

### Nittobo

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# Mission

## 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.

# Values

## 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 it's 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.



< Deeply, Widely, Strongly and Hospitably >

Proud that  
customers trust  
Nittobo

# Vision

## Corporate Vision

Nittobo delivers the unique products and innovations globally from Fukushima in Japan based on customer relations and technology.



## Nittobo Group Integrated Report 2020

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**Editorial Policy**  
Nittobo Group Integrated Report brings together financial information and non-financial information including CSR to provide stakeholders with a greater understanding of the Nittobo Group's value-creating initiatives for the medium and long term.

**Report Period**  
This report covers business activities in FY2019 (from April 1, 2019 through March 31, 2020).

**Scope of Report**  
This report covers the business activities of Nitto Boseki Co., Ltd. and its consolidated subsidiaries in Japan and overseas.

**Date of Publication**  
End of October 2020

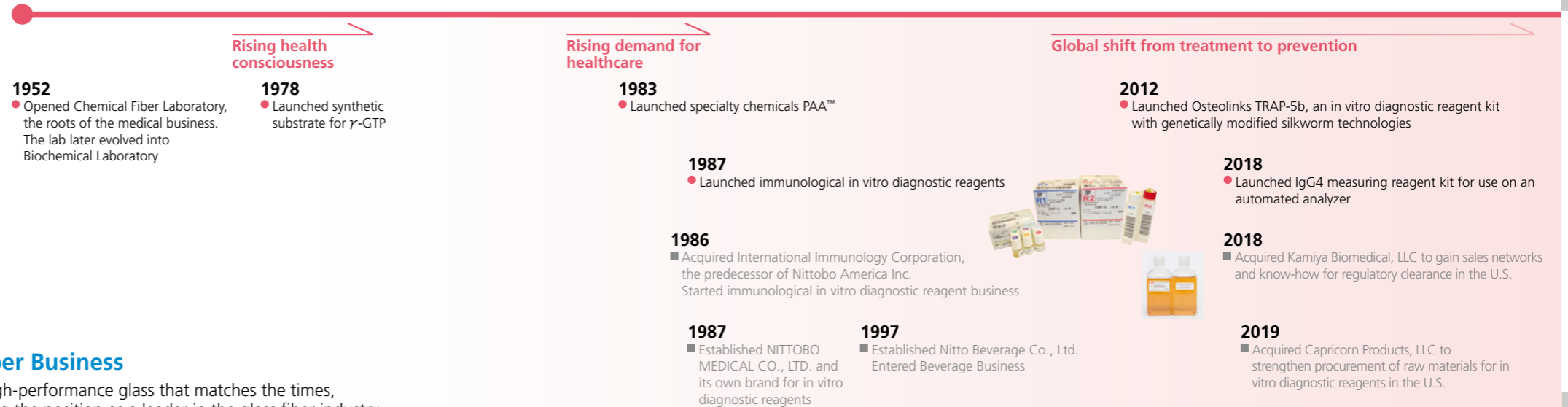
**Forward-looking Statements**  
The forecasts presented in this report are based on information available to the company as of the publication date. Forward-looking statements included in this report do not represent promises or guarantees that the company will attain its forecasts or realize the business 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 became 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.

