Nittobo

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NITTOBO GROUP INTEGRATED REPORT 2021







## **Nittobo**

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## **Nittobo Group's Philosophy System**

## Corporate Philosophy

Nittobo Group will, as a corporate group, enhance its significance by striving to create healthy and comfortable lifestyles, and thereby continue to contribute to the realization of prosperous communities.

## Nittobo Declaration

Nittobo Group aims to become the "Best Partner" of your community. (Nittobo BP Declaration)

We will relentlessly strive to identify our customers' needs and will find great satisfaction in steadfastly earning their confidence and trust. In addition, we will attach importance to sharing this satisfaction with all of our stakeholders (communities) through our products and services, including shareholders, investors, public administrations and regional communities.

We are committed to becoming a corporate group in which the potential of our respective, independent employees is valued and thereby inspires our employees to freely and willingly share their own ideas, ultimately achieving greater results through teamwork.

Our corporate group will provide its employees with an opportunity for progress and self-realization based on the belief that their progress leads to everyone's success. We will encourage our employees to be good citizens, think deeply, observe widely, act courageously and to approach their jobs with resolve and determination.



 $\langle$  Deeply, Widely, Strongly and Hospitably angle

Proud that customers trust Nittobo

## Nittobo Group's Vision for 2030

## Big VISION 2030

As a corporate group that continues to create a global No. 1 niche business, we aspire to contribute to "Environment/Energy," "Digital Society," and "Health/Security/Safety" for realizing a sustainable society

Provide products and services that contribute to environment/energy

Provide products and services that contribute to digital society

Provide products and services that contribute to health/security/safety

We aspire to be a company that gains the trust of all stakeholders in the pursuit of client satisfaction.

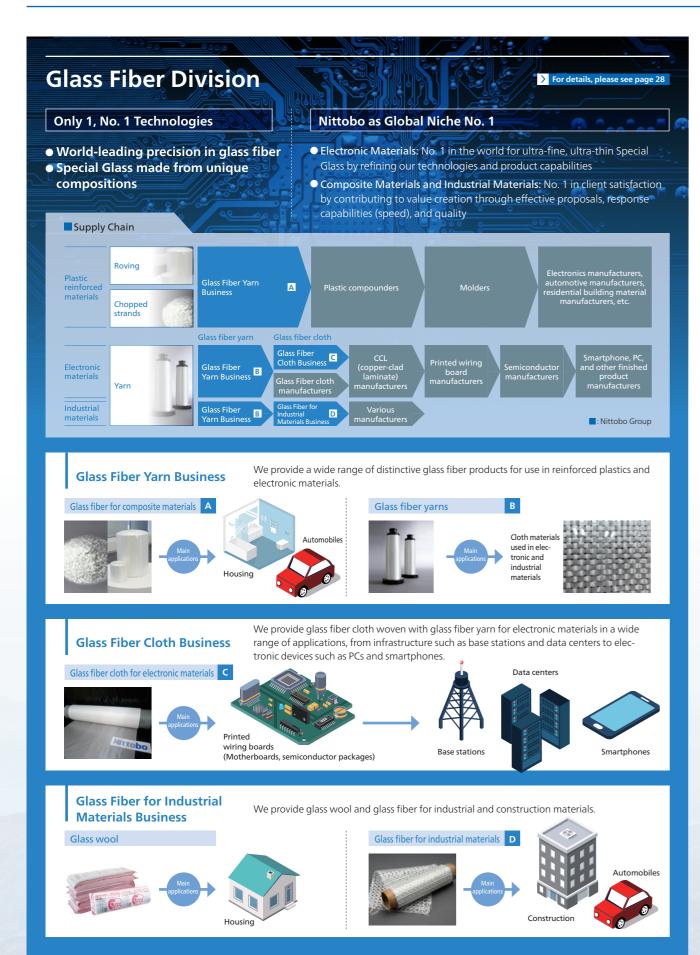
#### CONTENTS Feature: Big VISION 2030 and the New Mid-Term Nittobo's Value Strategies for Business Plan (FY2021-2023)...... Creation Value Creation Value Creation Nittobo Group's Materiality... Mid-Term Business Plan Initiatives This report covers business activities in FY2020 (from April 1, 2020 through March 31, 2021). This may be abbreviated to "FY20" when figures are presented. Harmonious Coexistence with Communities.. Life Science Division ....... This report covers the business activities of Nitto Boseki Co., Ltd. and its consolidated subsidiaries and affiliates in Japan and overseas. Messages from Nittobo's External Directors "Nittobo Group" and "the Group" refer to Nitto Boseki Co., Ltd. and its consolidated subsid Boseki Co., Ltd. individually. Glass Fiber for Industrial Materials Business....... Directors and Officers ..... **Date of Publication** Consolidated Financial Statements ...... **Data Section** The forecasts presented in this report are based on information available to the Company resent promises or guarantees that the Company will attain its forecasts or realize the business measures expressed herein.

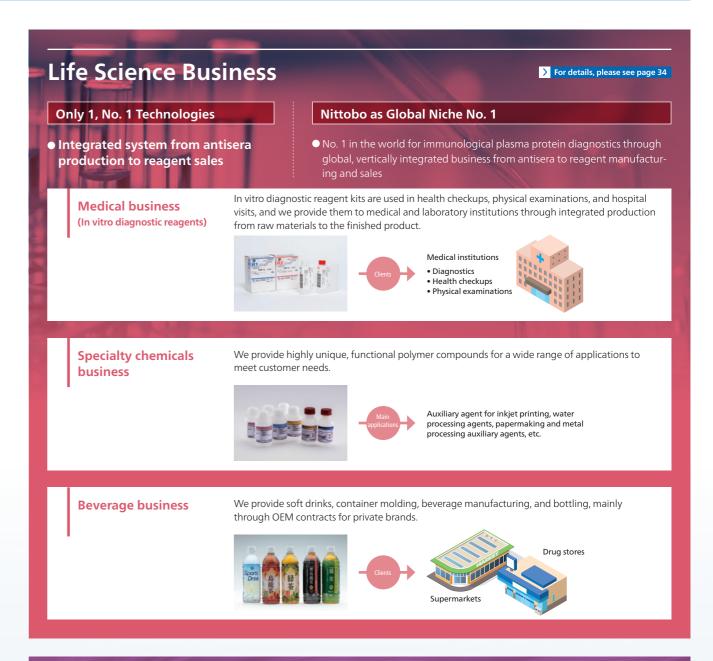
## **History of Value Creation**

The Nittobo Group was founded in 1923 in Fukushima Prefecture as a textiles manufacturer. Over the decades, we were the first Japanese company to industrially produce glass fiber (1938), became the first in Japan to manufacture glass wool (1949), and made inroads into medical business (1978). In each era, we have embraced change as opportunity and continually developed the Company by relishing the challenge to create new technologies and priding ourselves on our pioneer spirit.

Historical Background and Social Issues and Needs

round 1930 evelopment of modern dustry	1930s Development of heavy industry Japan becomes world's largest staple fiber producer	After 1945 Postwar rebuilding demand	1960s The first apartment boom, wave of motorization	Mid-1970s Rising health consciousness	1980s Rising demand for healthcare Widening choice of fashion materials	Increase in usability, functionality, and miniaturization of integrated circuits	functionality, and Internet, mobile phones, miniaturization of and PCs		artphones and broadband	4G to 5G Shift from treatment to prevention
ttobo's Business Tran	nsitions	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\vee$	$\checkmark$	$\checkmark$	$\vee$	$\checkmark$
arted with the silk yarn extile Business	Japan's first industrialization of glass fiber and rock wool, full-scale production of staple fiber	Building the foundation for our current core products and businesses	Expanded business by building more glass fiber furnaces	Started pharmaceutical sales	Entered the in vitro diagnostic reagents field Withdrawal from staple fiber business	Making glass doth thinner and	d more functional  Withdrew from cotton spinning business at Tomari Factory Shifted focus to Beverage business	Business selection and concen construction materials busine		Expansion of in vitro diagnostics reagents development
		Life Science Busines	ss ··· Contributing to prevent	ve medicine becomes the Grou	p's second business pillar					
	vitro diagnos	1952 Opened Chemical Fiber Laboratory (the roots of the medical business), which later evolved into the Biochemical Laboratory  Iopment of biochemical in tit reagent kits based on the chemistry will be the mistry of the next generation		1978 Launched synthetic substrate for γ-GTP	1983 Launched specialty chemicals PAA™ 1986 Acquired International Immunology Corporation, the predecessor of Nittobo America Inc. Started immunological in vitro diagnostic reagent business 1987 Established NITTOBO MEDICAL CO., LTD. and its own brand for in vitro diagnostic reagents Launched immunological in vitro diagnostic reagents		1997 Established Nitto Beverage Co., Ltd.			<ul> <li>2012 Launched Osteolinks TRAP-5b, an in vitro diagnostic reagent kit with genetically modified silkworm technologie</li> <li>2018 Launched IgG4 measuring reagent kit for use on an automated analyzer</li> <li>2019 Acquired Kamiya Biomedical, LLC to gain sales netw and know-how for regulatory clearance in the U.S.</li> <li>2019 Acquired Capricorn Products, LLC to strengthen procurement of raw materials for in vitro diagnostic reagent the U.S.</li> </ul>
	Glass Fiber Business	• Providing high-performal glass fiber industry	nce glass that matches the time	s, strengthening our leading po	sition in the					
into fibers," materials int	1938 Succeeded in industrial production of glass fiber and started manufacturing rock wool—both firsts in Japan  Nittobo is converting various to fibers and has pioneered ological firsts in Japan	1949 Start glass wool production —first in Japan	1964 Glass fiber adopted for use in Tokaido Shinkansen nose cone 1967 Fukushima glass fiber yarn factory newly established Direct melt furnace No.1 installed to meet growing glass fiber demand 1969 Fukushima No.2 factory newly established (Plant specializes in production of glass cloth for printed wiring boards) Launched glass cloth for printed wiring boards			1984 Launched T-glass (low thermal expansion) 1985 Launched fine count yarn 1988 Yarn manufacturer Nittobo Norplex Oak Co., Ltd. established Predecessor of NITTOBO ASIA Glass Fiber Co., Ltd. (Taiwan)	1998 Launched NE-glass (low-dielectric)		2006 Launched Flat Fiber	2019 Cloth manufacturer Baotek Industrial Materials Ltd. (Taiwan) converted into a consolidated subsidiary
tile Business	Contributing to the creation	on of comfortable lifestyle	es							
8 Koriyama Kenshi eki Co., Ltd. established in iyama 8 Fukushima Seiren hi Co., Ltd. established in ushima W 13 The above two ipanies merged to form o Boseki Co., Ltd.	1933 Staple fiber operations started at Fukushima Factory		1960 Launched Nittobo Dishcloth™ 1965 Launched shirt interlining brand "DANKEEP™" Started production of dual- structure stretchable yarn "C-S-Y™" 1969 Launched ladies' apparel interlining brand "Dan Reine™"		1976 Introduced single dot interlining machines 1988 Introduced double dot interlining machines			2004 Launched SDDC* interlining that can accommodate difficult-to-adhere materials		2015 Nittobo Dishcloth™ won Good Design Long Life Design Award 2018 Launched "Innovative Fabric™" applying interlining processing technology
: Life science, others	erating profit ratio (conso ; erials and glass fiber (including con					* Non-consolidated net sales for Nittobo until FY1989		Operating profit ra	atio	Net sales of 78.7 billion Operating pro ratio of 7.6% in FY2020
25 1930	1940	1950 • Conclusion of Second World \	1960 War	1970 Tokyo Olympics and the new Three Sacred Treasures (a color T an air conditioner, and a car)	1980  • Mobile communication v, services using first-generation (1G) technology	1985 1990 • Plaza Accord		2000 aunches Windows 95	2005	2010 2015 inancial Crisis • Great East Japan Earthquake COVID-19 pandemic







(5G/6G)

Evolution of

Societal Structure

SDGs and ESG nanagement wit corporate social responsibility

Increased deman for Special Glass



.... 23 companies Of those, overseas:

Taiwan, Macau, United

Realizing continuous,

sustainable growth for

the Company

States

The Nittobo Group will, as a corporate group, 《Corporate Philosophy》 comfortable lifestyles, and thereby continue **Material Issues** Mid-Term Business Plan Supplying products and services that help resolve energy and environmental issues Adapting to climate change and a **Only 1, No. 1 Powerful** resource-recycling **Technologies** society **Value Chain Value Sources Delivering products and** services designed to **Ability to adapt** to social advance the digital transformation changes and customer of society needs strategies Implement growth Strengthen management **Providing products and** environmental issues services that contribute Strengthen efforts to address to health, security, and safety can make a difference Foster human resources who Continuously reform corporate

enhance its significance by striving to create healthy and to contribute to the realization of prosperous communities.

OUTPUT

Lightweight, energy-efficient automobiles and aircraft

Energy-efficient housing, recycling

• Wind power

Waste water treatment

• High-speed large-volume data

Network infrastructure connecting

• Smaller, thinner electronic devices

Ultrafine glass yarns

• Infrastructure repair and reinforcem

• Sustainable auxiliary materials

Interlinings Inner materials

• Supporting the shift from treatment to prevention

Safe and reliable beverages

Fashion and functionality

Coexistence with society

governance

• Initiatives for safety

• Utilization of diverse hun

Realizing healthy, safe and secure societies

OUTCOME

Supplying

products that

reduce

environmental

burden

Creating livable,

convenient and

safe advanced

digital societies

**Contributing to** the realization of a sustainable society

As a corporate group that continues to create a global No. 1 niche busin we aspire to contribute to "Environment/Energy," "Digital Society," and "Health/Security/Safety" for realizing a sustainable society.

**SUSTAINABLE DEVELOPMENT G**CALS

Big

2030

business,

## **Nittobo Group's Materiality**

In order for the Nittobo Group to enhance its social value and continue contributing to the realization of prosperous communities, we have identified materiality as important management tasks to address to help solve social issues through the lens of ESG and the SDGs.

We have defined seven material issues from the perspective of strategic CSR, which leverages the strengths of the Nittobo Group to contribute through business activities, and from the perspective of basic CSR, which focuses on ESG to build a foundation that enables sustainable growth.

#### **Materiality Identification Process**

The process of identifying materiality goes back to the discussions we had prior to the formulation of the new Mid-Term Business Plan, when we started to discuss the purpose of the Nittobo Group's existence and the value we could offer. Each business division analyzed the current environment and formulated a vision for the future, and the business divisions and the President held multiple intensive discussions based on those analyses. The executive management proposals were developed in this way, subsequently discussed in depth by the Board of Directors from an independent standpoint

with the External Directors' input, and then fed back to the business divisions. Through this cycle, we defined our materiality as building a foundation that will enable us to contribute in the three areas of "Environment/Energy," "Digital Society," "Health/Security/Safety" and achieve sustainable growth. We have determined risks and opportunities, clarified the direction of our business portfolio by leveraging the strengths of the Nittobo Group, and developed specific initiatives to realize our vision.

Social Issues	Nittobo Group's Materiality	Risks	Opportunities	Key Measures	Relevant SDGs
Intensification of Global Warming and Environmental Issues	Provide products and services that contribute to environment/energy	<ul> <li>Increase in environmental costs</li> <li>Restrictions on business due to</li> </ul>	<ul> <li>Increasing demand for sustainable products</li> <li>Expanding demand for composite materials to meet the needs of lightweight automobiles</li> </ul>	Develop new environmental-friendly products	7 ::::::::::::::::::::::::::::::::::::
<ul> <li>Formation of a recycling-oriented society</li> <li>Acceleration of laws and regulations</li> </ul>	Adapting to climate change and a resource-recycling society	environmental regulations  • Elimination of non-environmental- friendly products and companies	and aircraft     Increased demand for insulation materials due to stricter energy conservation regulations	<ul> <li>Reduce CO<sub>2</sub> emissions</li> <li>Implement recycling and reusing</li> </ul>	6 Selections 7 Selections and Particular Conference on the Particular Conf
<ul> <li>Arrival of a Super Smart Society</li> <li>Higher speed telecommunication (5G/6G)</li> <li>Evolution of AI technology, arrival of IoT era</li> </ul>	Provide products and services that contribute to digital society	<ul> <li>Decline in technological superiority</li> <li>Replacement by other materials</li> <li>Speed of technological development in the electronic materials industry</li> </ul>	<ul> <li>Increasing demand for devices that require high-speed, high-capacity processing</li> <li>Utilization of the production system in Japan and in Taiwan, where electronic materials are concentrated</li> <li>Opportunities to expand sales and develop next-generation products through first-mover advantage</li> </ul>	<ul> <li>Grow profits through Special Glass</li> <li>Strengthen development capabilities for new products</li> <li>Strengthen solution capability to increase value for customers</li> </ul>	8 TECHNISTIAN OF THE PROPERTY
Societal Structure Issues  • Aging society with a declining birthrate (in Japan)  • Population issues, etc.	Provide products and services that contribute to health/security/safety	<ul> <li>Shrinking domestic market due to declining birthrate</li> <li>Business continuity risks specific to biologically-derived materials</li> <li>Replacement by other diagnostic agents</li> </ul>	<ul> <li>Global shift from treatment to prevention due to increased awareness</li> <li>Expanding demand for diagnostic reagents in Asia due to population growth and rising income levels</li> <li>Utilize three raw material production bases in the U.S.</li> <li>Utilize the value chain from upstream (antigens, antibodies, raw materials) to downstream (product manufacturing and sales)</li> </ul>	<ul> <li>Expansion of sales channels in the field of in vitro diagnostic reagents</li> <li>Strengthen development capabilities for new products</li> <li>Strengthen solution capability to increase value for customers</li> </ul>	3 more action  9 more recorded and action actions as a second action act
	Realizing continuous, sustainable growth for the Company				
<ul> <li>Increased geopolitical risks</li> <li>Intensifying competition due to industry reorganization, entry from other industries, etc.</li> <li>Increasing sophistication and complexity of</li> </ul>	Strengthen management foundation	<ul> <li>Diversification of factors causing changes in the socioeconomic environment</li> <li>Price fluctuations of fuels, materials, etc.</li> <li>Impact of geopolitics and human rights issues, etc. on the supply chain</li> </ul>	Selection and concentration     Capture growth opportunities through innovative technology development	Lean management that is not substantially affected by economic fluctuations     Optimize business portfolio and review unprofitable businesses     Transform technology development and production technology through the introduction of IT and digital transformation     Maintain sustainability in procurement and the supply chain	8 tool on too  9 tool received  12 tool on too  17 mortant animating  (CO)
social demands  • Accelerating the rate of change	Foster human resources for innovation	Decline in workforce due to low birthrate and aging population     Intensifying competition to recruit young and specialized human resources	Increasing diversity     Fluidization of the labor market     Innovation expected through human resource development	Cultivate human resources for innovation     Implement diversity and inclusion     Workstyle reform and business reform     Improve employee engagement	5 interes 8 times with the limited control of
	Continuously revise corporate governance	Expanding and refining CSR scope     Compliance and security in a remote environment	Permeation of corporate philosophy     Strengthening the corporate foundation by gaining trust from society	Continuously revise corporate governance     Thoroughly implement corporate ethics and compliance	10 mean long means   16 means many means m

## Yuichi Tsuji

Representative and Chief Executive Officer



# Background and Formulation of the Nittobo Group's Vision for 2030 [Big VISION 2030]

In February 2021, the Company announced its Big VISION 2030 and the "New Mid-Term Business Plan (FY2021–2023)."

The previous Mid-Term Business Plan was the first stage of a seven-year plan targeting 2023, the year of Nittobo's 100th anniversary, and a four-year plan with goals set for 2020, the year of the Tokyo Olympic and Paralympic Games. In the final year of the plan, the outlook became very uncertain due to the spread of COVID-19, the slowdown of the global economy, trade friction between the U.S. and China, and the postponement of the Olympics and Paralympics. With people's values, lifestyles, and workstyles undergoing transformation, and social and industrial structures poised for change, we came to the conclusion that it would be better to establish a vision of what kind of company we should be in the mid- to long-term, and make the new Mid-Term Business Plan the first stage of realizing that vision, rather than simply formulating a short-term plan.

First, we redefined our vision for the Group in 2030, 10 years in the future, as Big VISION 2030, a vision that we should work towards from a medium- to long-term perspective without being bound by immediate short-term events

In formulating our vision, we set three themes that would enable the Nittobo Group to leverage its strengths and contribute to society even as the world's values continue to change dramatically.

For information about Big VISION 2030, please see page 16.

The concrete themes of this vision are "contribute to environment/energy," in which we further focus on our contribution to sustainability and climate change issues; "contribute to health/security/safety," in which we will respond to the shift to preventive medicine and growing health awareness; and "contribute to the digital society," symbolized by the widespread adoption of remote work and the accelerating use of IoT and AI in industry. We will enhance the Nittobo Group's unique value with these three themes, in addition to the conventional economic growth in terms of sales and profits.

#### Nittobo Group's Vision for 2030 [Big VISION 2030]

As a corporate group that continues to create a global niche No. 1 businesses, we aspire to contribute to "Environment/Energy," "Digital Society," and "Health/Security/Safety" for realizing a sustainable society.



Provide products and services that contribute to digital society

Provide products and services that contribute to health/security/safety

Nittobo strives in the pursuit of all stakeholders' satisfaction.

