219	3,875	452	4,327
Purchase of treasury shares	—	—	-6	—	-6
Disposal of treasury shares	—	—	—	—	—
Cash dividends	—	—	-7,178	-261	-7,439
Transfer from other components of equity to retained earnings	—	296	—	—	—
Total transactions with owners	—	296	-7,184	-261	-7,445
Balance as of March 31, 2020	¥ -2,212	¥ -2,086	¥ 319,699	¥ 6,410	¥ 326,108

FY2020(April 1, 2020 to March 31, 2021)

(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, 2020	¥ 25,038	¥ 22,472	¥ -6,281	¥ 280,555	¥ 126	¥ —
Loss	—	—	—	-10,899	—	—
Other comprehensive income	—	—	—	—	7,823	3,199
Comprehensive (loss) income:	—	—	—	-10,899	7,823	3,199
Purchase of treasury shares	—	—	-6	—	—	—
Disposal of treasury shares	—	-0	0	—	—	—
Cash dividends	—	—	—	-5,383	—	—
Transfer from other components of equity to retained earnings	—	—	—	3,457	-258	-3,199
Total transactions with owners	—	-0	-6	-1,926	-258	-3,199
Balance as of March 31, 2021	¥ 25,038	¥ 22,472	¥ -6,286	¥ 267,729	¥ 7,691	¥ —

(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, 2020	¥ -2,212	¥ -2,086	¥ 319,699	¥ 6,410	¥ 326,108
Loss	—	—	-10,899	608	-10,291
Other comprehensive income	2,942	13,963	13,963	65	14,028
Comprehensive (loss) income:	2,942	13,963	3,064	674	3,737
Purchase of treasury shares	—	—	-6	—	-6
Disposal of treasury shares	—	—	0	—	0
Cash dividends	—	—	-5,383	-731	-6,115
Transfer from other components of equity to retained earnings	—	-3,457	—	—	—
Total transactions with owners	—	-3,457	-5,389	-731	-6,121
Balance as of March 31, 2021	¥ 730	¥ 8,420	¥ 317,373	¥ 6,352	¥ 323,725

Consolidated Statement of Cash Flows

(Unit: Millions of yen)

	Years ended March 31,	
	2020	2021
Cash flows from operating activities:		
Profit before income tax	¥ 15,748	¥ -12,926
Depreciation and amortization	28,653	29,470
Impairment loss	—	21,185
Decrease in net defined benefit asset	91	71
Increase in net defined benefit liability	180	145
Interest and dividend income	-1,736	-1,385
Interest expenses	573	340
Share of profits of associates and joint ventures accounted for using equity method	-2,640	-1,441
Decrease (increase) in trade receivables	6,056	-6,415
Increase in inventories	-2,063	4,092
Increase in trade payables	-6,741	360
Other	224	3,503
Subtotal	38,343	36,999
Interest and dividends received	5,558	2,656
Interest paid	-432	-424
Income taxes paid	-5,970	-3,954
Net cash flows provided by operating activities	37,499	35,277
Cash flows from investing activities:		
Purchase of property, plant and equipment	-32,319	-29,658
Proceeds from sale of property, plant and equipment	2,517	9
Purchase of intangible assets	-1,710	-1,728
Purchase of investments	-158	-525
Proceeds from sale and redemption of investments	677	496
Acquisition of shares of subsidiaries and affiliates	-850	-2
Other	-962	785
Net cash flows used in investing activities	-32,806	-30,623
Cash flows from financing activities:		
Net decrease in short-term borrowings	3,005	-6,834
Proceeds from long-term borrowings	10,934	8,191
Repayments of long-term borrowings	-12,602	-6,305
Payments of lease liabilities	-1,751	-1,682
Purchase of treasury shares	-6	-6
Dividends paid	-7,178	-5,383
Dividends paid to non-controlling interests	-261	-731
Other	—	0
Net cash flows used in financing activities	-7,859	-12,750
Effect of exchange rate changes on cash and cash equivalents	-399	569
Net increase (decrease) in cash and cash equivalents	-3,564	-7,529
Cash and cash equivalents at the beginning of the year	47,434	43,869
Cash and cash equivalents at the end of the year	¥ 43,869	¥ 36,341