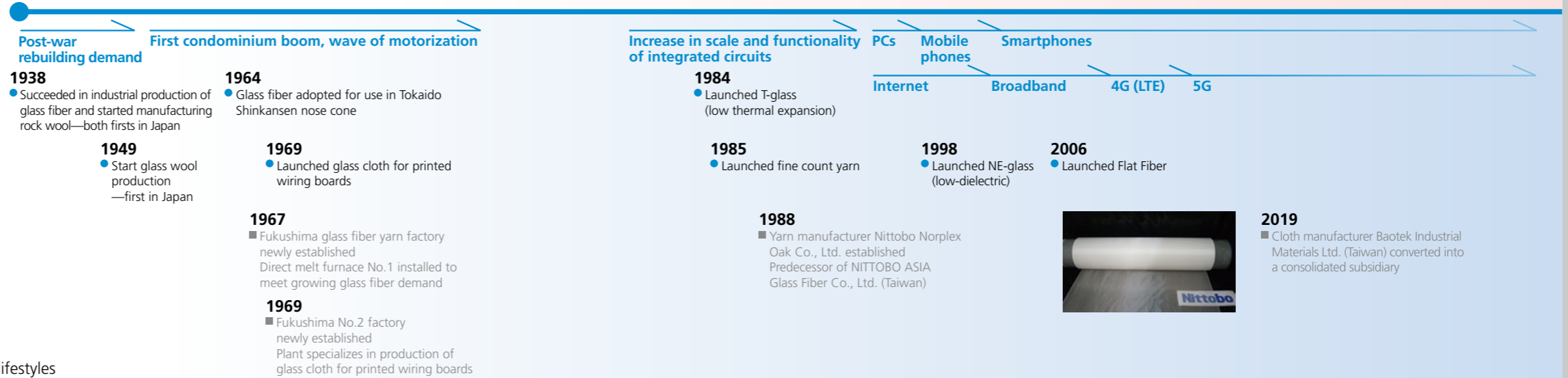
## Life Science Business

Contributing to preventive medicine, become the second business pillar for the Group



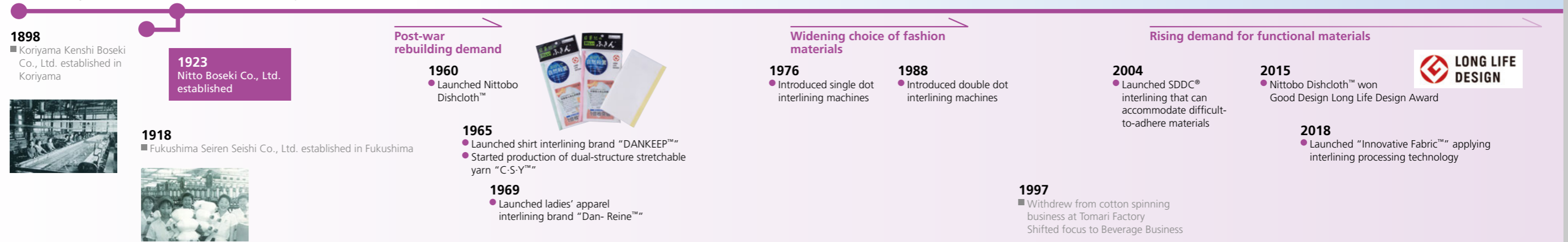
## Glass Fiber Business

Providing high-performance glass that matches the times, strengthening the position as a leader in the glass fiber industry

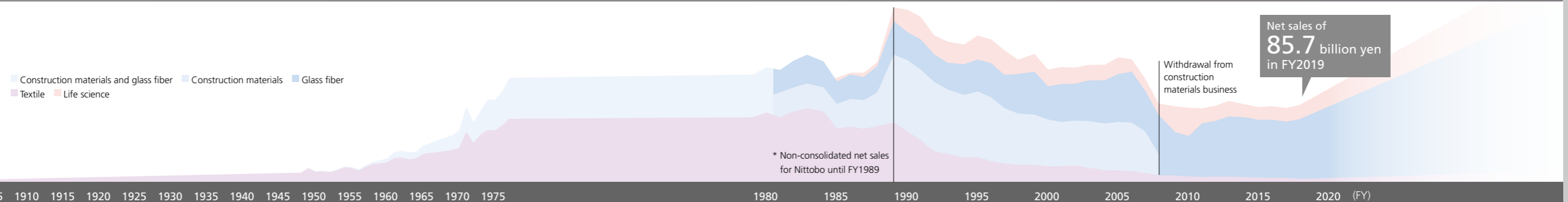


## Textile Business

Contributing to the creation of comfortable lifestyles



## Net sales



## External Trends and Events

- Conclusion of Second World War
- Tokyo Olympics
- World's first mobile communication services using first-generation (1G) technology
- Plaza Accord
- Microsoft launches Windows 95
- Financial Crisis
- Great East Japan Earthquake