## Thorough Discussion and Emphasis on Diversity in the Formulation Process

For the new Mid-Term Business Plan, we placed great importance on the process of formulating the plan, and focused on having all employees consider it as relevant to themselves, not just as a discussion among officers.

We had a total of 18 intensive discussions over a period of seven months between myself and each division. In these discussions, we thoroughly discussed all kinds of issues, beginning with what kind of value Nittobo provides, and extending to specific growth strategies, measures to strengthen the foundation, and structural reform. Before holding discussions with each division, I asked every officer, manager, section chief, and section staff in their departments to first hold a broad dialogue, with the purpose to deepen the deliberation based on the diverse opinions within the Company and summarize the major trends in thought.

After the formulation of the new Mid-Term Business Plan, I delivered five video messages on the intranet explaining Big VISION 2030 and the plan itself. When I visited one of our factories, I heard an employee say that they had seen my video messages, which made me feel that the Mid-Term Business Plan, which we all created together, was well received, so I would like to continue creating these messages in the future.

In the process of formulating the vision and the new Mid-Term Business Plan, the Board of Directors discussed a wide range of issues, from the Nittobo Group's purpose in society to future prospects and sustainable enhancement of corporate value.

The Company's Board of Directors consists of seven members, four of whom are External Directors. The External Directors are from diverse backgrounds, including an expert in accounting, auditing, and taxation; one person who has been involved in corporate management for many years, such as a chairman and president; a person with deep knowledge of technology management who has experience as a director of a research laboratory in a large company; and a female lawyer with experience working internationally. The vision and Mid-Term Business Plan formulated by the executive side were deeply discussed multiple times before and at Board of Directors meetings. The External Directors provided multifaceted, frank opinions and suggestions that we would not have found from an internal perspective.

Their forthright opinions made me realize that our marketing and customer solutions areas needed improvement. For example, one director said, "If we think that our customers are buying our products not for the products themselves, but for their functions and value, we will be able to make new proposals, develop new products, and provide more value," and another said that we should communicate with our customers about why they think Nittobo Group products are good, and enhance our customer solutions. In terms of manufacturing technology and research and development, the following items were pointed out and referenced to create measures to strengthen our foundation: "The emphasis is on manufacturing high quality products on time, but considerations to manufacturing efficiency improvements are weak," and "While we do not know when the current product lineup will become obsolete, there is no awareness of whether research and development is being conducted with a view to five or ten years into the future."

As a result, the weight of discussions in areas such as proactive provision of value to society and risk-taking has increased, and many of the comments and suggestions made by External Directors have been adopted in the current Big VISION 2030 and "New Mid-Term Business Plan (FY2021–2023)."





## Results of the Previous Mid-Term Business Plan and Emerging Issues

In the previous mid-term plan, we achieved significant results in promoting high value-added strategies and building a foundation for future growth, as well as creating a framework for promoting medium- to longterm research themes through the establishment of the Research & Development Headquarters.

As a stepping stone to the future, we worked to increase the capabilities of Special Glass in the Glass Fiber business. We increased the number of production sites in Japan from one to three, and proceeded with the construction of a new factory in Taiwan. In the Medical business, we invested in the expansion of overseas raw material plants and the expansion of domestic factories, as well as in M&A to strengthen the value chain that covers everything from raw materials to finished products.

Although the economic environment was favorable in the first half of the previous plan's period, some issues emerged in the second half, especially at the end, due to the COVID-19 pandemic.

One issue is the weakness of the business foundation of unprofitable businesses. In the Textile business, which had been in a slump, we could not expect further recovery by extending the existing business model, so drastic reform was necessary. Even within the strong Glass Fiber business, it became clear that commodity products were severely impacted by the stagnating economy and lacked a competitive edge. In both businesses, we engaged in structural reform to improve efficiency as well as optimize production facilities and business scale.

Another issue is that although we have taken the initiative in expanding our production capacity for high value-added products, we have yet to get a full return on our investment. At present, demand is at a standstill due to a variety of factors in addition to the COVID-19 pandemic, but we are fully committed to improving the yield and productivity of new facilities and accelerating research and development so that we can respond when demand recovers to full-scale growth.

## Environmental and Social Value Provided by the Nittobo Group

There are two major environmental and social values that the Nittobo Group provides. The first is basic corporate social responsibility (CSR), which is generally done by companies regardless of industry. This is the minimum responsibility of a company as it operates in society, and it includes environmental conservation, respect for human rights, coexistence with local communities, compliance, and corporate governance. In contrast, strategic CSR seeks to contribute to society by making full use of the Group's technologies and products.

Under Big VISION 2030, our three businesses (Glass Fiber, Life Science, and Textile), which are deeply related to the three themes mentioned above, will each aim to become No. 1 in their respective global niches. In the new Mid-Term Business Plan, we will pursue how we can maximize the value that each of these businesses provides. The plan also includes specific action plans to firmly address and work on ESG for the realization of a sustainable society.

In response to global warming and worsening environmental problems, we are working to provide "products and services that contribute to environment/energy," including the use of glass fiber in structural components of automobiles and aircraft to reduce weight, and the use of highly insulating glass wool to improve the thermal efficiency of homes and buildings. In addition, glass melting furnaces used in the manufacture of glass fiber, use a lot of energy, so we will work to improve energy efficiency and reduce CO<sub>2</sub> emissions. Recycling waste glass is also a major part of our environmental response.

With the dawn of an ultra-smart society, we will develop "products and services that contribute to digital society" that support data centers, networks, and 5G communications networks. These new contributions will be based on Special Glass with its low-dielectric and low thermal expansion properties.

To support growing awareness of healthy living, we will provide "products and services that contribute to health/security/safety," such as our in vitro diagnostic reagent kits in the Medical business.

We believe that these efforts will inherently contribute to achieving the SDGs.

## Shareholder Returns

Our basic policy on shareholder returns is to aim for stable growth in dividends while comprehensively taking into account the need to strengthen our financial position and retain earnings for future growth. The Nittobo Group is aggressively investing to strengthen its foundation for future business growth. Reflecting stable dividends and the continuation of active investment, the annual dividend per share for fiscal 2020 was set at 45 yen, the same as the previous fiscal year.

In the future, we would like to shift to a policy of returning a certain percentage of earnings after we get on a steady track of medium- to long-term profit growth. We will also consider other flexible approaches to shareholder returns in addition to dividends, taking into account stock market conditions and our financial situation. First and foremost, however, we will focus on achieving the goals of the new Mid-Term Business Plan and establishing a stable, high-value-added profit structure.

## In Closing

As stated in Big VISION 2030 and the "New Mid-Term Business Plan (FY2021–2023)," the Nittobo Group strives in the pursuit of all stakeholders' satisfaction. To this end, I believe it is my responsibility to bring about sustainable growth and enhance corporate value through working on human resource development and research and development from a long-term perspective, without getting caught up in short-term events. At the same time, we are committed to openly discussing and sharing our activities and thoughts with our shareholders and investors, and to listening carefully to their opinions.

We look forward to earning your continued support and encouragement in the years to come.



# Big VISION 2030 and the New

On April 1, 2023, Nittobo will celebrate the 100th anniversary of its founding. For the Nittobo Group to survive in a rapidly changing environment and achieve sustainable growth over the next century, we must consider both the three-year period of the Mid-Term Business Plan, and also address social issues based on changes in society and the economic environment ten years into the future. To become a "Best Partner" for society, we have redefined our vision for the Nittobo Group in 2030 as

To realize a sustainable society, the Nittobo Group will continue creating global niche No. 1 businesses that contribute to society in the three fields where the strengths of the Group can be utilized: "Environment/Energy," "Digital Society," and "Health/Security/Safety."

**Nittobo Group's Vision** 

# Big VISION 2030

As a corporate group that continues to create global niche No. 1 businesses, we aspire to contribute to "Environment/Energy," "Digital Society," and "Health/Security/Safety" for realizing a sustainable society.

Provide products and services that contribute to environment/energy

Provide products and services that contribute to digital society

Provide products and services that contribute to health/security/safety

Nittobo strives in the pursuit of all stakeholders' satisfaction.

Realization of SDGs/ESG management, social responsibilities as a company

Escalation of global warming/ environmental issues

- Formulation of recycling-oriented society
- Accelerate legislation

An increase in demand for Special Glass (low dielectric/low thermal expansion)

Arrival of a super smart society

- Higher speed telecommunications (5G/6G)

**Enhancement of preventive medi**cine/growing health promotion

Social structural issues

- Aging society with a declining birthrate
- Population issues, etc.

## Nittobo Aims to be a Global Niche No. 1 Company

Aims to be the No. 1 company with high sensitivity

that can be aware, catch, and respond speedily to market demands Aims to be the No. 1 company with high value-added products



# Mid-Term Business Plan (FY2021-2023)

The new Mid-Term Business Plan is the first stage in the implementation of our long-term strategy to achieve our vision for 2030. To realize Big VISION 2030, we will work on the following four long-term strategies: implement growth strategies, strengthen the management foundation, strengthen efforts to address environmental issues, and foster human resources who can make a difference. The Nittobo Group will not only implement these growth strategies, but also strengthen the management foundation and enhance management with a strong emphasis on ESG to improve the quality of its management.

#### **Previous** Mid-Term **Business Plan**

FY2017-FY2020

Daring to

**Building** a

**Foundation** 

for Growth

Capital

Investment (including M&A)

(56.8 billion yen

over 4 years)

## **New Mid-Term Business Plan** FY2021-2023

## **Realizing Change and Creativity**

— 4 Key Measures —



#### **Growth Strategy Implementation**

Create further business growth through high value-added products

- Grow profits through Special Glass Expand sales channels in the in vitro
- diagnostic reagent field Strengthen development capabilities for
- Strengthen sales force solutions to increase value for customers



#### **Management Foundation** Reinforcement

**Evolve into a lean business entity** (secure resiliency)

- Lean management that is not substantially affected by economic fluctuations
- Optimize business portfolio and review unprofitable businesses
- Transform technology development and production technology through the introduction of IT and digital transformation



#### **Action for Environment Issues**

Make efforts to address environment issues for a sustainable society

- Reduce CO<sub>2</sub> emissions
- Implement recycling and reusing Develop new environmental-friendly



#### **Human Resources Development**

Foster human resources/ organization/work environment that bring about changes

- Cultivate human resources for
- Implement diversity and inclusion Workstyle reform and business reform
- Improve employee engagement

that refines and develops its unique technologies to provide products matching market needs

## Achievements and Challenges of the Previous Mid-Term Business Plan, and Initiatives for the New Mid-Term Business Plan

During the four-year period of the previous Mid-Term Business Plan, we conducted capital investment of 56.8 billion yen, including M&A, to build a foundation for future growth. We also established the Research & Development Headquarters to strengthen R&D, and have been working to increase personnel and improve facilities.

Issues that became clear after that four-year period include the results of strategic investments, implementing structural reform in business areas with weak profit structures, and ensuring resilience to various business risks. These issues will be addressed in the new Mid-Term Business Plan.

Under the new Mid-Term Business Plan, we will utilize the foundation established in the previous plan period to reap the benefits of our investment in the Glass Fiber business, and will further strengthen our production facilities for Special Glass. In the Medical business, we will focus on expanding sales in Japan and overseas by leveraging our value chain. At the same time, we will implement structural reform of businesses with low profitability in order to strengthen our management base and increase corporate value.



#### **Previous Plan Results**

Implemented the high value-added product strategy and created the foundation for future growth

#### Glass Fiber business

Strengthened production capacity for Special Glass (yarn) and secured production system for glass cloth

#### • Medical business

Strengthened the vertically integrated business model from raw material development to research, production and sales by promoting M&A and strategic alliances

Created a system to promote medium- to long-term research themes through the establishment of the Research & Development Headquarters

#### New Plan Initiatives

Gain the benefits of growth investments

#### • Glass Fiber business

Create further growth by shifting resources to high value-added products

#### Medical business

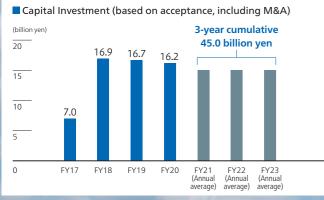
Utilize the global value chain for business development

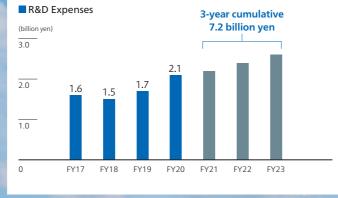
#### Structural reform of unprofitable businesses

→ Evolve into a lean corporation

■ Financial Targets								
	FY2020 (Actual)	FY2023 (Target)		FY2020 (Actual)	FY2023 (Target)			
Net sales	78.7 billion yen	100 billion yen	ROE	8.4%	10%			
Operating profit	6 billion yen	14.0 billion yen	ROIC	2.9%	6%			
EBITDA	12.3 billion yen	25.0 billion yen	Equity ratio	53.7%	55%			
FRITDA margin	15.6%	25%	Deht-to-equity ratio	0.45 times	0.4 times			







<sup>\*</sup> In support of the Japanese government's new reduction target for FY2030 announced in April 2021, we are carrying out specific studies with a view to reducing CO<sub>2</sub> emissions by 30% in FY2030.

MESSAGE

We aim to improve capital efficiency and ensure financial soundness by increasing profitability and efficiency.

#### Hiroyuki Tada

Managing Executive Officer General Manager of the Corporate Business Planning Division

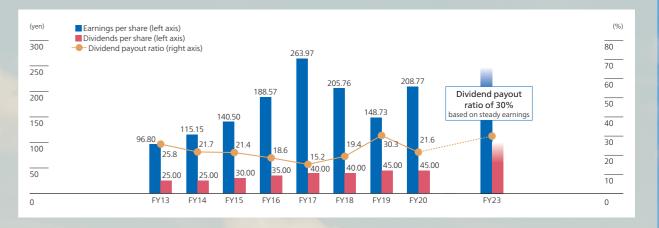
The Nittobo Group has been working to build a corporate structure that can generate profits in any environment. Under the previous Mid-Term Business Plan, while maintaining a sound financial position, we prioritized the allocation of funds to growth investments acquired through operating cash flow from business activities, the sale of unused land, and cross-shareholdings, in order to promote high value-added products. The new Mid-Term Business Plan aims to improve ROE and ROIC by strengthening the management foundation through structural reform, and improving the efficiency of working capital through inventory reduction and cash management, while continuing to make necessary investments for further business growth.

Dividend policy is one of the most important management issues in our shareholder return policy, and our basic policy is to ensure stable growth in dividends. For fiscal 2020, the year-end dividend was 22.5 yen, and the annual dividend was set at 45 yen per share, the same as the previous year.

Over the medium to long term, we aim to return profits to share-holders with a target dividend payout ratio of 30% of steady earnings\* from fiscal 2023 onward, when we will be on track for profit growth. We will also consider other flexible approaches to share-holder returns in addition to dividends, taking into account stock market conditions and our financial situation.

\*Revenue excluding sales of assets, etc.

#### **Basic Strategies of the New Mid-Term Business Plan Implement Growth Strategies** Strengthen Management Foundation Create further business growth with Evolve into a lean corporation (ensure resiliency) high value-added products **Improve Profitability and Efficiency Ensure Financial Soundness** Grow operating profit/EBITDA • Emphasize financial discipline and curb the increase • Achieve operating cash flows to cover investments in interest-bearing debt by reducing assets and (cumulative free cash flows for 3 years $\geq \pm 0$ ) strengthening cash management capabilities. Generate cash flows from active investments Reduce costs and working capital Improve Capital Efficiency (ROE and ROIC)



for

· Value

Creation

#### **Mid-Term Business Plan Initiatives**

#### **Glass Fiber Division**

## Nittobo aims to be the No. 1 company with high sensitivity and to solidify our position at the top.

#### Reflecting on the Previous Mid-Term Business Plan

The biggest changes in the business environment during the previous plan period were the accelerated development of advanced information technology and the expansion of the electronics industry centered on 5G (5th generation mobile communications system). In line with these changes, we have made a major shift in our Glass Fiber business to focus on expanding production and sales of our high-performance glass fiber, Special Glass.

In terms of capital investment, we invested more than 30 billion yen in our Glass Fiber business and expanded our production facilities, including a new factory in Taiwan. We believe that we have achieved satisfactory results in securing a stable supply system.

However, in addition to the COVID-19 pandemic, due to significant export restrictions in the Chinese market stemming from trade friction between the U.S. and China, fiscal 2020 revenues fell short of expectations given the capital investment.

Another major change is the intensification of competition in the market for composite materials such as reinforced plastics.

Composite materials are used in cars, home appliances, residential building materials, and other applications in a very broad market. However, price competition in the mature market is fierce, and except for a few high value-added products, it has become difficult to add our own unique value. Therefore, we have begun structural reform of the composite materials business, and optimized the production system for efficiency, while at the same time creating an implementation system for new development of high value-added products to expand their applications and sales channels.

Looking back at the previous Mid-Term Business Plan, we recognized that we needed to improve our marketing skills, such as swiftly recognizing market trends and customer needs affected by social changes, and implementing them in our strategies. In terms of business operations, the remaining issues are to realize the benefits of the capital investment in Special Glass, and to implement structural reform and high value-added products in the composite materials business.

#### Aiming to be the World's No. 1 Company with High Sensitivity

Upon review of the previous Mid-Term Business Plan, we set a new goal to become the No. 1 company with high sensitivity. This will enhance Nittobo's corporate value by consolidating market and customer feedback with high sensitivity and implementing it in product planning and development, with customer success as the starting point. I think it will be very important to make the most of

day-to-day opportunities for communication to handle the needs and wants of our customers at the right time. We believe that the accumulation of technological capabilities through careful information follow-up and research and development will lead to future success, so that customers can continue to trust Nittobo.

#### Responding to Trends in the Special Glass Market

Special Glass is a base material for electronic materials used in information infrastructure equipment for high-speed, high-capacity communications, such as data center servers and 5G base stations. Considering the ever-increasing global data traffic, the progress of 5G, and the need for even faster and higher capacity processing, we believe that the market will continue to grow for

Special Glass products, such as low-dielectric glass cloth (NE-glass cloth) and low thermal expansion glass cloth (T-glass cloth). Due to the trade friction between the U.S. and China and the COVID-19 pandemic, the market expansion of 5G infrastructure equipment has been delayed 1 to 1.5 years, and we expect full-scale growth to resume in 2022 or later



Managing Executive Officer General Manager of the Glass Fiber Division and **Technology Division** 

Now, there are two tasks laid before us. The first is to determine when the market will regain its growth momentum after the current plateau, and adjust production accordingly. The new factory to produce Special Glass yarn in Taiwan will start operation in October 2021 as scheduled, and we plan to build a flexible production system to respond to trends in demand.

The second task is to steadily advance technological and product

development with an eye on the future of 5G. 5G has yet to robustly take off in Japan, but on a global scale, studies have already started for 6G standards and technologies. A major goal of the new Mid-Term Business Plan is to develop new products that meet 6G standards, build processes to meet them, and complete the roadmap for mass production. The Fiber R&D Center and the Glass Fiber Division are working together to take advantage of the current market stagnation as an opportunity to take the next step.

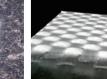
#### Strengths of the Nittobo Group's Glass Fiber Business

#### Product Features

- Ultrafine glass yarn: Miniaturization and thinning of electronic devices → Producing the world's thinnest yarn with consistent quality
- NE-glass: Low-dielectric properties to reduce transmission loss and noise → Contribute to high-speed, high-volume communications linked to 5G
- T-glass: High strength and low thermal expansion → Essential for high-density package substrates



↓ 1 glass fiber = monofilament (minimum diameter 3.5 µm)







Glass fiber cloth (skew) Glass fiber cloth (flat)

- Holds both spinning and weaving processes, enabling integrated production (few companies have both spinning and weaving large-scale processes)
- Spinning process (Glass Fiber Yarn Business segment): Stable production of the world's thinnest glass fiber (3.5µm diameter), NE/T-glass yarn.
- Weaving process (Glass Fiber Cloth Business segment): Utilizing know-how from the spinning process, weaving and treatment processes are optimized for yarn characteristics

#### **Adding Value in the Composite Materials Business**

Composite materials constitute a volume market for glass fiber, which is used to reinforce plastics. It is a mature market with many glass manufacturers setting up large-scale factories around the world. To survive in this environment, we believe it is necessary to establish a presence in the high-end niche, Nittobo's specialty. In the engineering plastics and super engineering plastics fields, we are focusing on adding further value by utilizing our unique glass fiber characteristics such as high radio wave permeability, high strength, high heat resistance, and low thermal expansion.

It will be key to utilize Special Glass in the composite materials field and expand the applications and sales channels for the world's While ordinary glass fiber has a circular cross-section, our flat fiber is based on our proprietary technology and has a flat cross-section. We are increasing the variations by developing ultra-flat and ultrafine and expanding into industrial fields where glass fiber has never been used before.

first mass-produced modified cross-section glass fiber (flat fiber). types that support further miniaturization and weight reduction,

#### **Life Science Division**

# Aiming to further evolve the global value chain.



#### Reflecting on the Previous Mid-Term Business Plan

The Nittobo Group has developed in vitro diagnostic (IVD) reagents with one hundred testing parameters to determine health status from blood and urine. We have established a significant presence in immunological reagents, and we are recognized in the industry as "Nittobo the Immunology Specialists." The Company's greatest feature is our established integrated value chain. This starts upstream with the manufacture and sale of antisera, the raw materials for IVD reagents, and extends downstream to the manufacture and sale of the final product, the IVD reagent. In the previous Mid-Term Business Plan, we further strengthened this vertically integrated business through M&A and capital investment.