Outline

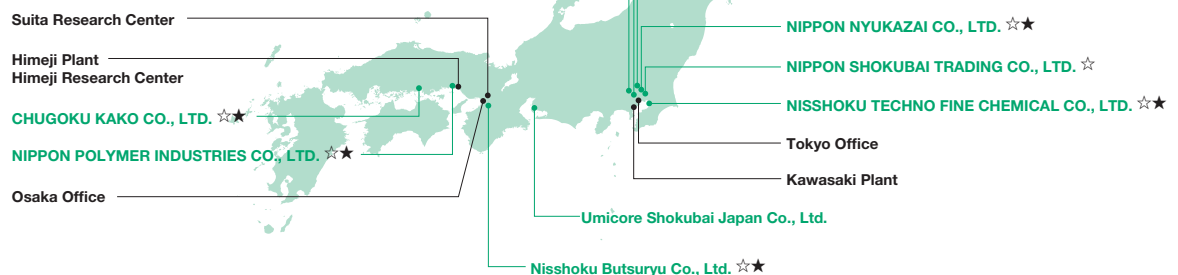
Established	August 21, 1941	Osaka Office	Kogin Bldg., 4-1-1 Koraihashi, Chuo-ku, Osaka 541-0043, Japan Tel: +81-6-6223-9111 Fax: +81-6-6201-3716
Share capital	¥25,000 million	Tokyo Office	Hibiya Dai Bldg., 1-2-2 Uchisaiwai-cho, Chiyoda-ku, Tokyo 100-0011, Japan Tel: +81-3-3506-7475 Fax: +81-3-3506-7598
Revenue (FY2020)	¥273,200 million (consolidated) ¥181,100 million (non-consolidated)	Main Plants and Research Centers	Himeji Plant, Kawasaki Plant, Suita Research Center, Himeji Research Center
Number of employees (as of March 31, 2021)	4,555 (consolidated) 2,391 (non-consolidated)		

Business Locations

Nippon Shokubai has established a network encompassing the fields of chemicals, processing, and transportation that can respond accurately to growing customer needs for prompt supply. Our Group was formed to ensure improved global production and a more effective supply chain (as of April 1, 2021).

Domestic Network

- Nippon Shokubai
- Main affiliate



Global Network

- Main affiliate



* For both domestic and overseas networks: ☆ Consolidated subsidiary ★ Included in the coverage of the report on responsible care activities

Domestic Production Sites

Himeji Plant

The Himeji Plant produces acrylic acid and superabsorbent polymers (AQUALIC™ CA), the main products of the Company, as well as electronic information materials and products related to new energy and catalysts. The Plant has a research facility, which plays an important role in research on themes that require collaboration with the production segment.

Major products

Acrylic acid
Superabsorbent polymers (AQUALIC™ CA)
Acrylates
Specialty acrylates
Oxazoline functional polymers (EPOCROS™)
UV/EB curable materials (hybrid monomers: VEEA™)
Catalysts for environmental purification



Kawasaki Plant

In 1959, our Kawasaki Plant commercialized ethylene oxide for the first time in Japan. Today, one of the largest ethylene oxide manufacturing plants in Japan operates at the Plant, producing ethylene oxide and its derivative products.

Major products

Ethylene oxide
Ethylene glycols
Ethanolamines
Secondary alcohol ethoxylates (SOFTANOL™)
Polymers for concrete admixtures (AQUALOC™)



Major Overseas Production Sites



Nippon Shokubai Europe N.V.



Singapore ACRYLIC PTE. LTD
Nippon Shokubai (Asia) PTE. Ltd



PT. Nippon Shokubai Indonesia



Nippon Shokubai America Industries, Inc.



Nisshoku Chemical Industry Co., Ltd.

TechnoAmenity

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

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



Our company logo
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 |