# Value Creation Process

## Corporate Philosophy

The Nittobo Group will, as a corporate group, lifestyles, and thereby continue to contribute to

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

## Social Issues & Change

### INPUT

#### Public & Technological Infrastructure

- Data-driven social evolution
- "Smart" societies
- Aging roads, bridges and other infrastructure

#### Environment

- Climate change
- Resource and energy depletion

#### Health

- Increase in global population
- Aging society

#### Manufacturing capital

Capital investment  
**16.7** billion yen

#### Intellectual capital

R&D expenses  
**1.7** billion yen

#### Human capital

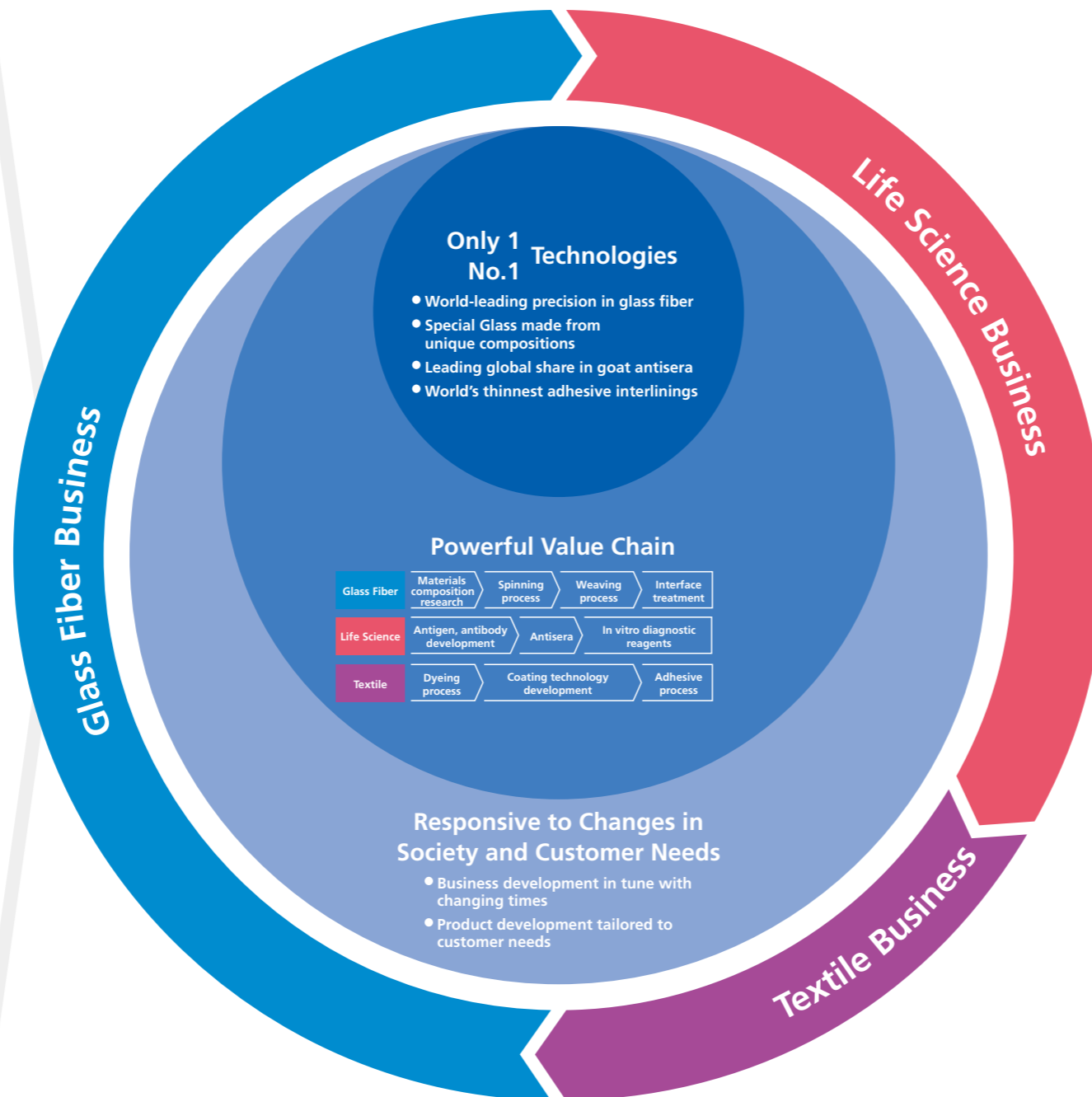
Workforce  
**2,690** employees

#### Financial capital

Total assets  
**172.8** billion yen

#### Social capital

(as of September 30, 2020)  
Consolidated subsidiaries  
**22** companies



### OUTPUT

- High-speed large-volume data communications