R&D lies at the very top of the value chain. We strengthened our capabilities in antigens and antibodies by investing in Rimco Corporation, which conducts research on genetically modified silkworms, and by acquiring Frontier Institute Co. Ltd., which develops bioassay systems and conducts antibody research. To further expand the field of IVD reagents and accelerate our research and development, we established FAN Co., Ltd., a joint venture with Fujikura

Kasei Co., Ltd, which is known for its strength in R&D of latex and other raw materials for IVD reagents.

In the upstream production of antisera, Nittobo acquired Capricorn Products, LLC on the East Coast of the United States (Maine), adding it to Nittobo America Inc.'s existing bases on the West Coast (California) and in the Midwest (Iowa), giving it three bases and an overwhelming share of the global market for goat-derived antisera. In addition, a factory is under construction in California that will expand the production space by 150% when it is completed in the second half of 2022. Mid-stream, we have integrated and consolidated the factories of NITTOBO MEDICAL CO., LTD. (Koriyama City, Fukushima Prefecture), which manufacture the final IVD reagents, and doubled the production space. Downstream, we acquired Kamiya Biomedical Company, LLC, which has global regulatory approval know-how and a sales network in the U.S. IVD market, the largest in the world.

Not only has the core of the value chain been strengthened, but both the front-end and back-end have been extended, which I

■ Building a global integrated production system

Far upstream

Strengthening of R&D functions in antigens and antibodies

Rimco Corporation (Uruma City, Okinawa):

Investment made August 2018

Frontier Institute Co., Ltd. (Ishikari City,
Hokkaido): Acquired March 2019

FAN Co., Ltd. (Chiyoda City, Tokyo): Jointly established April 2019 **Jpstream** 

Expansion of antisera production for raw material

Capricorn Products, LLC (Maine, U.S.A.) Acquired June 2019

Nittobo America Inc. (California, U.S.A.): Completion of a new factory due second half 2022 Mid-stream

Expansion of in vitro diagnostic reagent production sites

NITTOBO MEDICAL CO., LTD. (Koriyama City, Fukushima): Construction of new factory, completion due December 2021

ownstream

Access to global pharmaceutical regulatory clearance expertise and acquisition of sales networks

(Washington, U.S.A.): Acquired January 2019

believe was our most significant achievement. The most important thing in the IVD reagent business is a stable supply. The use of biologically-derived raw materials requires high stability in both quality and quantity. We need to control the quality variation of biologically-derived diagnostic reagents and produce them in the quantities required by our customers. With a stronger, more integrated structure, the Nittobo Group has increased its presence among the major global players in testing equipment and diagnostics.

In new IVD reagent development, we launched a diagnostic agent for IgG4-related disease (a disease of unknown etiology in which various organs in the body swell and harden), which is recognized as an intractable disease. The convenience of being able to use a general purpose automated analyzer for analyzing specialist variables is highly regarded and the Company has gained the top share in Japan as a result.

#### **New Mid-Term Business Plan Initiatives**

To become the world's No. 1 company in the field of immune IVD products in plasma protein diagnostics, the new Mid-Term Business Plan will make maximum use of the Nittobo Group's strengths in the value chain to explore and expand its businesses.

We will continue to increase sales steadily by digging deeper into the domestic market. On top of that, to grow sustainably over the medium to long term, we need to expand our market overseas, and steady efforts to achieve this are essential.

We are starting to build a business model to sell Nittobo branded products in Asian countries while strengthening partnerships with major global players. Although this is a new challenge for the Nittobo Group, I feel that the next generation must take the lead with an eye to the future.

From a development perspective, we are working to dig deeper and expand further. Highly sensitive immunological reagents that can measure previously unmeasurable concentration ranges, such as slight variations in the body, will be developed and studied thoroughly. We are also investigating the development of diagnostics and measurement methods that will expand the scope of conventional immunological reagents. Although this will take time, we

expect a breakthrough that will enable us to gain a large market in the future

In terms of production, for the time being, we will focus on making sure that the new factory in California and the newly expanded production space in Koriyama City will achieve results. At present, antisera, the raw material for IVD reagents, is produced in the U.S. and shipped to Japan, where the final product is finished and sold. However, we are considering ways to manufacture and sell the final product within the U.S. in the future.

To improve value chain operations and connect management in Japan and the United States, we have started personnel exchanges to encourage deeper collaboration and started developing human resources who will be responsible for our future. Cultivating human resources will be essential for us to succeed in expanding to more emerging countries because a strong value chain is supported by its human resources. While keeping our vision for 2030 in mind, we will rotate our personnel through development, production, and sales based on backcasting to build a system to develop the next generation of human resources.

## **Research & Development Headquarters**

## Keeping researchers motivated and delivering innovation to the world.



#### Reflecting on the Previous Mid-Term Business Plan

"We believe that R&D and technological innovation are essential for the development of Nittobo." This is the message that President Tsuji shared with the Company when he took office. His strong commitment to research and technological development transformed into the idea that we should create new businesses that cross divisional boundaries by leveraging synergies. In 2017, we combined the R&D departments, which had been separated under the business divisions, to establish a consolidated Research & Development Headquarters.

Until then, product development and R&D organizations were under the control of each business division, so development was limited to certain businesses. This also raised concern that research expenses were dependent on business profitability. The goal of the previous Mid-Term Business Plan was to establish a system in which the Nittobo Group's research and technology development would be conducted from a long-term perspective, without being affected by short-term performance or the business environment. The plan also called on each R&D center to work synergistically in the same direction. With the reorganization, we were able to successfully establish and share the research direction of each R&D center.

When the Research & Development Headquarters was first established in 2017, there were 70 people employed there. Now, there are 120 people and, as the system is further enhanced, they are really achieving results.

One barometer of R&D activities is provided by the numbers of patent applications, papers published, and conference presentations. These numbers increased significantly during the previous

Mid-Term Business Plan, with the number of patent applications more than doubling from FY2017 to FY2020. Conference presentations also increased 500% compared to FY2016. Many conferences could not be held due to the COVID-19 pandemic, but we plan to resume active participation from FY2022 onwards.

In addition, on the hardware side, the new NI-CoLabo building of the Research & Development Headquarters was completed in April 2020 as a landmark for the Nittobo Group's research and development, creating an open development environment for pursuing synergies beyond the boundaries of business, company, and region. Our researchers are very satisfied with the research environment in the new NI-CoLabo building, including the Recreational Space where researchers can interact with each other. We aim to use it as a place that enables collaboration among researchers that leads to innovation

Open innovation is progressing with external organizations. We have also achieved steady results in joint research with universities that have strong basic research. For example, the "N-Assay LA IgG4 NITTOBO," which was successfully developed in collaboration with Shinshu University Hospital and 23 other university hospitals and medical institutions, was highly regarded because it can measure IgG4 in serum with a general-purpose automated analyzer, without the need for a dedicated analyzer.

In the glass fiber field, we have been conducting joint research with several universities, and have achieved results in confirming physical properties using MI\* technology, process analysis of new glass compositions, and research on biodegradable glass.

\*Materials informatics: A field of study that seeks to improve efficiency of materials development through informatics methods that utilize statistical analysis, etc.

#### New Mid-Term Business Plan Initiatives for the Research & Development Headquarters

In the previous Mid-Term Business Plan, we established a research structure for the future, focusing on the hardware aspects of the Research & Development Headquarters, including the

organization, personnel, and research facilities. In the new Mid-Term Business Plan, we will focus on improving the software that motivates our researchers to be enthusiastic in their work, and we will also allocate more resources to themes that require long-term commitment in view of the changing times and society.

The Nittobo Group was the first in Japan to industrialize glass fiber, glass wool, and rock wool. Research and development into materials lacks the glamour of end products. Moreover, the related technology needs to be steadily built from the ground up. While there are both interesting and difficult aspects to this kind of R&D, it may seem frustrating to young researchers since it takes time to see results. I believe that my mission is to create an environment in which researchers are motivated and work in an open and free manner. To achieve this, we are planning to hold lectures on technology led by Japanese and international researchers as well as in-house veterans, and to create a system where researchers can set up themes they are interested in and study them during their

Two new strategic organizations have been established under the Research & Development Headquarters to contribute to

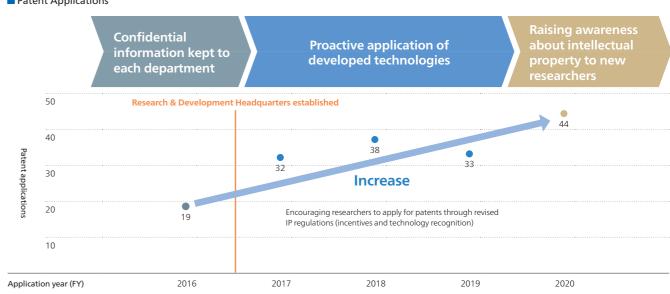
pressing environmental issues, which affect all of society, and to adapt to the rapidly changing society and technology.

With the support of the Sustainability Committee, chaired by the President, the Environment Technology Strategy Office will work to reduce CO<sub>2</sub> emissions and achieve virtually zero waste glass.

The DX Strategy Office will work to reduce environmental impact with the immediate goal of implementing digital transformation and AI in glass fiber melting furnaces, which consume a lot of energy. We believe the previously mentioned MI is also highly compatible with digital transformation, as it has accelerated our research and development in glass composition. We plan to apply this technology to the development of new drugs in the Medical business.

By making the workplace more attractive and providing an environment where researchers can devote themselves freely to their research, we will enhance our research and technological development capabilities to contribute to society and the environment, thereby enhancing the corporate value of the Nittobo Group.

#### ■ Patent Applications



## **Research & Development Headquarters**

## Pursuing the infinite possibilities of glass fiber to contribute to customer success as well as the environment.

#### Reflecting on the Previous Mid-Term Business Plan

I am in charge of both fiber research and technology development at the Research & Development Headquarters, and product planning and development in the Glass Fiber Division. My role is to broaden and create new opportunities for fiber technology, and to quickly understand the needs of customers and the market and link them to commercialization. In the previous Mid-Term Business Plan period, we created systems for basic research, applied research, and product development, as well as a system for efficient operation of these areas to guickly handle market and customer needs.

Research departments were previously under the control of each business division, but the new structure combines them all under the newly established Research & Development Headquarters. Business divisions tend to focus their resources on applied research and product development in order to respond quickly to customer feedback. However, we cannot acquire next-generation technologies unless we devote adequate resources to basic research, which takes time to produce results. Therefore, after the launch of the Research & Development Headquarters, we established the Fundamental Research Department within the Fiber R&D Center to enable us to engage in long-term research. We also established the Electronic Materials Development Department and the Composite and Industrial Materials Development Department to specialize in product and process development.

In terms of operations, a matrix R&D system has been completed to efficiently connect basic research, applied research, and product development. The product process (marketing, product planning, research, development and prototyping, mass production) is coordinated among the departments responsible for customer solutions and product planning, basic research, process research and product development, and melting technology and production technology, and each department complements and strengthens the other, creating a scheme that allows us to quickly implement customer feedback. In product planning, we established a stage-gate system within the Group, which collects ideas from potential and current customers and efficiently connects them to product development.

In addition to clarifying the roles of basic research and applied research, we have established a system to swiftly handle customer needs by working more closely with the business divisions, and the results are evident.

#### Initiatives of the New Mid-Term Business Plan

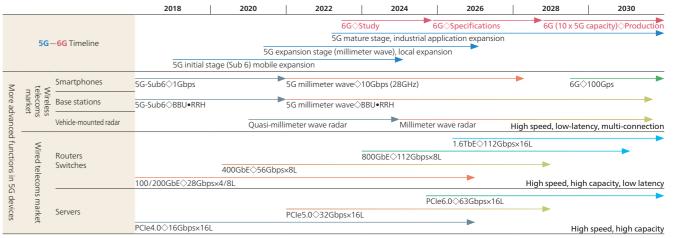
In the new Mid-Term Business Plan period, we aim to become the No. 1 company with sensitivity in the world. Nittobo will provide unique solutions by responding with high sensitivity to market and customer needs. We aim to be a highly sensitive No. 1 company, resulting in increased corporate value of the Nittobo Group through the realization of customer value and customer success. With the research and development system established in the previous Mid-Term Business Plan, we will further accelerate our reactions to market needs and show results worthy of being a highly sensitive No. 1 company.

First, in basic research, we are focusing on developing new glass compositions. By changing the composition of the compounds that make up the glass fiber, specific performance can be designed. Low-dielectric NE-glass, high-strength and low thermal expansion T-glass are examples of glass fibers with special compositions that enable them to meet the requirements of high-end markets. Since there is a strong market demand for high-performance glass, and the development of new glass compositions will give us an advantage over our competitors, so we will accelerate our research on new compositions.

We have created a technology roadmap for the electronic materials market through 2030, and are working on a development plan to determine when materials with even lower dielectric loss will be in demand. In the Ethernet standards for wired communication networks such as data centers, upgrades to faster 400GbE products are in full swing, and demand for NE-glass is increasing. Since highend equipment manufacturers are trying to rewrite the market with an eye on 800GbE and 1.6TbE for the future, we are simultaneously developing NER, the next generation of NE-glass, and DX1 and DX2, which are even further ahead of next-generation products. We are also studying compositions of high-strength, low thermal expansion T-glass with an eye to the future. T-glass, which is used as a substrate for semiconductor packages for CPUs and GPUs, is required to have higher strength and lower thermal expansion properties as semiconductor packages grow larger. As a pioneer in this field, we are pushing to develop next-generation products.

In the electronic materials field, we have started to reform our production processes. Now, the thickness of our glass cloth is 13μm–15μm, but we are developing glass cloth that is 10μm or

#### ■ Implementing the 5G-6G Roadmap



Products Supplied/Under Development by Nittobo

(Source: Compiled by the Company based on Ministry of Internal Affairs and Comm

Low transmission loss (in mass production) - NE Ultra-low transmission loss (in testing) - NER Next-generation super-low loss I (under development) - DXI

Next-generation super-low loss II (under development) -> DX II

thinner. These advances will contribute to the miniaturization and ever-thinner construction of the digital devices we use.

We have been focusing on basic research in the electronic materials field, but we are also working on a wide range of research themes in the composite materials and industrial materials fields, as well as in applied research and process research.

Regardless of industry or research field, the new shared themes to be addressed in the new Mid-Term Business Plan are digital transformation and the environment. In both cases, we have set up specialized organizations called the DX Strategy Office and the Environment Technology Strategy Office.

This is the start of a Company-wide effort to adopt digital transformation and reform the way we do business. As a materials manufacturer, our main business is B to B, and we had thought digital marketing was basically not relevant to us. However, when we used digital marketing methods to examine global needs for flat fiber, one of our strategic composite materials, we received a number of responses, including ideas for applications that we had never imagined. This is just one of our business reforms, but the introduction of digital technology is steadily progressing in research and technology development as well. The introduction of materials informatics (MI) is beginning to show its effects in glass composition research. We are also installing a large number of sensors in our melting furnaces to accumulate and analyze big data. Since improving the efficiency of melt combustion directly leads to CO<sub>2</sub> reduction, we are implementing its use in this field.

Addressing the global environment is an urgent issue, and the Environment Technology Strategy Office, under the Sustainability Committee chaired by the President, will work to resolve various specific issues. In addition to the reduction of CO<sub>2</sub> emissions through the efficient combustion in melting furnaces as mentioned earlier, glass fiber recycling within the Group is one of our priority themes. Currently, glass wool is recycled from waste glass, such as fluorescent lamps and bottles. If glass materials created with renewable energy can be used as raw materials, we will be able to create the ultimate environmental-friendly energy system. In addition, we have started research on environmental-friendly glass fiber to solve the problem of degrading resin but non-degrading glass. Furthermore, we will accelerate the reduction of energy consumption and the adoption of renewable energy with bioplastic resin reinforced glass fiber; lightweight, high-strength and high heat-resistant glass fiber; and high-insulating fiber, which can directly contribute to the reduction of CO<sub>2</sub> emissions in our customers' operations.

In this way, the Nittobo Group has established a groupwide system to contribute to reducing the environmental burden through its business. We will pursue the infinite possibilities of glass fiber and realize customer success in parallel with the implementation of digital transformation and environmental initiatives, in order to increase the social value of the Nittobo Group and contribute to the realization of prosperous communities.

## **Glass Fiber Division**

## Glass Fiber Yarn Business

**Business Description** 

The Glass Fiber Yarn Business manufactures and sells glass fiber yarn, as well as roving and chopped strands used as base materials of composite materials.

Social and Environmental Contributions

Nittobo's glass fiber contributes to thinner and more compact dimensions in electronic devices such as smartphones and to lighter weight in automobiles and aircraft.

FY2020 **Business** Results

Production of Special Glass for electronic materials (NE-glass yarn, T-glass yarn) and external sales of NE-glass yarn increased, but middle grade yarn and composite materials for reinforced plastics sales declined year on year and experienced intense price competition. In addition, an increase in personnel expenses and depreciation expenses, due to measures to strengthen the Company's foundation, resulted in lower profit.





#### Products Manufactured

#### Glass fibers for composite materials

Rovings and chopped strands are used in plastic reinforcement for a wide range of products, including casings for smartphones, tablets, and notebook PCs, along with helmets, automotive parts, bathtubs, and other consumer products.









Chopped strand mat

#### Glass fiber yarns

Two important properties of glass are insulation and heat-resistance. Glass yarns processed into cloth have become indispensable as an electrical insulating material for printed wiring boards.



Integrated product development from glass fiber yarn to cloth

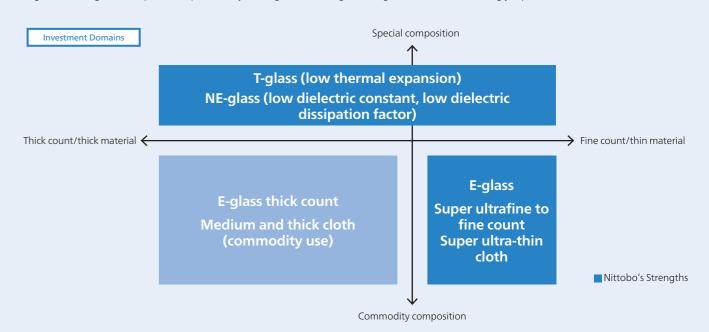
- Glass composition research
- Spinning technology: ultrafine
- Melting furnace design
- technology
- Interface treatment
- Production know-how



- Manufacturing technology for the world's most precise yarns (3.5µm)

#### **Implementing Growth Strategies**

We are focusing on increasing the production capacity and expanding the applications of high value-added products such as E-glass ultra-fine yarn, T-glass, and NE-glass with special compositions by utilizing our technological strengths to meet the increasingly sophisticated needs of the market.



#### **FOCUS ON**

#### >>> Started Special Glass Production in Taiwan

In line with increasing global data traffic and the development of 5G communications infrastructure, we are continuing to expand our production capacity to ensure the timely and stable supply of Special Glass. We have expanded the production of Special Glass yarn at three factories in Japan, and we started production at a new factory in Taiwan for Special Glass yarn as part of NITTOBO ASIA Glass Fiber Co., Ltd. in October 2021.

By establishing a production base for Special Glass in Taiwan, a hub for electronic material manufacturers, we can swiftly fulfill customer needs and reduce BCP risks.

Going forward, we will collaborate with Baotek Industrial Materials Ltd., a cloth producer in Taiwan, to realize an integrated production system spanning yarn to cloth in Taiwan.



New Special Glass factory in Taiwan

## **Glass Fiber Division**

## Glass Fiber Cloth Business

**Business Description** 

The Glass Fiber Cloth Business produces glass cloth used as electronic materials.

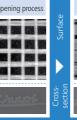
Social and Environmental Contributions

Nittobo's Special Glass cloth is used as a low-dielectric substrate for electronic components, helping to realize high-speed, high-volume communications through 5G.

#### Glass cloth for printed wiring boards

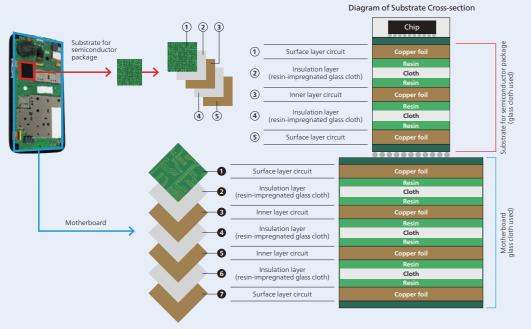
Glass cloth is widely used as material for printed wiring boards because of its superior electric insulation, heat resistance, and dimensional stability. Nittobo's ultra-thin glass cloth provides superior thinness and fiber distribution consistency, making it ideal for compact but highly functional electronic devices. Our Special Glass cloths are developed using unique compositions and feature low-dielectric constant and low-dielectric dissi-

pation factor required in broadband communications, as well as low thermal expansion. These properties make our cloth a vital component of data center equipment, mobile phone base stations, high frequency components, and semiconductor packages for servers and smartphones.



• Technology for making ultra-thin glass cloth

#### **Image of Glass Fiber Cloth Application**



#### Basic Requirements

- Reinforced substrate strenath
- Easy processing
- Chemical resistance

#### **High-end Requirements**

- Low thermal expansion
- Low dielectric constant/low dielectric dissipation factor

#### **Nittobo Special Glass**

Progress is being made in the shift to 5G for high-speed telecommunications and in the expansion of data centers to handle ever-increasing data traffic. Nittobo's Special Glass contributes to the speed and functionality of electronic devices required for high-speed processing of vast amounts of data. With speed increases in consumer devices like smartphones and tablets in line with the improvement of global infrastructure, such as the expansion of data centers and installation of 5G base stations, we can expect increasing demand for low-dielectric NE-glass and high-strength, low thermal expansion T-glass.

FY2020 **Business** Results

In the second quarter of fiscal 2019, Baotek Industrial Materials Ltd., a Taiwanese glass cloth manufacturer, became a consolidated subsidiary, which contributed to increased net sales. Although sales increased in Special Glass cloth for electronic materials used in high-speed, high-volume data communications and overall sales increased, profits decreased due in part to the fire at the Fukushima No. 2 Factory in July 2020.



NE-glass/Reduce Transmission Losses with

Used in data centers and base station switches and routers that process large amounts of information at high speeds, and in antenna in package (AiP) technology for 5G smartphones

	Dielectric constant (1 GHz)	Dielectric dissipation factor (1 GHz)	
E-glass	6.8	0.0035	
NE-glass	4.8	0.0015	

#### T-glass/High Strength, Low Thermal Expansior

Used in the semiconductor package substrate of high-performance servers and smartphones, which require high-speed processing and high reliability

	Thermal expansion coefficient (x10-6/°C)	Tensile elasticity (GPa)
E-glass	5.6	75
T-glass	2.8	86

#### **Types of Glass Fiber by Application**

						High-end models	Middle-end models
Applications		Equipment & parts	Substrate types		Material requirements	Glass fiber models	
Communications & infrastructure	Base stations & data centers	Switches, routers, and servers	Semiconductor package substrate	MPU	High elasticity, low thermal expansion	Т	E
				Memory	Low dielectric, low dielectric dissipation factor	NE	
			Motherboard substrate		Low dielectric, low dielectric dissipation factor	NE/NER	Е
Consumer devices	Smartphones	CPU (AP)	Semiconductor package substrate		Low thermal expansion	Ultra-thin T	Ultra-thin E
		Memory				Super ultra-thin T	Super ultra-thin E
		Motherboards	Motherboard substrate		Ultra-thin	Ultra-thin E	Ultra-thin E
		Wireless communications	RF modules, AiP		Low dielectric dissipation factor, ultra-thin	Super ultra-thin NE	Ultra-thin E
	Mobile PC	CPU	Semiconductor package substrate		Low thermal expansion	Т	E
		Memory			Low dielectric, low dielectric dissipation factor	Ultra-thin NE	Thin E
		Motherboards	Motherboard substrate		Thin	E	E
	Desktop, laptop PCs	CPU, memory	Semiconductor package substrate		Medium-thick	Е	Е
		Motherboards	Motherboard substrate				
	Smart watches	SiP	Module substrate		Ultra-thin	Ultra-thin E	Ultra-thin E

#### **FOCUS ON**

#### Nittobo's Glass Cloth used in Supercomputer "Fugaku"

Fujitsu Limited and the Institute of Physical and Chemical Research (Riken) jointly developed the Fugaku supercomputer, which uses Nittobo's E-glass cloth and low-dielectric glass cloth in its CPUmounted printed wiring boards. Fugaku will be utilized in various fields such as AI (artificial intelligence) and Big Data analysis, including research on new coronaviruses. Printed wiring boards that can handle high communication speeds, large data capacity, and higher electrical frequency signals are required to both achieve fast computational speed and to save power. Therefore, our products, which help to minimize any attenuation (transmission loss) and signal delay within printed wiring boards, were chosen for use.



Computer racks that make up Fugaku (Image courtesy of Riken)



A Fugaku system board (Image courtesy of Fujitsu

## **Glass Fiber Division**

## Glass Fiber for Industrial Materials Business

**Business Description** 

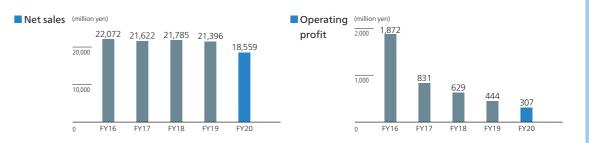
Social and Environmental Contributions

The Glass Fiber for Industrial Materials Business manufactures and sells glass wool as a residential heat-insulating material for industrial applications and glass fiber in the form of glass cloth and braided glass cloth for industrial and construction materials.

Glass wool's use as a heat-insulating material contributes to the creation of an energy-efficient society, while its use of recycled glass as a raw material contributes to resource saving. Glass fiber is also helping to meet fuel efficiency and weight reduction needs in automobiles and aircraft.

FY2020 **Business** Results

Due to a decline caused by the COVID-19 pandemic, both sales and profits decreased in glass cloth for equipment and construction materials, as well as heat-insulating material in residences.









Glass wool insulation

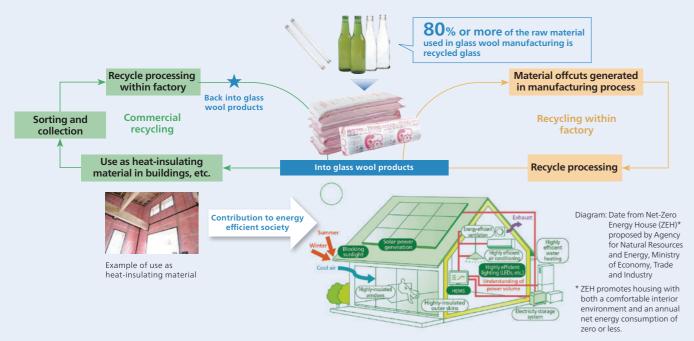
Glass wool board for interior finish

In 1949, the Nittobo Group became the first Japanese company to manufacture glass wool. Today, we remain a pioneer in the field with an extensive portfolio of proprietary technology. Glass wool is used widely as insulation material in residences and buildings, contributing to energy efficiency. Moreover, we make environmentally friendly products that contribute to resource recycling, as the raw materials include discarded bottles and glass windows.

- Proprietary precision fiber technology for high insulating effect and energy-efficient housing

#### **Recycling in the Manufacturing Process**

Glass wool is a CFC-free heat-insulating material that does not use a CFC alternative. It is made with environment-friendly recycled glass using advanced technology and is a designated item under Japanese green purchasing legislation.



#### Industrial-use glass fiber





Industrial-use glass fiber (braided glass cloth)

Industrial-use glass fiber (broad-cut membrane)

Industrial-use glass fiber has a wide range of applications, from membranes for large-scale buildings to vibration-damping materials for automobiles. Leveraging the lightness and fireproof properties of glass fiber, we continue to develop new applications in the automobile and aircraft industries to serve the demand for energy efficiency and lightweight materials.

- Strengths High-strength, weather-resistant membranes using superfine glass fiber

#### **Main Product Groups and Applications**





- Light shades (illumination covers)
- Roll-up blinds

Automobiles

• Tent films • Back-lit signboards



- Concrete corrosion-proofing and reinforcement • External wall reinforcement
- Coating film waterproofing

#### **Application Examples**



The translucence of the material allows for streamlined designs that are difficult to achieve with molded products

Bankwest Stadium (Australia) Pacific Fair Shopping Centre (Australia) Applications Suvarnabhumi Airport (Thailand)

## **Life Science Business**

**Business Description** 

Life Science Business manufactures and supplies in vitro diagnostic reagents and antisera, specialty chemicals products, and beverages.

Social and Environmental Contributions

The Nittobo Group promotes healthy and comfortable lifestyles for people around the world through the supply of in vitro diagnostic reagents, specialty chemicals products, and beverages.

In the Medical business, sales were sluggish in the first half of the year due to the impact of COVID-19. In the second half of the year, sales in Japan recovered to the same level as the previous fiscal year, but circumstances remained challenging for overseas business. In the Beverage business, the volume of contracted beverage production decreased due in part to the adoption of stay-home lifestyles. As a result, the Life Science Business reported decreased sales and profits.





#### Medical (In vitro diagnostic reagents)

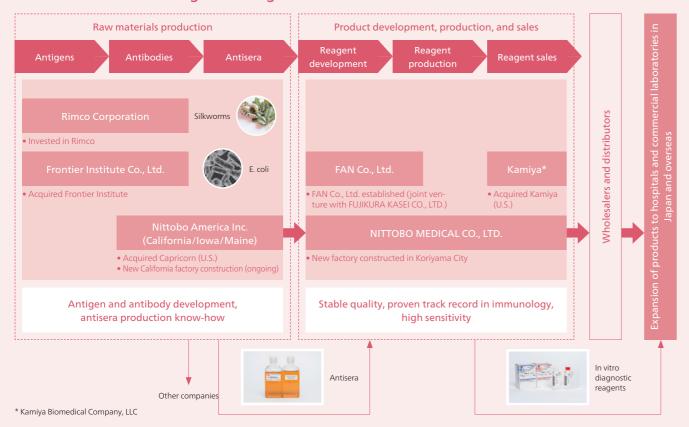


In vitro diagnostic reagents are used for tests done on samples such as blood and urine that have been taken from the body to diagnose illnesses at health checkups and visits to doctors. These reagents are used to measure the levels of certain substances in the samples and are not used directly on the human body. Doctors refer to the results of these tests, performed in hospitals and commercial laboratories, to help determine courses of treatment.

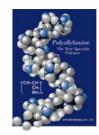
Strengths

- An integrated production system from raw materials to finished products allows the Nittobo Group to stably supply a variety of high quality products
- The Nittobo Group has the top market share in Japan for a variety of items, such as inflammation biomarkers and an osteoporosis biomarker, while distributing more than 100 types of diagnostic reagent kits

#### **Value Chain of In Vitro Diagnostic Reagents**



#### **Specialty chemicals products**





In the specialty chemicals products business, the Group engages in the development and sale of highly unique functional polymers such as polyallylamine and the polyamine series. We research, develop, manufacture, and sell highly unique products to customers with high entry barriers in a wide range of industry sectors, such as toiletries, papermaking, metals, electronic materials, and generic drugs.

#### **Major Product Groups and Applications**

#### Auxiliary agents for metal processing

- Electrolytic plating
- Acid corrosion inhibitor
- Metal processing cutting oil additive

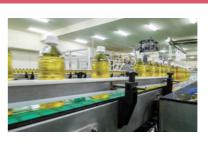
#### urface-protective agent SSG

- Anti-fouling
- Anti-corrosion coating
- Solid natural wood protection

#### Water treatment agents

- Wastewater treatment
- Metal scavenger
- Decoloring
- textile processing
- Dye-fixing
- Friction fastness improver
- Deep-coloring

#### Beverages





In the beverage business, we specialize in high-variety, small lot production to meet the needs of individual brand owners through OEM production of private brands. We pursue differentiation from competitors by meticulously following recipes and rapidly switching between product types.

## **Textile Business**

**Business Description** 

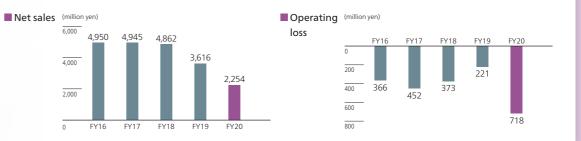
In the Textile Business, Nittobo manufactures and sells products closely connected to our daily lifestyles, including auxiliary materials for clothing, raw yarns, and more. Our adhesive interlining products command a large share in the high-end ladies' apparel market, and our Nittobo Dishcloth™ has been a consumer favorite for more than sixty years.

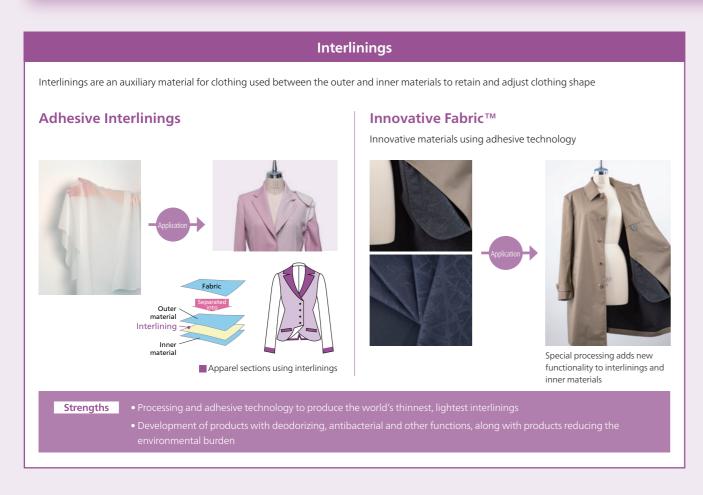
Social and Environmental Contributions

In the Textile Business, we have enhanced the range of interlining products that are friendly to the global environment. The main items contributing to reduction of environmental burden are formalin- and fluorine-free interlining and sustainably produced interlining made with recycled polyester yarn and solution-dyed yarn.

FY2020 **Business** Results

Sales declined significantly against the backdrop of the shift to new, stay-home lifestyles due to the COVID-19 pandemic.

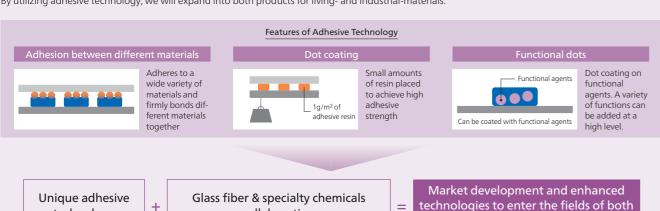




#### **Developing New Applications**

technology

By utilizing adhesive technology, we will expand into both products for living- and industrial-materials.



collaboration

Nittobo Dishcloth™

Created through joint research with Kurashi-no-techo Co., Ltd., this is a long-selling product whose popularity stretches back over 60 years. In 2015, it received the Good Design Long Life Design Award.

- Absorbent, smooth, and fuzz-free drying cloth



#### Raw yarn

'C-S-YTM' (core spun yarn) is a multilayer structured yarn in two or three layers combining staple fibers and polyurethane to create innovative stretch fabrics. It is used in a wide range of applications, from denim, suits, socks and other daily apparel to bandages for use in medicine and sports.

#### FOCUS ON

#### New Organization after Structural Reform—Nittobo Advantex Co., Ltd.

In the Textile Business, we have been working on measures to improve profitability with positive results. In response to shifting new lifestyles and the changing business environment caused by the COVID-19 pandemic, we began drastic reform, recognizing that our structure required overhaul.

In the raw yarn business, although we have been manufacturing and selling spun yarn since our founding, we have decided to withdraw from the business at the end of March 2022 due to fierce competition with overseas companies and the unlikelihood of recovery in business performance.

The interlinings business, which accounts for the majority of sales in Nittobo's Textile Business segment, was transferred to a new subsidiary, Nittobo Advantex Co., Ltd., that started operation in July 2021. By integrating development, manufacturing and sales, Nittobo Advantex seeks to expand business beyond clothing to include living and industrial-materials and respond quickly to customer needs by utilizing our unique adhesive technology. In addition to adhesive interlinings, the subsidiary will also manufacture and sell the Nittobo Dishcloth™. Nittobo Advantex aims to become the global niche No. 1 company in the field of highly functional materials using adhesive technology by increasing management's maneuverability.



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living- and industrial- materials

# Nittobo's Value Creati

# Nittobo's Sustainability Management

The Nittobo Group aims to become a good corporate citizen and "Best Partner" of communities.

The Nittobo Group is aware of its responsibilities as a corporate citizen and addresses CSR issues with the aim of "contributing to the realization of prosperous communities," a principle embodied in our corporate philosophy.

As articulated in the Nittobo Declaration, which expresses shared values fundamental to being a corporation trusted by society, the Nittobo Group aspires to be a "Best Partner" of communities, and we attach importance to sharing satisfaction with all of our stakeholders (communities). In keeping with these values, we will seriously address environmental and social issues as we ceaselessly strive to improve governance in order to contribute to society by creating value through our business activities, and achieve enhancement of corporate value and sustained growth.

## **E**nvironment

- Strengthening efforts to address environmental issues
- Developing new environmentalfriendly products

#### **S**ocial

- Harmonious coexistence with local communities
- Safe and pleasant working environments
- Utilizing diverse human resources, developing of human resources who can bring about change

### Governance

- Constant review of governance in pursuit of fair and highly transparent management
- Rigorous compliance
- Strengthening of risk management

## **Environmental Initiatives**

In all our corporate activities and business development, the Nittobo Group is committed to addressing environmental issues based on the philosophy of preserving the irreplaceable global environment for future generations and achieving sustainable development through the provision of environmentally friendly products and services.

#### **Sustainability Committee**

In order to strengthen our efforts to address environmental issues in the new Mid-Term Business Plan, we established the Sustainability Committee chaired by the Representative and Chief Executive Officer on April 1, 2021. Focusing on the following themes, we are formulating basic strategies and action plans to resolve issues, evaluate performance, and search for business opportunities, while making quick decisions as needed.

#### **Initiative Themes**

#### Reducing CO<sub>2</sub> Emissions

- Promote initiatives to reduce CO<sub>2</sub> emissions through technological innovation and process reform
- Examination to reduce CO<sub>2</sub> levels by 30% by 2030 (compared to FY2013)\*

#### **Promoting Recycling and Reusing**

- Aim for virtually zero waste glass in FY2030
- Promote establishment of processing technology for converting recycled materials

## Development of New Environmental-Friendly Products

- Product development is being promoted by the newly established Environment Technology Strategy Office
- \* In support of the Japanese government's new reduction target for fiscal 2030 announced in April 2021, we are working on specific investigations with a view to reducing CO<sub>2</sub> emissions by 30% in fiscal 2030.

## Social Contribution, Active Human Resources, and Respect for Human Rights in the Supply Chain

The Nittobo Group respects the diversity and human rights of all stakeholders, including those in our supply chain. By making social contributions, we will continue to be a "Best Partner" for all stakeholders and continue "contributing to the realization of prosperous communities."

#### **Social Contribution**

- Supplying products and services that help resolve energy and environmental issues
- Delivering products and services designed to advance the digital transformation of society
- Providing products and services that contribute to health, security and safety

#### **Active Human Resources**

- Respect for diversity and inclusionInitiatives for human resource
- development (next-generation of leaders, global human resources, professional human resources) and expansion of management measures to promote human resource development
- Workstyle reform and health management

#### Respect for Human Rights in the Supply Chain

 Recognize the diversity of human resources and promote respect for the human rights of all stakeholders, including those in our supply chain

## **E**nvironment

**Environmental Initiatives** 

The Nittobo Group is aware of the importance of global environmental problems, and we have developed a code of conduct specifying voluntary, proactive engagement in energy conservation, effective use of resources, pollution prevention, and other environmental conservation activities for the purpose of creating and maintaining a better environment, a requirement for business continuity. In accordance with this philosophy, we have established the Nittobo Environmental Charter and Company-Wide Environmental Policy and are striving for continuous improvement of the environment.

#### **Nittobo Environmental Charter**

#### **Guiding Principle**

In all our corporate activities and business development efforts, we, the Nittobo Group, will contribute to handing down the irreplaceable global environment to the next generation and ensuring sustainable development by providing environmentally conscious products and services and taking the needs of the environment into consideration in our activities.

## 1 Environmental protection

Aim at improving the environment continuously and coexisting with the local community by striving to reduce environmental impacts in a systematic way.

## Environmentally conscious corporate activities

Promote energy-saving, resource-saving, recyclingoriented, and environmentally conscious operations in all business domains in Japan and abroad.

#### **Action Guidelines**

 Compliance with environmental policy and voluntary management

Conform to laws and regulations in addition to other requirements and principles as well as stipulate voluntary environmental policy and management standards and work toward achieving them.

Conduct periodic environmental audits to verify the appropriateness of management standards and improve environmental and safety management to raise such standards.

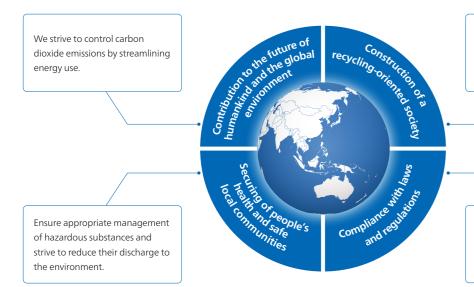
Periodic audits

## Training and education

Provide all employees with thorough environmental and safety training and raise their environmental and safety awareness levels mainly by making environmental and safety policies known to them, and strive to hand down the global environment to posterity

Established on October 1, 1998
Revised on July 1, 2005

#### **Company-Wide Environmental Policy**



We aim to achieve zero emission through emission control and positive use of recycled raw materials.

We comply with environment related laws and regulations and regional agreements to realize zero environmental risk.

#### **Environmental Impacts of the Nittobo Group**

The Nittobo Group consumes fuel and electric energy to manufacture a wide range of products with natural resources and chemical substances as raw materials. Major environmental impacts include carbon dioxide generated as a result of energy consumption,

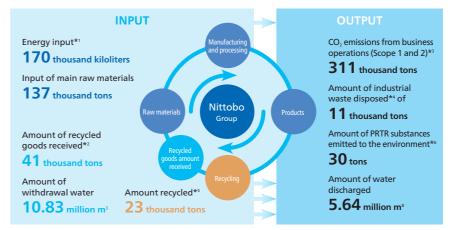
chemical substances that are discharged to the environment without being collected, and industrial waste. The Nittobo Group is striving to reduce environmental impacts by using resources in a reasonable way while taking the needs of the environment into consideration.