- Network infrastructure connecting everything

Special Glass cloths

- Smaller, thinner electronic devices

Ultrafine glass yarns Ultra-thin glass cloths

- Fashion and functionality

Deodorizing and antibacterial interlinings

Innovative Fabric™

- Infrastructure repair and reinforcement

Non-woven fabric Glass cloths

- Lightweight, energy-efficient aircraft and automobiles

Chopped strands Glass cloths

- Energy-efficient housing, recycling

Glass wool insulation

- Wind power

Chopped strands

- Waste water treatment

Specialty chemicals

- Sustainable auxiliary materials

Interlinings Inner materials

- Supporting the shift from treatment to prevention

In vitro diagnostic reagents

- Safe and reliable beverages

Tea-based beverages Sports drinks

### OUTCOME



Creating livable, convenient and safe advanced digital societies

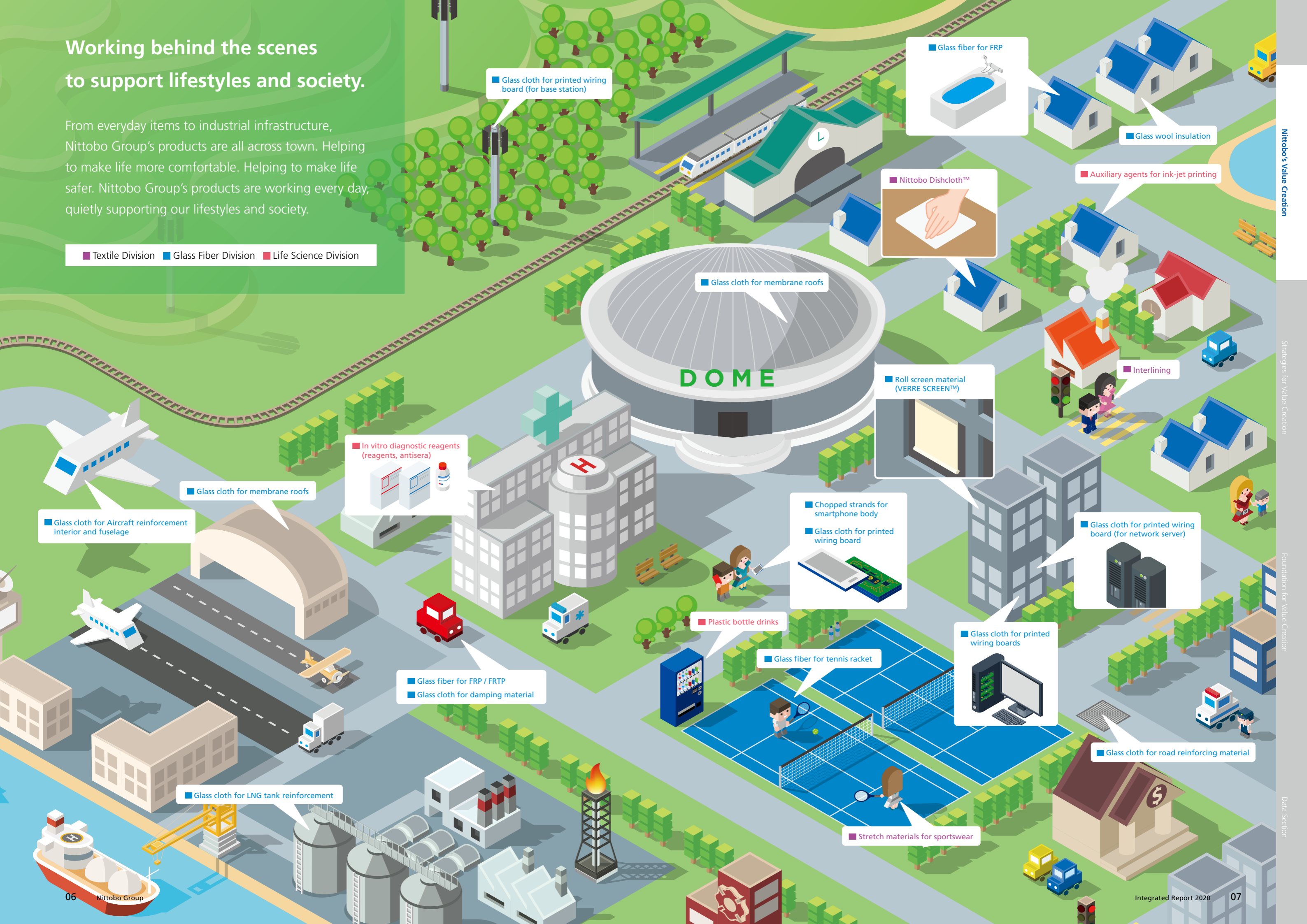
Supplying products that reduce environmental burden