#### Results for FY2020

The Nittobo Group conducts an environmental protection survey for its consolidated subsidiaries once a year.

The material balance shown in the figure below has been obtained by collecting data from Nittobo and its consolidated subsidiaries in Japan and abroad on environmental impacts.

(Data on certain items are not collected from some overseas business sites.)



#### ■ CO₂ Emissions

(1,000t-CO <sub>2</sub> )	FY18	FY19	FY20
Scope1	154	148	139
Scope2	143	172	172
Scope1+2 CO <sub>2</sub> emissions from business operations	297	320	311
Scope3*7	152	200	131

Scope of Data Collection

Domestic business sites: Data collected from April 2020 to March 2021

Overseas business sites: Data collected from January to December 2020

\*1 Energy input: Amount of energy obtained by converting fuel used at factories and other sites for manufacturing and electricity purchased into crude oil.

\*2 Amount of recycled goods received: Amount of recycled resources received by Nittobo's factories and other sites from other companies as raw materials.

\*3 CO<sub>2</sub> emissions from business operations: Amount of carbon dioxide emitted by consuming energy at factories and other sites for manufacturing.

\*4 Amount of industrial waste disposed of: Portion of industrial waste generated at factories and other sites, which is not used effectively and is simply incinerated, sent to landfill sites, or otherwise disposed of.

\*5 Amount recycled: Portion of industrial waste generated at factories and other sites, which is effectively used or recycled for reuse. \*6 Amount of PRTR substances emitted to the environment:

\*6 Amount of PRTR substances emitted to the environment: Amount of substances emitted to air and water by factories and other sites, which are subject to the stipulations in the PRTR Act. (Act on Confirmation, Etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof)

\*7 Scope 3: Indirect emissions outside of Scope 1 and Scope 2 (emissions of other companies related to business operations)

#### FY2020 Scope 3 Category Details (t-CO<sub>2</sub>)

Products and services purchased	95,381
2. Capital goods	31,231
5. Waste	547
6. Business trips	360
7. Commuting to/from work	330
9. Transport and delivery (downstream)	3,351

#### Scope 3 Reduction Initiatives

- Improve transportation efficiency through collaboration with suppliers and transporters
- Reduce CO<sub>2</sub> emissions through glass waste recycling

#### Initiatives to Reduce CO<sub>2</sub> Emissions

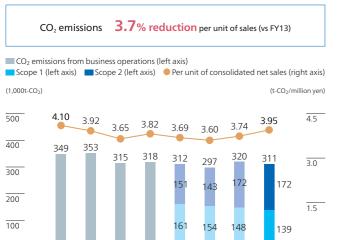
The Nittobo Group uses a large amount of energy and its CO<sub>2</sub> emissions are mostly from glass melting furnaces, a part of glass fiber manufacturing. Therefore, we have been working to reduce CO<sub>2</sub> emissions by switching the fuel used for glass melting furnaces from heavy oil to utility gas and by introducing oxygen combustion systems in our factories.

In light of the Japanese government's declaration towards carbon neutrality made in October 2020, the Nittobo Group will further accelerate its efforts to reduce  $\mathrm{CO}_2$  emissions, promote the electrification of glass melting furnaces, and thoroughly pursue energy conservation and productivity improvement through technological innovation and process reform. In addition, we will actively promote the implementation of renewable energy sources to contribute to the realization of a low-carbon, sustainable society.

#### **Recycling Initiatives**

One of the priority measures in the new Mid-Term Business Plan is strengthening our efforts to address environmental issues. Since reuse and recycling are essential for the realization of a sustainable society, we have set our recycling target for fiscal 2030 as achieving virtually zero waste glass volume and are working to achieve this goal. Group companies that manufacture glass yarn not only reuse the waste glass generated in their own manufacturing processes as raw materials, but also share the waste glass among Group companies in an effort to improve the recycling rate. Paramount Glass Manufacturing Co., Ltd., a glass wool manufacturer, uses recycled glass from sources such as glass bottles as a raw material, and has also obtained wide-area certification from the Minister of the Environment, and is working to establish a system for recycling glass wool. The wide-area certification system is an initiative to encourage the reuse of waste materials generated in the market. Waste materials of recyclable glass wool products, like cutting scraps, are reclaimed and recycled by Paramount Glass Manufacturing Co., Ltd. on behalf of the companies that generate them, and transformed into new products.

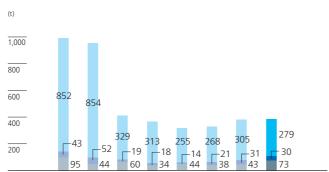




■ Air pollutant emissions

■NOx ■SOx ■Dust

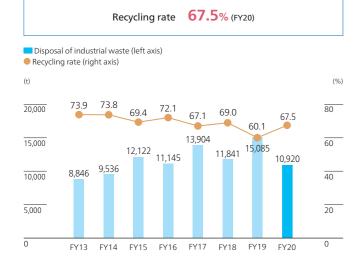




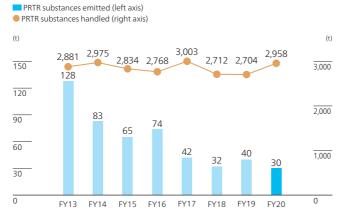
FY13 FY14 FY15 FY16 FY17 FY18 FY19 FY20

PRTR substance emissions 76.6% reduction in total amount (vs FY13)

■ Industrial waste disposal and the recycling rate



■ PRTR substances emitted and handled

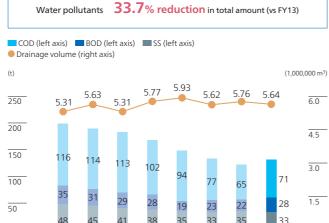


■ Withdrawal water



FY13 FY14 FY15 FY16 FY17 FY18 FY19 FY20

■ Water pollutants and drainage



**Development of New Environmental-Friendly Products** 





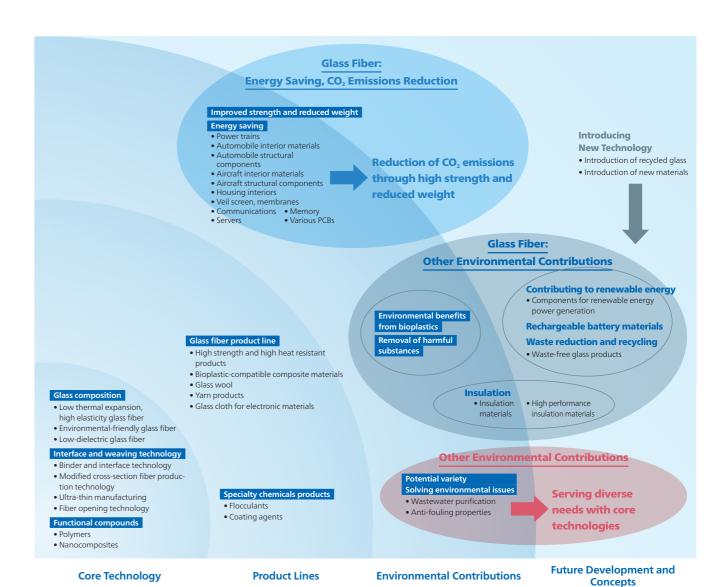




We will reduce our environmental impact through our business by making full use of the Nittobo Group's technological capabilities and product knowledge.

■ Development Objectives of Products and their Effect on the Environment

Product Development	Purpose	Environmental Effects	Classification
High strength, high heat resistant glass fiber	Automobiles: Powertrain, structural components, interior components, parts requiring heat resistance and strength Aircraft: Structural components, interior components	Weight reduction for mobility  → Reduced energy consumption  → Reduced CO <sub>2</sub> emissions	Reduces $CO_2$ emissions through weight reduction of materials
Bioplastic-compatible glass fiber	Reinforces resins used in environmental-friendly components	Benefits unique to bioplastics, such as reduced use of fossil fuels and reduced CO <sub>2</sub> emissions after disposal	Bioplastic effects
Glass wool	Insulating materials for houses, ships, etc.	Improves heat retention through insulation  → Reduced energy consumption  → Reduced CO <sub>2</sub> emissions	Reducing CO <sub>2</sub> emissions through insulation
Yarn regulation compliant products	Roll screen materials, etc.	Complies with environmental regulations Prevents adverse effects on the human body	Removal of harmful materials
Glass cloth for electronic materials	Various printed wiring boards, servers, memory, communication devices, etc.	High speed, high capacity  → Reduced energy consumption  → Reduced CO <sub>2</sub> emissions	Reduces CO <sub>2</sub> emissions by supporting high speed and high capacity
Functional compounds	Coating agents, flocculants, etc. (a wide variety)	Anti-fouling properties, wastewater purification, etc.	Other



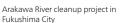
#### **Harmonious Coexistence with Communities**

Each of the Nittobo Group's business sites seeks harmony with society and engages in various activities with the aim of growing and developing together with its host community.

#### **Community Beautification Activities**

The Nittobo Group's business sites engage in community beautification activities. The Fukushima Factory participates in a cleanup project for the Arakawa River, a clear river that flows through Fukushima City. In addition, the Fukushima No. 2 Factory engages in cleanup activities at a nearby river together with local residents.





the community.



Volunteer river cleanup work in the Sakura area

#### **Support for Regional Vitalization and Sports**

The Nittobo Group serves as an official club partner of Fukushima United Football Club, a J.League football team that is active around the country with the aim of supporting the development and regional vitalization of Fukushima through sports.





Community Contribution (NITTOBO ASIA Glass Fiber Co., Ltd.)

NITTOBO ASIA Glass Fiber Co., Ltd. (Chiayi, Taiwan) donated and

use during disasters. In September 2020, it was awarded in the

rescue operations in Taiwan at the Disaster Preparedness and

Rescue Enhancement Project award ceremony hosted by the Ministry of the Interior of the Taiwanese government

excellent category for contributing to disaster preparedness and

installed 12 signs showing the local evacuation sites and routes for

mage courtesy of Fukushima United Football Club

#### a Safe Workplace Environment Perform a risk assessment to

1 Establishment of

**Safety Initiatives** 

remove and decrease hazardous and harmful factors and invest in necessary management resources to maintain and improve our safe and healthy working environment.

#### **2** Promote Health Maintenance

Proactively assist in the maintenance and promotion of the health of our employees both mentally and physically by establishing a pleasant workplace in which they freely and willingly exchange opinions, and prevent harassment or excessive workload at the

#### **Course of Action**

Nittobo Group will comply with all laws and regulations and will establish safe and pleasant working environments based on

the understanding that the safety and health of its employees is the foundation of its business operations.

workplace. **3** Compliance and Management of **Labor Policy** 

Comply with laws, regulations and other standards regarding safety and health and to set our own environmental policies and management standards.

#### **6** Education/ **Enlightenment**

Seek to examine and improve Create safe and healthy working safety and health control environments across our organisystems and to enhance such zation by thoroughly providing control standards through the all of our employees with safety and health education and to implementation of periodic safety and health inspections. understand safety and health guidelines.

Established on July 1, 2017

#### **Examples of Safety Initiatives**

#### **Response to Major Disasters**

Response to COVID-19 Infections

The Nittobo Group manages risks to mitigate the potential impact of disasters, accidents and other events. To ensure the safety and health of employees is the basis of business management, committees at each business site conduct activities to promote legal

compliance and to create safe and pleasant working environments. BCP training and earthquake and fire response drills are also conducted on a regular basis.

4 Implementation of

**Periodic Inspection** 

#### **Basic Policy on Responding to Major Disasters**

- 1. Prioritize the safety and wellbeing of employees and their families.
- 2. Where possible, continue to conduct critical business operations, such as supplying useful products, technologies and services. If business operations are halted, aim to restart as soon as possible.
- 3. Appropriately manage the risk of business disruption and minimize the impact on business management
- 4. Cooperate with local residents and surrounding local governments as a good corporate citizen.
- 5. Regularly update BCPs and conduct drills to verify effectiveness (annually).



BCP training drill

In continuing our business activities during the COVID-19 pandemic, the Nittobo Group is prioritizing the safety of employees and business partners. Employees at the Tokyo Headquarters, Osaka Branch, and sales offices in urban areas have generally been working from home since January 2021, with about 40% physical office attendance. All Group factories and subsidiaries are focusing on preventing infection by enforcing rules on wearing face masks and using

alcohol sanitizer. The COVID-19 Response Headquarters was established in 2020 and is led by the Representative and Chief Executive Officer. This body is working to further strengthen the entire Group's infection prevention system and to build safe, secure workplaces. Its initiatives include enhancing infection prevention measures and making changes in the work system, with measures adjusted in response to situational changes.



Acrylic panels installed in the cafeteria of a domestic factory with staggered seating arrangement



Temperature detectors in front of the visitor reception area



**Community Contribution (Fukushima Enterprise Center)** 

Prefecture) is located on the high-traffic Route 288. The area in front

The Fukuyama Enterprise Center (Koriyama City, Fukushima

of the main gate is a pedestrian route for elementary and junior

ensure the safety of children and students and to contribute to

high school students, and green pavement has been installed to

#### **Support for Education**

The Fukushima Factory holds children's science classes every year to increase interest in science and the environment among the children who will become tomorrow's leaders. The Fukuyama Enterprise Center has engaged in similar initiative since fiscal 2012. Other factories have hosted plant tours for students and other visitors as well.



(Fukushima Factory)



(Fukuyama Enterprise Center)

#### **Fukushima Reconstruction Support**

The Nittobo Group is working with Fukushima Prefecture to decontaminate soil. We have provided one company location in Fukushima City as a temporary storage area for decontaminated soil and two locations in Koriyama City as a loading area for decontaminated soil.



## ✓ Social

## **Active Roles of Diverse Talent**

#### Realize a Corporate Culture that Respects Human Rights and Encourages Employees to Play an Active Role

To ensure the Nittobo Group remains the "Best Partner" for all stakeholders and continues to contribute to the creation of prosperous communities, we believe it is important to value and harness the individuality, capabilities, and views of every employee in the Group. In line with that thinking, the whole Nittobo Group strives to create an environment and organizational culture that is motivating for all employees based on respect for different people, regardless of gender, age, SOGI\*, nationality, disability and other individual identities.

\* SOGI: Sexual Orientation & Gender Identity

#### **Systems to Promote Diversity**

Using the Nittobo Declaration as the basic policy, management and the Human Resources Department work together to actively identify and resolve any issues through direct dialogue with frontline sites and employee awareness surveys. Targets for improving employee engagement are one of the outcomes to be measured by the Mid-Term Business Plan.



We want to be a company where people with diverse skills can work hard together and emerge as leaders who can guide the Company in new directions.

#### Katsuya Hatanaka

Executive Officer,

Responsible for Human Resources Department

In recent years, various indicators of diversity such as gender, race, and age have been discussed, but I believe that diversity of skills is just as important for a corporation.

In the era of mass production and mass sales, such as during the period of rapid economic growth, it was beneficial to have employees with homogeneous skills in order to efficiently focus resources within still-growing businesses. Now, we need to further our business, despite the age of uncertainty we are living in. As goals change, I believe that skill diversity is essential to create leaders who can break through the status quo, engage in productive discussion with their peers, and lead in new directions.

So, what does it mean to have skill diversity? I believe that to secure skill diversity, each and every employee much develop their own unique skills that they can show off with pride in the Company, in their relevant industries, and in the world. These unique skills are one part of an individual's identity. I think it's especially important to

clarify the unique skills you should acquire by your thirties. When you are young, you can use your experiences—especially from failures—to improve your skills, logically derive shortcuts to your goals, and avoid making the same mistakes again. That's why you need to challenge yourself, make mistakes, and gain experience when you're young, and managers need to let you do so, as long as business isn't affected. After 30, you can dig deeper or establish new skills, but it's important to have unique skills so that people can rely on you. I would like Nittobo to be a company that allows leaders to emerge from among people with diverse, unique skills and move our business in the right direction.

It goes without saying that these unique skills shouldn't be limited to one's hobbies or interests. They must result in expertise that aligns with the Nittobo Corporate Philosophy. They must be skills that are useful to both our customers and society as a whole.

#### **Diversity and Inclusion**

Discussion by employees with different perspectives and personalities can lead to success in meeting diverse customer needs and delivering peace of mind and confidence. Employees are the driving force that supports the Nittobo Group's sustained growth, and each member of our diverse workforce is a valuable asset. Nittobo considers it

important to create an organization accepting of diversity in which each individual can fully demonstrate his or her capabilities. One way of laying the foundation for such a diverse organization is to respect and promote diversity and inclusion.

#### 1 Initiatives for Women's Advancement

Creating a workplace environment in which women play active roles is an important issue for the growth of employees, regardless of gender. We are addressing this matter. The ratio of women in manager positions in the Company is increasing every year, and stood at 4.1% at the end of fiscal 2020. We have set a target of 10% for the future, and are systematically training and promoting the next generation of executives.

#### ■ Ratio of women in management positions by the end of the fiscal year



#### 2 Initiatives to Support Balancing Childcare and Nursing Care

It's important to create an environment where employees can overcome the difficulty of balancing work with childcare and nursing care, and continue to demonstrate their abilities. We are working on support for balancing childcare and nursing care of diverse human resources.

Specifically, we have a childbirth leave system, childcare leave system, shorter working hours system, and nursing care leave systems. All applicable female employees take maternity leave and childcare leave, and about 80% of male employees use the maternity leave system when their spouse gives birth. In addition, for employees

working in the Tokyo metropolitan area, we offer the use of a nanny service to counter the problem of daycare waiting lists. We have also introduced a flexible working system for childcare, which can be combined with the shorter working hours system.

Most recently in July 2021, we introduced a system that allows employees to take up to two weeks as paid leave of absence after concluding childcare leave, and a system that allows employees to take up to two separate leaves of absence. We will also encourage male employees to take childcare leave by making the system even more flexible.

#### **3** Employment of People with Disabilities

It is becoming increasingly important for companies to employ people with disabilities. The Company has already met the legally required employment rate of 2.3%. As part of our efforts to employ more people with disabilities, we are striving to create safe working environments at our plants. In 2018, we established a work support office at our Tokyo Headquarters, and we are promoting stable employment under the supervision and support of permanent employees.

#### 4 Work after the age of 60

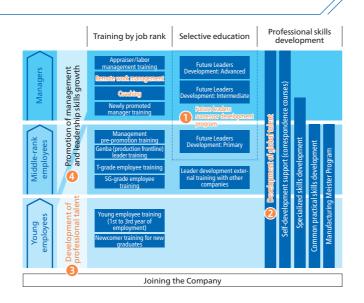
A declining working population is a major social issue in Japan, which has a declining birthrate and aging population, and competition to secure human resources is likely to become increasingly intense. Against that backdrop, we will enhance programs and mechanisms that encourage employees to pursue careers at Nittobo for as long as possible. We are focusing particularly on enhancing HR

programs and benefits, and developing a working environment to enable employees to continue working with high levels of motivation after the age of 60. We will also implement initiatives to make Nittobo a company that employees will be glad they chose throughout the entirety of their careers.

#### **Human Resource Development**

To utilize the maximum potential of the Company's diverse human resources, we have been carefully implementing human resource management tailored to each individual, including measures such as continuously improving both the personnel system to increase individual motivation and the training system to foster growth.

In the newly formulated long-term vision, Big VISION 2030, we will work to cultivate the next generation of leaders, global human resources, and professional human resources. We will actively work to expand management measures to promote individual motivation, self-driven learning, and career development under the theme of fostering human resources for innovation, which is the foundation for creating business growth and driving reform.



#### **1** Development of the next generation of leaders

Conventional stratified training for personnel is provided for new graduate entrants, young employees and newly promoted key personnel through to department and division managers. To complement this standard training, Nittobo launched its Successor Development Programs in fiscal 2018. These programs are designed to match the growth stage of each employee, focusing on young employees and middle management, in order to develop future leaders. These programs consist of intensive training for business skills and action learning using practical cases we need to resolve. Through the training, these programs develop understanding about the role of senior managers and improve managerial qualifications. In today's unprecedented business environment, developing business persons who can overcome preconditions is an indispensable activity. We believe it leads to an essential pillar for business strategies. Nittobo will systematically develop the leaders who drive our businesses.

#### 2 Development of global talent

To prepare for further globalization of the Company's business, it is essential that Nittobo develops human resources and creates a corporate culture that enables diverse human resources to fulfill their potential. We are enhancing mechanisms that support the voluntary efforts of individuals to become who they want to be, such as

providing opportunities and systems for employees to engage in online English classes, and also to travel overseas to study foreign languages participate in internships, take MBA courses, and work at research institutes

#### **3** Development of professional talent

Before becoming managers, Nittobo employees pursue development as specialized professionals in their areas of specialization and work to establish their core skills. We introduced the Meister Program in fiscal 2018 at manufacturing sites and are systematically promoting skills transfer. For sales representatives and diagnostics medical representatives (DMRs), who have frequent contact with customers, we provide solutions-based training in solving problems

facing customers and link this training to improvement of professional skills that enable these employees to further enhance customer satisfaction. We also provide wide-ranging support for individual skills development, offering a program to assist employees in obtaining public qualifications necessary for work and a distance learning assistance program that includes e-learning.

#### 4 Expansion of management measures to foster human resource growth

Training courses are important for any human resources development policy, but it is also important to encourage individuals to be motivated to learn, to carefully consider their career aspirations, and to implement development measures that match their ideas and expectations. Therefore, we have systematically implemented one-on-one meetings between superiors and subordinates as an important communication tool. In addition, we are implementing management measures to promote growth, such as the creation of the Career Development Committee, which includes supervisors, management, and the Human Resources Department. The new committee will discuss future training measures and career development for employees. We have also instituted interviews with employees at age 30, after they have experienced a range of work tasks, to reflect on their careers and discuss future career development. In addition, we are also in the process of expanding our management training for employees who will be responsible for these activities.

#### **Human Resource Development Committee**

This committee deliberates on how to match the needs of the organization with the unique skills and future career aspirations of each individual by utilizing self-assessments and the age 30 interviews. It also considers future human resource development plans and allocations.

#### Putting the right people in the right places



#### Interview at age 30

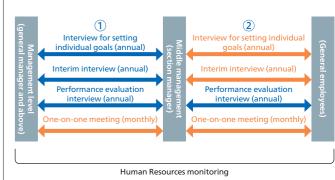
At the age of 30, when an employee has had a full range of work experience, they are asked to identify their career goals. Then, they reflect on the relationship between their career goals and development plan based on the direction they intend to pursue

Join Nit	tobo	3rd year	Age 30	Age 35	Key pos	ition
Entry t	1-3 years of training for young employees	Departmental OJT/specialized education	Inte	Developmen	t plan A	Career goal A
training	Departmental OJT/specialized education	Proficient, pro- fessional human resources	Interview	Developmen	t plan B	Career goal B

#### One-on-One Meetings

- These meetings consist of a goal evaluation system for general employees to raise awareness about the connection between their own work and the goals of the division/department, as well as improving the transparency of evaluations and enable
- Implement monthly one-on-one meetings at all levels to increase two-way communication opportunities. • Human Resources Department monitors one-on-one meetings and supports implementation.

#### Measures to strengthen communication





	Relevant employees	Measures
1	$\underset{managers}{General} \longleftrightarrow \underset{managers}{Section}$	Enhancing two-way communication and human resource development through one-on-one meetings
2	$\underset{managers}{Section} \longleftrightarrow \underset{employees}{General}$	Raise awareness of departmental and divisional goals, while improving the transparency of evaluations by introducing a goal management system

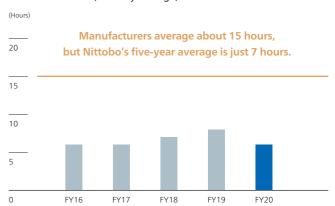
#### **Work Style Reform and Health Management**

#### 1 Promotion of work-life balance

Average monthly overtime per employee at Nittobo in fiscal 2020 was 5.7 hours, much lower than the manufacturing industry average. To enable employees to experience job satisfaction and demonstrate their best performance, while simultaneously maintaining an appropriate work-life balance, we will continue to develop an environment in which people pursue long careers. Also, in Japan, which has a declining birthrate and aging population, it is important to prepare a worker-friendly environment for employees with childcare or nursing care responsibilities. We are enhancing programs that allow employees to respond flexibly to those kinds of life events, such as an annual paid leave system and a flextime system that eliminates core hours. Also, amid the COVID-19 pandemic, we have started a work-from-home system on a trial basis to help prevent the spread of infection. With work practices in general expected to undergo far-reaching changes, we are continuing to embed and improve new work practices that achieve both a high-quality worklife balance and significant improvements in productivity, including our recently-launched project to improve the productivity of internal

departments (NICO-WORK Project). We are also revising regulations and systems, employing robotization, utilizing workflow systems, and shifting to paperless methods that don't require hanko seals.

#### Overtime hours (monthly average)



#### **2** Health management

Health in mind and body is the cornerstone of employee job satisfaction. In cooperation with the Nittobo Health Insurance Association, we strive to promote employee health by providing opportunities for physical and mental refreshment, such as free-of-charge use of

a sports gym, health checkups administered by post, and support for family enjoyment of recreation. We have also taken out comprehensive medical expense insurance to alleviate the expense burden on

employees when injury or sickness occurs.

#### **Messages from Nittobo's External Directors**



Masamichi Ouchi
Director

## Active discussion by External Directors enhances deliberations on the Mid-Term Business Plan at Board of Directors meetings.

The formulation of the new Mid-Term Business Plan launched in fiscal 2021 began in the midst of the COVID-19 pandemic. This contrasts greatly with the period of smooth sailing when I first became a director in 2015.

Amidst the impact of COVID-19 and a worsening business environment, we started formulating this Mid-Term Business Plan, my second since taking office. While the number of External Directors remains the same as the previous year, the composition has changed significantly and, I believe, diversity has been enhanced.

The new External Directors, who took office in the previous year, participated in active discussions and deliberations that began during the uncertain, unpredictable situation created by the COVID-19 pandemic. I think that the diversity of the Board made these meetings very meaningful.

In creating this new Mid-Term Business Plan, we succeeded in finalizing the policies and measures for the future of the Textiles Business, which had been pending for a long time. The plan also includes a recovery path for the delay in 5G-related business earnings due to the COVID-19 pandemic.

To achieve the goals of the new Mid-Term Business Plan, the efforts of the Company are of utmost importance, but the external environment also has considerable influence. Many experts remain unable to draw any firm conclusions as to when the COVID-19 pandemic will come to an end

According to one theory, COVID-19 will continue affecting both Japan and the world in waves for at least one or two more years. To accomplish the goals of the new Mid-Term Business Plan, it will be essential to first maximize our own efforts and then take precise action. I hope that the fog will clear as soon as possible.



Sadayoshi Fujishige
Director

## Through deliberations of the Board of Directors, our key people have created a clear image of the future of the Company.

Nittobo will celebrate the 100th anniversary of its founding on April 1, 2023. To continue our sustainable growth over the next one hundred years, we have created Big VISION 2030 along with our "New Mid-Term Business Plan (FY2021–2023)."

Under the leadership of President Tsuji, all officers and department heads had a series of active discussions to communicate and clarify operating conditions and issues, and to set goals and the strategies for achieving them. The greatest achievement of this process is that our key people were able to solidify a clear vision for the future of the Company with Big VISION 2030 and the "New Mid-Term Business Plan (FY2021–2023)."

As an external director, I gave a summary presentation to all of the other officers and department heads on the following topics: characteristics shared by the world's best compa-

nies that are more than a century old; the three challenges companies will face in the near future (population, digital revolution, and inequality); analysis of the growth strategies of six other companies in our industry; and 100-year lifespans and how to spend one. Then, I proposed five key ideals for the formulation of the Company's Mid-Term Business Plan: (1) develop advanced technology and respond to highly sensitive markets, and utilize a system for listening, capturing, and responding to the needs of such markets; (2) become a highly sensitive, highly flexible company; (3) select and focus business; (4) shift management from decentralized to integrated and implement digital transformation; and (5) weave happiness by connecting people with each other, society, and nature with a high degree of sensitivity. I believe that these ideals now embody the Company's vision.

Nittobo has been meeting the needs of the world by pursuing the possibilities of materials and pushing past its competitors by developing advanced technologies. In addition to this pioneering spirit, I believe that by strengthening our formation as a company that responds to highly sensitive markets, we will continue to grow sustainably for the next one hundred years as the global niche No. 1 company.

## We need to once again return to our founding spirit and maximize the leading potential of our R&D.

The new Mid-Term Business Plan has been formulated as the first phase of Big VISION 2030, which sets forth the vision for the Company in 2030, and to achieve the standard of becoming a global niche No. 1 company. The formulation process was improved, and the content was thoroughly discussed within the Company.

The main pillars of the Mid-Term Business Plan are to improve profitability and growth at the existing businesses of the Glass Fiber business and the Medical business, while simultaneously strengthening R&D functionality to create a third pillar of business for the future.

I was actively involved in discussions related to the R&D system since I have many years of experience in R&D management in the manufacturing industry. Nittobo established a new Research & Development Headquarters (NI-CoLabo) during the previous business plan,



Hiroshi Kagechika Director

with the intention of making it a business center by consolidating other laboratories. Operations are now on track for this organization to effectively fulfill this role within the course of the new Mid-Term Business Plan. We have organized issues such as clarifying the role of the Research & Development Headquarters, collaboration with each business division, and eliminating duplicate and decentralized organizational systems. A number of measures to establish a management system for research facilities have been incorporated into the new plan. Specifically, we have established a dedicated department in the Research & Development Headquarters to deal with Groupwide matters to support future growth (zero carbon, digital transformation strategy, and environmental response), and have prepared a system to tackle issues that cannot be handled by business divisions alone. In addition, we will concentrate the entire Company's R&D resources into the Fiber R&D Center and the Medical R&D Center for product development and production technology development of existing businesses.

Reducing production costs in the glass fiber business is an issue that we must continue to address in order to secure the revenue base of our core business, and we have launched a project in collaboration with the Technology Headquarters and the Research & Development Headquarters. In the new Mid-Term Business Plan, we have incorporated these measures into our growth scenario.

As a company with a long history of manufacturing, all of our employees need to return to our founding spirit once again in order to achieve Big VISION 2030, in line with our experience of starting and growing businesses with our unique technologies. We expect our research and development team to lead the way and achieve results by making the most of their abilities.

#### Sharing values and raising awareness of issues by holding wellgoverned, intensive discussions at Board of Directors meetings.

The year 2020, when I became an external director of the Company, was the final year of the previous Mid-Term Business Plan that began in fiscal 2017. The process of formulating the new plan began shortly after I took office as a director at the end of June of that year.

The majority of the External Directors were newly appointed, and it was difficult for them to have sufficient opportunities, such as plant tours, to deepen their understanding of the Company's business due to the COVID-19 pandemic. The first thing I prioritized when creating the new Mid-Term Business Plan was whether governance was effective in the formulation process.

In this regard, the formulation of the new Mid-Term Business Plan has been the subject of intense discussions involving External Directors for about six months, including inventive



Agasa Naito
Director

ways of explaining facets of the business, such as holding remote factory tours. At each meeting, opinions were freely and actively expressed from a variety of perspectives, and I feel that the new Mid-Term Business Plan was well thought out and appropriately formulated based on the opinions of the External Directors. It was also very meaningful that the executives, including the External Directors, were able to share their values and awareness of issues through discussions for the formulation of the new Mid-Term Business Plan.

Participating in the discussions, I sought to examine the issues by utilizing my analytical skills cultivated through my legal work, as well as my unique insights from outside the Company. Formulated in this way, the new Mid-Term Business Plan clearly outlines our long-term goal of becoming a global niche No. 1 company that contributes to the realization of a sustainable society. The plan includes an ambitious set of issues to resolve and initiatives to achieve this goal.

Though the business environment surrounding the Company is not always straightforward, I believe that we can achieve this goal by working together with all of our employees. In particular, I look forward to working proactively to develop human resources and strengthen the management foundation of the Company, I would like to do my part to help realize the ideal state of the Company with matters such as supporting the advancement of women's careers.

# Corporate Governance

The Nittobo Group constantly revises corporate governance with the aim of creating a fair and highly transparent management organization in order to conduct business activities with emphasis on social trust from our shareholders, investors and other stakeholders.

#### Overview of the Corporate Governance System and Reasons for Employing the System

The Company introduced an executive officer system in June 2003 and has created a system able to maximize the effect of consolidated management by invigorating the Board of Directors and speeding up decision making. Since June 2008, management has been conducted by further clarifying the functions and roles of management and business execution.

In addition, with the approval of the Ordinary General Meeting of Shareholders on June 26, 2014, Nittobo shifted to a company

with Nomination Committee, etc. By doing so, the Company further clarified the separation of supervision from execution and aims to strengthen supervisory functions, ensure highly transparent management, execute business swiftly, and increase the flexibility of management. Furthermore, by establishing a system that enables it to more precisely meet the expectations of stakeholders, such as customers, shareholders, suppliers, and employees, the Company will work to further enhance its corporate value.

#### **Corporate Governance System**

#### **Board of Directors**

The Company's basic policy is to constitute the Board of Directors with directors from within the Company with capabilities and knowledge on each business and management in general, and at least the same number of External Directors as internal directors, who are able to express opinions beneficial for the enhancement of governance from the perspectives of diverse stakeholders and society, in order to ensure a system enabling appropriate supervision of the Company's business execution by the Board of Directors as a whole, and has specified that the Board of Directors shall have no more than 12 members in its Articles of Incorporation.

At the time of publication of this report, the Company's Board of Directors was made up of seven members including four External Directors.

The Board of Directors is responsible for supervision of business

The Board of Directors is responsible for supervision of busin execution through selection of directors making up the

Nomination, Remuneration and Audit Committees; election and dismissal of Executive Officers and delegation of business to them; approval of matters related to operations that have an impact on basic management policy such as mid-term business plans and annual budgets; and approval of matters that could have a significant impact on Group management such as investments exceeding a certain amount. The term of office of directors is one year, and a vote of confidence in directors is obtained in the Ordinary General Meeting of Shareholders held annually. The Company's Executive Officers are determined by the Board of Directors. People suitable for the execution of the Company's business are elected from the perspective of enhancement of business execution and corporate value by adopting the approach of putting the right people in the right place.

#### **Nomination, Remuneration and Audit Committees**

As a company with Nomination Committee, etc., the Company has established a Nomination Committee, a Remuneration Committee, and an Audit Committee. The roles of the committees and overviews of the members of the committees as of the date of the publication of this report are as follows.

#### **Nomination Committee**

The Nomination Committee determines the content of proposals to elect and dismiss directors to be submitted to the General Meeting of Shareholders. It is made up of five directors (four of whom are External Directors), and is chaired by External Director Sadayoshi Fujishige. Meetings of the Nomination Committee are held as needed. The Nomination Committee selects the Company's director candidates who are believed to be the most suitable based on factors such as their character and insight.

#### Remuneration Committee

The Remuneration Committee determines the content of individual remuneration, etc., of Directors and Executive Officers. It is made up of four Directors (three of whom are External Directors), and is chaired by External Director Hiroshi Kagechika.

Meetings of the Remuneration Committee are held as needed.

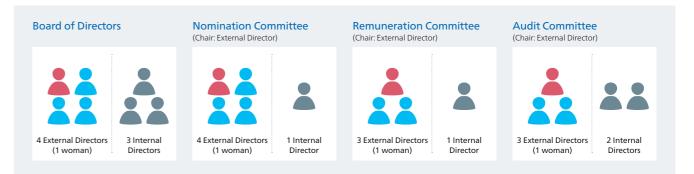
#### Audit Committee

The Audit Committee's responsibilities include auditing the state of execution of duties of Directors and Executive Officers, and the preparation of audit reports. Working with accounting auditors and the Audit Office, audits, etc., are conducted based on audit plans approved in the Audit Committee. It is made up of five Directors (three of whom are External Directors), and is chaired by External Director Masamichi Ouchi. An Audit Committee Secretariat has been established as an organization for assisting the duties of the Audit Committee. In principle, the Audit Committee holds meetings at least once every three months.

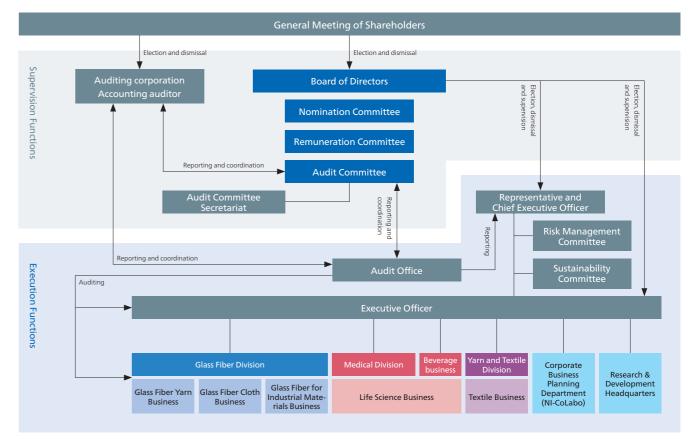
#### **Execution of Business**

As of the date of the publication of this report, the Company has 12 Executive Officers, of which one has been selected as Representative and Chief Executive Officer. An Executive Meeting has been established as an organ to deliberate matters related to the execution of business delegated by the Board of Directors, and it endeavors to ensure efficient business execution by holding meetings twice a month.

#### ■ Composition of Board of Directors and Three Committees



#### ■ Diagram of Corporate Governance System



#### **Self-evaluation Concerning the Effectiveness of the Board of Directors**

In the self-evaluation concerning the effectiveness of the Board of Directors in fiscal 2019, the opinion was expressed that further improvements need to be made to matters such as the enhancement of feedback from Executive Officers on matters to be resolved by the Board of Directors; deepening of discussions on management policies and strategies, including ESG and SDG perspectives; further strengthening of risk management, including management of Group companies, as well as measures to prevent disasters and scandals; and the nature of matters to be discussed at Board of Directors

meetings and the amount of time for discussion. In response to these opinions, the following initiatives were adopted in fiscal 2020.

In a survey covering fiscal 2020, about 70% of the questionnaire responses improved from fiscal 2019, and the results were overall very positive. However, some responded that the following items require improvement.

We will continue to make ongoing improvements so that the Board of Directors can fulfill its supervisory function effectively.

#### Initiatives in Fiscal 2020

- Executive Officers provided explanations and reports prior to and at Board of Directors meetings about the progress of major capital investment projects resolved by the Board of Directors and the actual results of the fiscal year budget to enhance discussions.
- In formulating the Mid-Term Business Plan, the Board of Directors and the Executive Officers on multiple occasions reviewed the previous Mid-Term Business Plan, as well as the issues of each business division, Company-wide research and development, risk management and similar matters. This deepened discussions on the ideal management policies and strategies for the Group, including ESG and SDGs. Based on these discussions, the Board of Directors and Executive Officers formulated a new management strategy Big VISION 2030, our vision for 2030, and the "New Mid-Term Business Plan (FY2021–2023)" that incorporates environmental goals.
- Four External Directors with diverse knowledge and experience were appointed, and they received explanations on agenda items, current status and business issues before Board of Directors meetings, where they engaged in free, constructive and multifaceted discussions and examinations.

#### **Items Requiring Improvement**

- Further improve risk management
- Create a system for feedback on past
   Board of Directors resolutions
- Implement sustainability measures
- Continue management succession planning

#### **Corporate Governance Highlights**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Corporate Governance System	Company w	vith Board of	Directors	Company with Nomination Committee, etc. (from June 2014)							
Committees				Nomination	Committee	(Chair: Extern	al Director)				
				Remunerati	ion Committe	e (Chair: Exte	rnal Director	)			
	_			Audit Committee (Chair: Internal director)	Audit Committee (Chair: External Director)						
Directors	7	6		8				7	6	7	
Of which, External Directors	1	1	2	3	4 (more than half)			4 (more than half)	3 (more than half)	4 (more than half)	
Of which, women										1	
Operation of Board						Briefings be	efore Board of Directors meetings				
of Directors							Board of Directors Evaluation of effectiveness				
Revisions to systems,							Consultant and special advisor systems abolished				
regulations							Executive N	leeting regula	ations formul	ated	

#### **Key Director Expertise and Experience (Skills Matrix)**

The knowledge, experience, and abilities of directors that are considered important to the Company from the perspective of corporate management are defined as business management, technology, research and development, sales, marketing, global business,

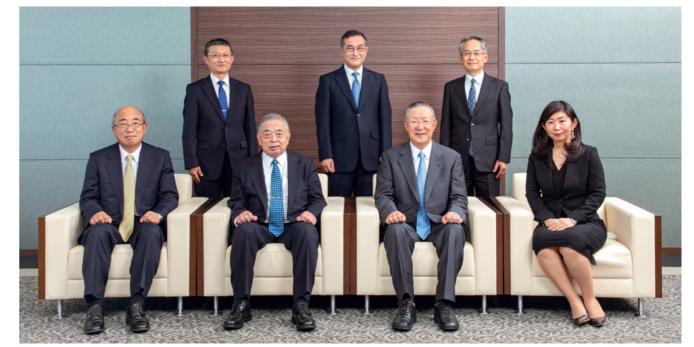
finance, accounting, legal affairs, risk management, human resources, labor relations, and human resources development. We ensure that the Board of Directors is composed of people with appropriate knowledge and abundant experience in each field.

Name		Business Management	Technology/R&D	Sales/Marketing	Global Business	Finance/Accounting	Legal/Risk Management	Human Resources/Labor Relations/Human Resource Development
Yuichi Tsuji		•				•	•	
Toyoshi Nishizaka		•		•	•		•	•
Yu Nozaki		•				•	•	•
Masamichi Ouchi	External Director	•				•	•	
Sadayoshi Fujishige	External Director	•		•	•			
Hiroshi Kagechika	External Director	•	•		•			
Agasa Naito	External Director				•		•	

(Note) The above table does not represent all knowledge, experience, etc. possessed by each person.

#### Meeting Attendance (FY2020)

Name	Position	Board of Directors Meetings	Nomination Committee Meetings	Remuneration Committee Meetings	Audit Committee Meetings
Yuichi Tsuji	Representative Director and Chief Executive Officer	12/12	5/5	5/5	
Toyoshi Nishizaka	Director	12/12			13/13
Yu Nozaki	Director	12/12			10/10
Masamichi Ouchi	External Director	12/12	5/5	3/3	13/13
Sadayoshi Fujishige	External Director	10/10	5/5	2/2	
Hiroshi Kagechika	External Director	10/10	5/5	2/2	10/10
Agasa Naito	External Director	10/10	5/5	2/2	10/10



First row, from left: Hiroshi Kagechika, Masamichi Ouchi, Sadayoshi Fujishige, and Agasa Naito. Second row, from left: Toyoshi Nishizaka, Yuichi Tsuji, and Yu Nozaki

54 Nittobo Group Strong Nittobo Group

#### **Executive Remuneration**

#### 1 Matters pertaining to policy the determination of the amount of executive remuneration, etc., and the method of calculation thereof (a) Deciding policy

The Company determines policy related to the determination of individual remuneration of Directors and Executive Officers on the basis of objective data, etc., from external consultants in the Remuneration Committee made up of a majority of External Directors and chaired by an External Director, based on the provisions of the Companies Act related to a Company with Nomination Committee, etc.

Furthermore, the policy is based on the approach of providing strong motivation for officers to achieve their performance targets with secure transparency and rationality, fostering awareness for medium- to long-term management, and conforming with the interests of stakeholders including shareholders and investors, and the performance targets used for calculating remuneration also reflect this approach.

(b) Outline of the policy

The Company's executive remuneration (excluding External Directors) is structured by basic remuneration determined by the state of competency expected of each position (behavior evaluation) and the state of performance (performance evaluation), and performance-linked remuneration that varies within a range of 0% to 150% according to the level of achievement of individual performance targets based on company performance targets from the previous fiscal year and the activities and performance of the responsible divisions, and the current fiscal year's remuneration is based on a combination of these. Performance-linked remuneration has not been applied for External Directors due to the role of supervising management from an independent and objective perspective.

#### Percentage of Remuneration by Position

Percentage composition of executive remuneration (if the achievement ratio of company and individual targets is 100%)

			Performance-linked remuneration*
Position	Basic remuneration	Company performance	Individual performance
Representative and Chief Executive Officer	67%	16.5%	16.5%
Senior Managing Executive Officer	69%	15.5%	15.5%
Other officers (excluding External Directors)	71%	14.5%	14.5%
External Directors	100%	-	_

<sup>\*</sup> Performance-linked remuneration (company performance + individual performance) is set at 50% of basic remuneration for the Representative and Chief Executive Officer, 45% of basic remuneration for the Senior Managing Executive Officer, and 40% of basic remuneration for other officers (excluding External Directors)

#### Performance-linked Remuneration Indicators and Percentage Reflection in Performance-linked Remuneration

① Company performance	Operating profit (compared to budget)	Operating profit (year on year)	ROE (year on year)	Dividends (year on year)
C	25%	25%	25%	25%
② Individual performance	Operating pro	fit of responsible division (compared to budget)	Status of initiatives to add business plan	dress issues in mid-term for responsible division
© maividual performance		40%		60%

#### **Indicator Selection**

(1) Company performance

The selected indicators are operating profit to demonstrate earning power and enhanced growth potential, ROE to show capital efficiency improvement, and dividends to promote further provision of value to our shareholders.

#### (2) Individual performance

This indicator clarifies the performance responsibilities of each Executive Officer (excluding External Directors) and evaluates the status of efforts to address issues in the operating profit and Mid-Term Business Plan of their responsible business unit separately from the Company's performance.

#### **Process of Determining Remuneration**

The Remuneration Committee chaired by an External Director checks the exhibition of competencies and the level of achievement of Company's performance targets and individual performance targets, and calculates and determines individual amounts based on the aforementioned remuneration percentages and percentages of reflection in performance-linked remuneration.

#### <Calculation rules>

(Basic remuneration)

This is determined using a basic remuneration table that is a matrix based on four levels of behavior evaluation and nine levels of performance evaluation.

(Performance-linked remuneration)

- Company performance = amount of basic remuneration for each prior fiscal year x percentage of Company performance for each position x level of achievement of company performance for the previous fiscal year
- Individual performance = amount of basic remuneration for each prior fiscal year x percentage of individual performance for each position x level of achievement of individual performance for the previous fiscal year Performance-linked remuneration is determined by combining the Company performance and the individual performance calculated as

The remuneration of directors and Executive Officers for fiscal 2020 was also determined by the above method. Furthermore, the Remuneration Committee believes that the content of the remuneration is in line with the above policy, as it confirms the appropriateness of the level based on the executive compensation data provided by external consultants on a regular basis.

shown above.

Targets and actual values of company performance for fiscal 2019 used in the calculation of performance-linked remuneration in fiscal 2020 [Operating profit (compared to budget)] Target: 10,000 million yen\*/Actual: 8,160 million yen

[Operating profit (year on year)] Target: 8,198 million yen/Actual: 8,160 million yen

[ROE (year on year)] Target: 9.1%/Actual: 6.3%

[Dividends (year on year)] Target: 40 yen per share/Actual: 45 yen per share

\* Individual performance targets are set using individual quantitative and qualitative targets, and calculated based on the results thereof.

#### 2 Total amount of remuneration, etc., by category of executive, total amount by category of remuneration, etc., and number of officers who are recipients thereof

	Total amount of	Total amount by	category of remunerat	ion, etc. (million yen)	
remu			Performance-linked remuneration	Retirement benefits	Number of recipients
Directors (excluding External Directors)	80	58	21	_	3
External Directors	75	75	_	_	6
Subtotal	155	134	21	_	9
Subtotal	192	141	50	_	12
Total	347	275	71	-	21
	External Directors Subtotal Subtotal	Directors (excluding External Directors) 80 External Directors Subtotal 155 Subtotal 192	Directors (excluding External Directors)  Subtotal  Total amount of remuneration, etc. (million yen)  Fixed remuneration  5  5  5  5  5  5  5  5  5  5  5  5  5	Directors (excluding External Directors)  Subtotal  Total amount of remuneration, etc. (million yen)  Fixed remuneration  Performance-linked remuneration  Performance-linked remuneration  75  75  75  -  Subtotal  155  134  21  Subtotal  192  141  50	remuneration, etc. (million yen)Fixed remunerationPerformance-linked remunerationRetirement benefitsDirectors (excluding External Directors)805821—External Directors7575——Subtotal15513421—Subtotal19214150—

(Notes) 1. The above numbers include, where applicable, two Directors who retired as of the conclusion of the 159th Ordinary General Meeting of Shareholders held on June 25, 2020

2. The amount paid to Executive Officers does not include the wages paid for employment as an Executive Officer for those who also serve as employees.

3. The Company's performance-linked remuneration is calculated based on the previous fiscal year's performance, and the amount combined with fixed remuneration (basic remuneration) is defined as remuneration for the current fiscal year, and this is paid as a regular equal wage.

#### **Dialogue with Stakeholders**

The Corporate Communication Officer is responsible for general dialogue with shareholders, and the Corporate Communication Department is the internal department responsible for providing assistance thereto. The Company endeavors to have opportunities for dialogue with shareholders that contribute to the sustained growth and enhancement of medium- to long-term corporate value of the Company centered on Executive Officers. Furthermore, departments involved in IR activities centered on the Corporate Communication Department work to coordinate among departments on a daily basis.

We will continue to endeavor to disclose information in a timely and appropriate manner to enable the Nittobo Group's customers, shareholders and investors to accurately recognize and judge the actual state of the Nittobo Group. In order to achieve this, we comply with laws, regulations and securities exchange rules on disclosure, and are engaged in the creation and operation of an appropriate disclosure system.

- (i) We publish items specified for disclosure in Japanese and foreign laws, regulations and securities exchange rules in business reports, annual securities reports and communications to shareholders, and announce them in securities exchange communication systems and press releases.
- (ii) In principle, we publish information being disclosed on the Nittobo Group's website, and also endeavor to provide fairer and broader disclosure.
- (iii) We conduct briefings for analysts and institutional investors promptly after the announcement of quarterly financial results.
- (iv) We publish an integrated report that incorporates financial and non-financial information, including CSR, in order to provide a better understanding of the Group's medium- to long-term value creation framework.

Opinions and concerns, etc., about the Company that are learned through dialogue with shareholders and investors are collated by the Corporate Communication Department, reported to the Corporate Communication Officer and the Board of Directors on a quarterly basis, and appropriately provided as feedback to management executives.

Adequate care is given to insider information in individual inquiries and dialogue with the Nittobo Group, and explanations are limited to information that has already been published and facts that are well known.

#### **Cross-shareholdings**

#### **Policy Regarding Cross-Shareholdings**

The Company holds shares of listed companies under its policy on cross-shareholding in cases where it deems such shareholding to be beneficial for building favorable trading relationships with important trading partners of the Nittobo Group in fields including sales, raw material procurement and finance, smoothly advancing business activities of the Nittobo Group, and enhancing corporate value in the Nittobo Group. However, when the Company deems that shares in its cross-shareholding are not contributing to the sustainability and growth of the Nittobo Group's corporate value, and that there is insufficient reason to hold them, the Company will sell those shares while paying attention to the effect on the market, and so forth.

## Method for Assessing Rationale for Holding Shares

The Company reviews the holding policy for listed shares individually at a meeting of the Board of Directors on a periodic basis, comprehensively considering qualitative factors such as the materiality of transactions with the trading partner, the existence of any technological cooperation or joint capital investment, whether there are any joint ventures underway, and a quantitative evaluation that compares the total return on investment, calculated by considering dividend yield and business profit, against the cost of capital, as well as the comprehensively considered policy on cross-shareholding.

Based on such reviews, the Company sold four different company shares worth 8,665 million yen in fiscal 2020, and 17 different company shares worth 12,804 million yen in the four-year period from fiscal 2017.

## Exercise of Voting Rights Associated with Cross-Shareholdings

The Company will appropriately exercise its voting rights associated with cross-share-holdings after consideration of whether such issuing company has established an effective governance structure and is making appropriate decisions to improve its corporate value over the medium to long term, as well as whether such shareholdings will contribute to enhancing the Group's corporate value

#### ■ Changes in Cross-Shareholdings

			FY2017	FY2018	FY2019	FY2020
Sold during the period	Unlisted stocks			0	2	1
		Amount (million yen)	0	0	32	24
	Amount (million	Number of shares	2	13	3	4
		Amount (million yen)	1,305	2,050	783	8,665
		Number of shares	2	13	5	5
		Amount (million yen)	1,305	2,050	815	8,689
Capitalization at end of period		Number of shares	64	53	51	49
(including unlisted stocks)	luding unlisted stocks)  Amount (million		25,291	20,604	20,694	16,625

#### **Compliance System**

#### System for Ensuring that the Execution of Duties of the Group's Officers and Employees is in Compliance with Laws, Regulations and the Articles of Incorporation

- The Representative and Chief Executive Officer sets an example and ensures that the Group's officers and employees are aware of the Group's Corporate Philosophy, Nittobo Declaration which espouses shared values in order to become a company trusted by society, and Nittobo Behavior Program and Code of Conduct, both of which provide a set of action guidelines, and also endeavors to make them known to all officers and employees in the Group.
- Executive Officers and employees foster a healthy corporate culture that forms the basis for compliance by spreading and implementing the Nittobo Declaration.
- Executive Officers and employees comply with laws, regulations, the articles of incorporation and internal rules, etc., based on the Nittobo Behavior Program and Code of Conduct, and the departments responsible for compliance strive to raise awareness of compliance to increase their effectiveness.
- Violations of laws and regulations are prevented, quickly discovered and appropriately addressed through a Corporate Ethics Help Line, which is a whistleblowing program with an internal whistleblowing contact and an external contact connecting to a law firm.
- The officer in charge of the Risk Management Department periodically reviews the state of establishment of the Nittobo Group's internal control system to ensure the current conditions are consistent with the Group's basic policy. The results of the review are reported to the Representative and Chief Executive Officer, who reports to the Board of Directors, which passes resolutions if any revisions to the basic policy are required.
- The Audit Committee reports the results of operational audits and compliance audits, etc., to the Board of Directors as appropriate.

## Other System for Ensuring Appropriate Operations by the Nittobo Group

- The Nittobo Declaration, the Nittobo Behavior Program, the Code of Conduct and the Corporate Ethics Help Line apply to the entire Nittobo Group, and efforts are made to raise awareness of these.
- Auditing offices are established in major subsidiaries to ensure appropriate operations, and the Company's Audit Office also conducts internal audits with a view to the entire Nittobo Group.

#### **Risk Management**

The Company has established the Nittobo Group's basic risk management policy and system in the Rules for Risk Management as a corporate group including subsidiaries. Based on the basic policy and system, the Risk Management Committee chaired by the Representative and Chief Executive Officer appropriately manages various risks surrounding our business and prevents such risks from

occurring. Furthermore, the Company is also striving to strengthen its legal risk management system by putting in place a system that enables it to receive various kinds of guidance as the occasion demands, such as opinions and advice from corporate attorneys and specialized lawyers regarding corporate management and daily operations.

#### Directors (as of June 25, 2021)

**Directors and Officers** 



Director Masamichi Ouchi



Sep. 1975 Registered as a certified public accountant
Jun. 1977 Registered as a tax accountant
Aug. 1983 Guest Researcher of Mitsubishi Research Institute, Inc.
Jun. 2007 Chairman and President of Tokyo Chapter, the Japanese Institute of Certified

Jul. 2007 Chairman and President of Toxyo Chapter, the Japanese institute of Certified Public Accountants
Jul. 2017 Deputy President of the Japanese Institute of Certified Public Accountants
Jul. 2010 Auditor of the Japanese Institute of Certified Public Accountants
Jun. 2013 External Auditor of Tsukishima Kikai Co., Ltd. (current)
Established MO Partners, Public Tax Accountant Corporation
Representative for MO Partners Public Tax Accountant Corporation
Lun. 2015 External Director of the Company (current)

Mr. Ouchi has a wealth of experience and a high level of insight as an expert in accounting and finance and as an outside officer of another company. From those standpoints, he has actively expressed his opinions at meetings of the Board of Directors, providing sound advice about business management and supervising business execution. As such, he has appropriately fulfilled his role as an External Director, resulting in his appointment.



**Director Representative and Chief Executive Officer** Yuichi Tsuji 

#### - Career Summary

Oct. 2013 Joined the Company General Manager of Accounting and Finance Dept.
Apr. 2014 Operating Officer and General Manager of Accounting and Finance Dept.
Jun. 2014 Executive Officer, General Manager of Corporate Business Planning Dept.
and Responsible for Corporate Risk Management
Nov. 2014 Executive Officer, General Manager of Corporate Business Planning Dept.,
Responsible for Corporate Risk Management, Human Resources Dept.,
Information System Dept., Compliance Management Dept., Purchasing Dept.,
Osaka Branch and Nagoya Branch
Jun. 2015 Director and Executive Officer (current)
Feb. 2016 Representative Executive Officer (current)
Representative and Chief Executive Officer (current)

Mr. Tsuji assumed his office as Executive Officer in 2014 and was responsible for overall head-quarters functions, including the Corporate Business Planning Dept. and Human Resources Dept. Since 2016, he has presided over the entire Nittobo Group as Representative and Chief Executive Officer. He has ample business experience befitting a Director of the Company, and has a broad range of knowledge and deep insight into the Company's business, resulting in



#### Director Sadayoshi Fujishige

#### - Career Summary

Mar. 1969 Joined Lion Fat & Oil Co., Ltd. (currently: Lion Corporation)
Mar. 1996 Director, Executive General Manager of International Division of Lion Corporation
Mar. 2000 Executive Director, Executive General Manager of Home Products Sales

Headquarters of Lion Corporation Representative Director, Senior Executive Director, Responsible for Home Products Mar. 2002 iness, Executive General Manager of Home Products Sales Headquarters of

Business, Executive General Manager of Home Products Sales Headquarters of Lion Corporation
Representative Director, President and CEO of Lion Corporation
Representative Director, President and CEO, Chairman of the Board of Directors,
Responsible for Home Products Business of Lion Corporation
Representative Director, Chairman and CEO, Chairman of the Board of Directors of Jan. 2012

Lion Corporation Representative Director, Chairman, Chairman of the Board of Directors of Jan. 2014

Jan. 2014 Representative Director, Chairman, Chairman of the Board of D Lion Corporation

Mar. 2016 Advisor of Lion Corporation

Jun. 2020 External Director of SATO HOLDINGS CORPORATION (current) External Director of the Company (current)

Mar. 2021 Special Consultant of Lion Corporation (current)

Mr. Fujishige has a wealth of experience and a high level of insight as a top manager of listed companies. The Company expects that he will appropriately fulfill his role as an External Director by contributing to the decision-making of the Board of Directors and supervising business execution from the standpoint of promoting sustainable growth and improving the Company's mid- and long-term corporate value, resulting in his appointment.



Director Toyoshi Nishizaka



#### - Career Summary

Apr. 1981 Joined the Company
Jun. 2003 General Manager of Planning & Administration Dept., Glass Fiber Division
Feb. 2007 General Manager of Human Resources Dept.
Jun. 2008 Director and General Manager of Human Resources Dept.
Oct. 2008 Operating Officer and President of Building Materials Division
Apr. 2010 Managing Operating Officer and President of Environmental Division
Jan. 2011 Managing Operating Officer and President of Environmental Division
May 2012 President, Representative Director of Nittobo Allied Service Co., Ltd.
Apr. 2013 Advisor and Head of Fukuyama Enterprise Center
Jun. 2014 Director (current)

#### Reason for Appointment

Mr. Nishizaka served as General Manager of Human Resources Dept. and President of Environmental Division and has experience in starting up overseas subsidiaries. He has ample business experience befitting a Director of the Company, and has a broad range of knowledge and deep insight into the Company's business, resulting in his appointment.

#### Director

#### Hiroshi Kagechika





#### Career Summary

Apr. 1972 Joined NKK Corporation (currently: JFE Holdings, Inc.)
Feb. 2002 Vice President of NKK Corporation
Apr. 2003 Vice President of JFE Steel Corporation
Apr. 2005 Senior Vice President (Director of Steel Research Laboratory) of JFE Steel Corporation
Apr. 2009 President and Representative Director of JFE Techno-Research Corporation
Apr. 2015 Advisor of JFE Techno-Research Corporation

Jun. 2020 External Director of the Company (current)

#### Director

#### **Agasa Naito**





#### - Career Summary

Oct. 2001 Registered as an attorney Joined Nagashima Ohno & Tsunematsu
May 2008 Registered as an attorney at New York State Bar Association
Jun. 2011 Joined TANABE & PARTNERS
Apr. 2013 Partner of TANABE & PARTNERS (current)
Jun. 2015 Outside Audit & Supervisory Board Member of BOOKOFF CORPORATION LIMITED
Oct. 2018 Outside Audit & Supervisory Board Member of BOOKOFF GROUP HOLDINGS LIMITED
(current)

Jun. 2020 External Director of the Company (current)

# Mr. Kagechika has specialist insight and a wealth of experience in corporate business and the field of research and development in the manufacturing sector. The Company expects that he will appropriately fulfill his role as an External Director by contributing to the decision-making of the Board of Directors and supervising business execution from the standpoint of promoting sustainable growth and improving the Company's mid- and long-term corporate value, resulting in his appointment.

Ms. Naito has a wealth of experience and a high level of insight as an expert in law and as an outside officer of other companies. The Company expects that she will appropriately fulfill her role as an External Director by contributing to the decision-making of the Board of Directors and supervising business execution from the standpoint of promoting sustainable growth and improving the Company's mid- and long-term corporate value, resulting in her appointment.

#### Director

#### Yu Nozaki





#### - Career Summary

Apr. 1983 Joined the Company
Mar. 2010 General Manager of Accounting and Finance Dept.
Jun. 2010 Director and General Manager of Accounting and Finance Dept.
Apr. 2011 Managing Director, Deputy Senior General Manager of Corporate Business Planning Dept. and General Manager of Human Resources Dept.
Jun. 2013 President and Representative Director of Paramount Glass Manufacturing Co., Ltd.
Jun. 2015 President and Representative Director of Soyo Co., Ltd.
Oct. 2016 Executive Officer, Responsible for Human Resources Dept., Accounting and Finance Dept. of the Company
Apr. 2017 Managing Executive Officer, Responsible for Human Resources Dept., Corporate Business Planning Dept., Corporate Communication Dept., Accounting and Finance Dept.
Jun. 2017 Director (current) Jun. 2017 Director (current)

Aug. 2019 Managing Executive Officer, Responsible for Audit Office, Risk Management Dept.

Mr. Nozaki served as Deputy Senior General Manager of Corporate Business Planning Dept. as a Managing Director. He then served as President and Representative Director at multiple consolidated subsidiaries. He was a Director from 2017, and from 2018 until March 2020, he has worked as a Director concurrently serving as a Managing Executive Officer mainly in charge of headquarters functions. He has ample business experience befitting a Director of the Company and has a broad range of knowledge and deep insight into the Company's business, resulting in his appointment.

#### External Director

 Directors who satisfy the Company's independence criteria and who have been notified as independent officers to the Tokyo Stock Exchange

O Director not concurrently serving as an Executive Officer Member of Nomination Committee

Member of Remuneration Committee

Member of Audit Committee

#### Executive Officers (as of July 1, 2021)

Name	Position	Main Responsibilities
Yuichi Tsuji*	Representative and Chief Executive Officer	CEO
Minoru Takeuchi	Managing Executive Officer	President of Research & Development Headquarters and Head of SC Research & Development
Hiroyuki Tada	Managing Executive Officer	Responsible for the Corporate Management Division, General Manager of the Corporate Business Planning Division and the Yarn and Textile Division, and President and Representative Director of Nittobo Advantex Co., Ltd.
Kazuhiko Igarashi	Managing Executive Officer	General Manager of the Glass Fiber Division and Technology Division
Hideyuki Hatanaka	Managing Executive Officer	Vice President of Research & Development Headquarters (Head of Fiber Technology), Head of DX Strategy Office and Environment Technology Strategy Office, and Director of Product Planning and Development Headquarters of Glass Fiber Division
Tatsuo Sakae	Executive Officer	General Manager of the Medical Division and Marketing Strategy Department, President and Representative Director of NITTOBO MEDICAL CO., Ltd., and Chairman and CEO of Nittobo America Inc.
*Also serves as Director		

		rational desired to the contract of the contra
Name	Position	Main Responsibilities
Takanobu Matsunaga	Executive Officer	Deputy General Manager of the Glass Fiber Division and Product Planning and Development Division, and President and Representative Director of Paramount Glass Manufacturing Co., Ltd.
Yuji Sugama	Executive Officer	Deputy General Manager of the Medical Division, Vice President of Research & Development Headquarters (Head of Medical SC Technology), Head of the Medical SC Newtech Strategy Office, Head of the Medical R&D Center
Akimasa Kajita	Executive Officer	General Manager of the Glass Fiber Division Production Headquarters and Head of the Fukushima Factory
Hiroki Kajikawa	Executive Officer	General Manager of the Corporate Planning Headquarters
Hisanobu Hayashi	Executive Officer	Deputy General Manager of the Glass Fiber Division Production Headquarters, Responsible for International Glass Fiber Business, President of NITTOBO ASIA Glass Fiber Co., Ltd., and Chairman of Baotek Industrial Materials Ltd.
Katsuya Hatanaka	Executive Officer	Responsible for the Human Resources Dept., Corporate Business Planning Dept., General Affairs Dept., 100-year Anniversary Project, Information Systems Dept., Risk Management Dept., Osaka Branch, Nagoya Branch and General Manager of the Corporate Business Planning Dept.

## Consolidated Financial Statements Nitto Boseki Co., Ltd. and Consolidated Subsidiaries

Allowance for doubtful accounts

Total non-current assets

Total assets

Total investments and other assets

Consolidated Balance Sheet		
		(Millions of ye
	As of March 31, 2020	As of March 31, 2021
ssets		
Current assets		
Cash and deposits	22,874	30,320
Notes and accounts receivable—trade	25,164	23,985
Merchandise and finished goods	7,999	8,598
Work in process	4,382	4,296
Raw materials and supplies	16,983	21,451
Other	3,495	5,237
Allowance for doubtful accounts	(1)	(1)
Total current assets	80,899	93,887
Non-current assets		
Property, plant and equipment		
Buildings and structures, net	15,851	15,886
Machinery, equipment and vehicles, net	22,935	21,246
Land	15,512	14,983
Leased assets, net	1,949	1,451
Construction in progress	5,194	10,035
Other, net	1,849	1,902
Total property, plant and equipment	63,292	65,506
Intangible assets	2,705	2,595
Investments and other assets		
Investment securities	21,404	17,282
Retirement benefit asset	233	377
Deferred tax assets	3,119	3,356
Other	1,206	1,664

		(Millions of		
	As of March 31, 2020	As of March 31, 2021		
Liabilities				
Current liabilities				
Notes and accounts payable—trade	6,290	6,570		
Short-term borrowings	7,562	7,252		
Current portion of long-term borrowings	5,293	5,518		
Lease obligations	426	378		
Income taxes payable	1,103	2,528		
Provision for bonuses	1,107	1,080		
Provision for business structure improvement	-	710		
Other	8,024	9,836		
Total current liabilities	29,808	33,87		
Non-current liabilities				
Bonds payable	10,000	10,000		
Long-term borrowings	14,975	19,32		
Lease obligations	2,058	1,690		
Provision for repairs	5,584	5,652		
Retirement benefit liability	9,887	7,97		
Other	1,807	1,746		
Total non-current liabilities	44,311	46,387		
Total liabilities	74,120	80,262		
Net assets				
Shareholders' equity				
Share capital	19,699	19,699		
Capital surplus	19,037	19,03		
Retained earnings	55,574	61,83		
Treasury shares	(2,554)	(2,559		
Total shareholders' equity	91,757	98,008		
Accumulated other comprehensive income				
Valuation difference on available-for-sale securities	3,998	2,71		
Foreign currency translation adjustment	117	(37		
Remeasurements of defined benefit plans	(2,219)	(1,22)		
Total accumulated other comprehensive income	1,897	1,12		
Non-controlling interests	5,049	5,25		
Total net assets	98,704	104,389		
Total liabilities and net assets	172,824	184,652		

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(36)

25,927

91,925

172,824

(20)

22,661

90,764

184,652

## **Consolidated Statement of Income**

	- 1			•	
			ns		

		(Millions of yen)
	For the fiscal year ended March 31, 2020	For the fiscal year ended March 31, 2021
Net sales	85,722	78,727
Cost of sales	57,628	53,065
Gross profit	28,094	25,661
Selling, general and administrative expenses	19,933	19,697
Operating profit	8,160	5,964
Non-operating income		
Interest income	57	15
Dividend income	560	446
Share of profit of entities accounted for using equity method	29	_
Rental income	89	97
Foreign exchange gains	_	278
Other	262	343
Total non-operating income	999	1,181
Non-operating expenses		
Interest expenses	266	250
Foreign exchange losses	118	_
Expenses related to inactive real estate for rent	332	332
Other	240	287
Total non-operating expenses	957	871
Ordinary profit	8,202	6,274
Extraordinary income		
Gain on sales of non-current assets	169	3,091
Gain on sales of investment securities	233	6,590
Reversal of provision for repairs	_	808
Insurance claim income	883	2,671
Subsidy income	993	826
Other	_	19
Total extraordinary income	2,280	14,008
Extraordinary losses		
Loss on disposal of non-current assets	264	165
Impairment loss	92	1,838
Loss on sales of investments in capital of subsidiaries and associates	351	_
Provision for business structure improvement	_	3,946
Loss on disaster	1,083	2,235
Loss on tax purpose reduction entry of non-current assets	943	825
Other	155	56
Total extraordinary losses	2,890	9,069
Profit before income taxes	7,592	11,213
Income taxes—current	1,805	3,023
Income taxes—deferred	(153)	(88)
Total income taxes	1,651	2,935
Profit	5,941	8,278
Profit attributable to non-controlling interests	170	178
Profit attributable to owners of parent	5,771	8,100

## Consolidated Statement of Comprehensive Income

(Millions of yen)

	For the fiscal year ended March 31, 2020	For the fiscal year ended March 31, 2021
Profit	5,941	8,278
Other comprehensive income		
Valuation difference on available-for-sale securities	441	(1,264)
Foreign currency translation adjustment	(358)	(446)
Remeasurements of defined benefit plans, net of tax	(326)	992
Share of other comprehensive income of entities accounted for using equity method	107	-
Total other comprehensive income	(136)	(718)
Comprehensive income	5,804	7,559
Comprehensive income attributable to		
Comprehensive income attributable to owners of parent	5,589	7,325
Comprehensive income attributable to non-controlling interests	215	233

## Consolidated Statement of Changes in Equity

For the fiscal year ended March 31, 2020										(Mi	llions of yen)
_		Sharehold	lers' equity			Accumulated (	other comprehe	ensive income			
	Share capital	Capital surplus	Retained earnings	Treasury shares	Total shareholders' equity	Valuation difference on available-for- sale securities	Foreign currency translation adjustment	Remeasure- ments of defined benefit plans	Total accumulated other comprehensive income	Non- controlling interests	Total net assets
Balance at beginning of period	19,699	19,037	51,440	(2,544)	87,633	3,542	429	(1,892)	2,079	1,027	90,740
Cumulative effects of changes in accounting policies			(85)		(85)						(85)
Restated balance	19,699	19,037	51,355	(2,544)	87,548	3,542	429	(1,892)	2,079	1,027	90,655
Changes during period											
Dividends of surplus			(1,552)		(1,552)						(1,552)
Profit attributable to owners of parent			5,771		5,771						5,771
Purchase of treasury shares				(10)	(10)						(10)
Net changes in items other than shareholders' equity						456	(311)	(326)	(181)	4,021	3,839
Total changes during period	_	_	4,218	(10)	4,208	456	(311)	(326)	(181)	4,021	8,048
Balance at end of period	19,699	19,037	55,574	(2,554)	91,757	3,998	117	(2,219)	1,897	5,049	98,704

For the fiscal year ended March 31, 2021										(M	illions of yen)
		Sharehold	ers' equity			Accumulated of	other comprehe	nsive income			
	Share capital	Capital surplus	Retained earnings	Treasury shares	Total shareholders' equity	Valuation difference on available-for- sale securities	Foreign currency translation adjustment	Remeasure- ments of defined benefit plans	Total accumulated other comprehensive income	Non- controlling interests	Total net assets
Balance at beginning of period	19,699	19,037	55,574	(2,554)	91,757	3,998	117	(2,219)	1,897	5,049	98,704
Cumulative effects of changes in accounting policies					_						_
Restated balance	19,699	19,037	55,574	(2,554)	91,757	3,998	117	(2,219)	1,897	5,049	98,704
Changes during period											
Dividends of surplus			(1,842)		(1,842)						(1,842)
Profit attributable to owners of parent			8,100		8,100						8,100
Purchase of treasury shares				(5)	(5)						(5)
Net changes in items other than shareholders' equity						(1,284)	(489)	998	(774)	208	(566)
Total changes during period	_	-	6,257	(5)	6,251	(1,284)	(489)	998	(774)	208	5,684
Balance at end of period	19,699	19,037	61,831	(2,559)	98,008	2,714	(371)	(1,220)	1,123	5,257	104,389

## Consolidated Statement of Cash Flows

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	(Millions of ye		
	For the fiscal year ended March 31, 2020	For the fiscal year ended March 31, 2021	
Cash flows from operating activities			
Profit before income taxes	7,592	11,213	
Depreciation	5,388	6,332	
Impairment loss	92	1,838	
Increase (decrease) in retirement benefit liability	(442)	(492)	
Increase (decrease) in provision for repairs	570	68	
Interest and dividend income	(618)	(462	
Interest expenses	266	250	
Loss (gain) on sales and valuation of investment securities	(185)	(6,533	
Loss (gain) on sales of investments in capital of subsidiaries and associates	351	-	
Loss (gain) on sales and retirement of non-current assets	94	(2,923	
Insurance claim income	(883)	(2,671	
Subsidy income	(993)	(826	
Business restructuring expenses	_	3,946	
Decrease (increase) in trade receivables	498	1,173	
Decrease (increase) in inventories	566	(5,258	
Increase (decrease) in trade payables	(2,673)	294	
Other, net	820	(966	
Subtotal	10,444	4,982	
Interest and dividends received	618	462	
Interest paid	(258)	(246	
Proceeds from insurance income	883	2,671	
Subsidies received	_	1,631	
Income taxes paid	(1,073)	(1,686	
Net cash provided by (used in) operating activities	10,614	7,815	
Cash flows from investing activities			
Purchase of non-current assets	(17,176)	(13,840	
Proceeds from sales of non-current assets	534	3,276	
Purchase of investment securities	(51)	(1	
Proceeds from sales of investment securities	835	8,806	
Purchase of shares of subsidiaries resulting in change in scope of consolidation	(1,258)	_	
Payments for sales of investments in capital of subsidiaries and associates resulting in change in scope of consolidation	(247)	_	
Other, net	447	(108	
Net cash provided by (used in) investing activities	(16,917)	(1,867	
Cash flows from financing activities			
Net increase (decrease) in short-term borrowings	(541)	(373	
Proceeds from long-term borrowings	11,462	11,274	
Repayments of long-term borrowings	(6,180)	(6,702	
Proceeds from issuance of bonds	10,000	-	
Dividends paid	(1,552)	(1,842	
Other, net	(559)	(492	
Net cash provided by (used in) financing activities	12,628	1,862	
Effect of exchange rate change on cash and cash equivalents	71	(342	
Net increase (decrease) in cash and cash equivalents	6,398	7,468	
Cash and cash equivalents at beginning of period	16,145	22,695	
Increase (decrease) in cash and cash equivalents resulting from change in scope of consolidation	152	_	
Cash and cash equivalents at end of period	22,695	30,163	

## **Company Profile**

Dates of establishment Head Office:	February 1898 Koriyama Kenshi Boseki Co., Ltd. (Koriyama) April 1918 Fukushima Seiren Seishi Co., Ltd. (Fukushima) April 1923 Nitto Boseki Co., Ltd. Aza Higashi 1, Gonome, Fukushima-shi, Fukushima, 960-8161, Japan	Employees: Business operations	2,769 (Consolidated), 860 (Parent company) (as of March 31, 2021)  • Manufacture, processing, and sale of textile products  • Manufacture, processing, and sale of glass fiber products  • Manufacture, processing, and sale of chemical products
Headquarters: Paid-in capital: Representative and Chief Executive Officer:	2-4-1, Kojimachi, Chiyoda-ku, Tokyo, 102-8489, Japan 19.6 billion yen Yuichi Tsuji		<ul> <li>and pharmaceutical products</li> <li>Manufacture and sale of soft drinks</li> <li>Planning, supervision, and contracting for construction</li> <li>Design, manufacture, and sale of machinery and equipment, etc.</li> </ul>

#### **Business Locations**

Tokyo Headquarters	2-4-1, Kojimachi, Chiyoda-ku, Tokyo, 102-8489, Japan	Administration Division Telephone: +81-3-4582-5111 Textile Division Telephone: +81-3-4582-5160 Glass Fiber Division Telephone: +81-3-4582-5170 Medical Division Telephone: +81-3-4582-5450 Beverage Business Department Telephone: +81-3-4582-5480
Osaka Branch	4-3-10, Kouraibashi, Chuo-ku, Osaka-shi, Osaka, 541-0043, Japan (Nissei Fushimicho Building New Building)	Telephone: +81-6-6208-5015
Nagoya Branch	2-14-21, Nishiki, Naka-ku, Nagoya-shi, Aichi, 460-0003, Japan (Maruyama Nissei Building)	Telephone: +81-52-231-5131
Fukushima Factory	1, Aza Higashi, Gonome, Fukushima-shi, Fukushima, 960-8581, Japan	Telephone: +81-24-546-3131 Fiber R&D Center Telephone: +81-24-546-3138
Fukushima No.2 Factory	20, Ipponsugi, Sakurashimo, Fukushima-shi, Fukushima, 960-2154, Japan	Telephone: +81-24-593-1231
Fukuyama Enterprise Center	1, Aza Shiojima, Fukuhara, Fukuyama-cho, Koriyama-shi, Fukushima, 963-8061, Japan	Telephone: +81-24-932-6011  Research & Development Headquarters Telephone: +81-24-932-6110  Medical R&D Center Telephone: +81-24-932-6261
Tomari Enterprise Center	500, Hirayanagi, Asahi-machi, Shimoniikawa-gun, Toyama, 939-0744, Japan	Telephone: +81-765-82-1133
Niigata Enterprise Center	6-50, Toshincho, Higashi-ku, Niigata-shi, Niigata, 950-0065, Japan	Telephone: +81-25-273-7191
Itami Enterprise Center	1-6-1, Kuwazu, Itami-shi, Hyogo, 664-8501, Japan	Telephone: +81-72-782-2621
Satellite Laboratory	Suite #3108, 3rd floor, Innovation Center of NanoMedicine 3-25-14, Tonomachi, Kawasaki-ku, Kawasaki-shi, Kanagawa, 210-0821, Japan Ni-Tech (Medical SC Newtech Strategy Office)	Telephone: +81-44-266-8322

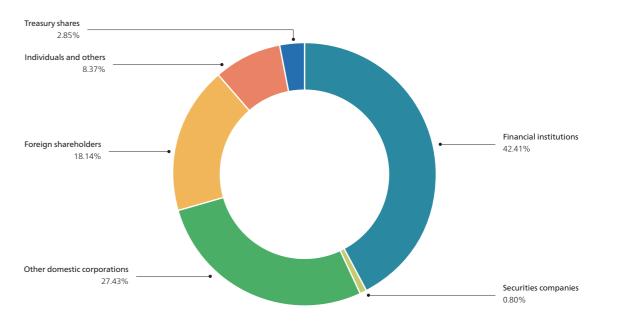
Consolidated Subsidiaries		As of September 30, 20
Glass Fiber Yarn		
Nitto Glass Fiber Manufacturing Co., Ltd.	Koriyama-shi, Fukushima	Production and sale of glass fiber products
Fuji Fiber Glass Co., Ltd.	Moka-shi, Tochigi	Production and sale of glass fiber Products
NITTOBO ASIA Glass Fiber Co., Ltd.	Chiayi County, Taiwan	Production and sale of glass fiber products
Glass Fiber Cloth		
Soyo Co., Ltd.	Chiyoda-ku, Tokyo	Sale of glass fiber products, etc.
Shinwa Denzai Co., Ltd.	Chiyoda-ku, Tokyo	Sale of glass fiber products, etc.
Baotek Industrial Materials Ltd.	Taoyuan, Taiwan	Production and sale of glass fiber products
Nittobo Taiwan Co., Ltd.	Taoyuan, Taiwan	Sale of glass fiber products
Glass Fiber for Industrial Materials		
Nitto Glasstex Co., Ltd.	Oizumi-machi, Oura-gun, Gunma	Production and sale of glass fiber products
Paramount Glass Manufacturing Co., Ltd.	Sukagawa-shi, Fukushima; Ebetsu-shi, Hokkaido; Suzuka-shi, Mie	Production and sale of glass wool products
Nittobo FRP Laboratory Co., Ltd.	Koriyama-shi, Fukushima	Production and sale of glass fiber products, etc.
Nittobo Macau Glass Weaving Co., Ltd.	Macau	Production and sale of glass fiber products
Life Science		
NITTOBO MEDICAL CO., LTD.	Chiyoda-ku, Tokyo	Production and sale of in vitro diagnostic reagents and specialty chemicals
Frontier Institute Co., Ltd.	Ishikari-shi, Hokkaido	Development, manufacturing and sale of bioassay kits and consignment of antibody production
Nitto Beverage Co., Ltd.	Asahi-machi, Shimoniikawa-gun Toyama	Production and sale of soft drinks
Nittobo America Inc.	California, Iowa and Maine, U.S.A.	Production and sale of antisera used for in vitro diagnostic reagents
Kamiya Biomedical Company, LLC	Washington, U.S.A.	Production and sale of in vitro diagnostic reagents
Textiles		
Nittobo Advantex Co., Ltd.	Itami-shi, Hyogo	Production and sale of interling in and adhesive materials
Nittobo Interlining Co., Ltd.	Chiyoda-ku, Tokyo	Sale of interlining
Bunkyo Seiren Co., Ltd.	Fukui-shi, Fukui	Processing of textile products
Nittobo Niigata Co., Ltd.	Niigata-shi, Niigata	Production and sale of core spun yarns, etc.
Others		
Nittobo Allied Service Co., Ltd.	Fukushima-shi, Fukushima	Various contracted services and insurance agency
Nittobo Ecology Co., Ltd.	Chiyoda-ku, Tokyo	Various contracted services
Nittobo Techno Co., Ltd.	Koriyama-shi, Fukushima	Design, manufacture, and sale of mechanical facilities; design and construction o civil engineering work and buildings

## Stock Information (as of March 31, 2021)

#### **Stock Status**

Authorized number of shares	120,000,000 shares
Number of shares issued	39,935,512 shares (including 1,137,268 treasury shares)
Number of shareholders	8,196

#### Distribution of Shareholders



#### **Major Shareholders**

Name	Number of shares held (in thousands)	Percentage of shares held* (%)
The Master Trust Bank of Japan, Ltd. (Trust account)	3,176	8.19
Custody Bank of Japan, Ltd. (Trust account)	2,956	7.62
Sumitomo Realty & Development Co., Ltd.	2,383	6.14
Nippon Life Insurance Company	1,614	4.16
The Dai-ichi Life Insurance Company, Limited	1,316	3.39
UNIZO Holdings Company, Limited	1,113	2.87
Sumitomo Life Insurance Company	1,082	2.79
AIR WATER INC.	997	2.57
Central Glass Co., Ltd	948	2.44
The Toho Bank, Ltd.	905	2.33
	* The percentage of char	as hald excludes treasury shares

#### **Stock-related Administration**

Fiscal Year	April 1 to March 31
Ordinary General Meeting of Shareholders	Late June
Record Date	Voting rights for Ordinary General Meeting of Shareholders March 31 Year-end Dividend March 31 Interim Dividend September 30 Other record dates are established as necessary with prior public notice.
Method of Public Notice	Public notices are available on the Company's website below: https://www.nittobo.co.jp/ (Japanese only) However, if an electronic public notice cannot be posted due to an accident or other unavoidable reason, the public notice will be printed in the Nihon Keizai Shimbun.
Stock Listing	First Section of the Tokyo Stock Exchange (Securities code: 3110)
Shareholder Registry Administrator and Special Account Administrator	Mizuho Trust & Banking Co., Ltd. 1-2-1, Yaesu, Chuo-ku, Tokyo, 103-8670, Japan (1-3-3 Marunouchi, Chiyoda-ku, Tokyo, as of November 22, 2021)