Realizing healthy, safe and secure societies

# Working behind the scenes to support lifestyles and society.

From everyday items to industrial infrastructure, Nittobo Group's products are all across town. Helping to make life more comfortable. Helping to make life safer. Nittobo Group's products are working every day, quietly supporting our lifestyles and society.

■ Textile Division ■ Glass Fiber Division ■ Life Science Division



■ Glass cloth for printed wiring board (for base station)

■ Glass fiber for FRP

■ Glass wool insulation

■ Nittobo Dishcloth™

■ Auxiliary agents for ink-jet printing

■ Glass cloth for membrane roofs

■ Roll screen material (VERRE SCREEN™)

■ Interlining

■ In vitro diagnostic reagents (reagents, antisera)

■ Glass cloth for membrane roofs

■ Chopped strands for smartphone body  
■ Glass cloth for printed wiring board

■ Glass cloth for printed wiring board (for network server)

■ Glass cloth for Aircraft reinforcement interior and fuselage

■ Plastic bottle drinks

■ Glass cloth for printed wiring boards

■ Glass fiber for FRP / FRTP  
■ Glass cloth for damping material

■ Glass fiber for tennis racket

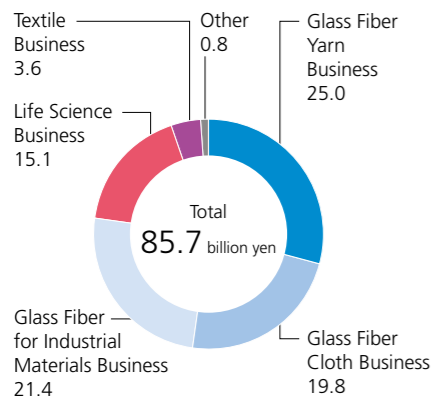
■ Glass cloth for road reinforcing material

■ Glass cloth for LNG tank reinforcement

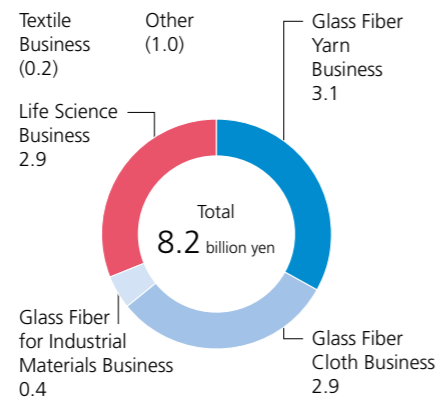
■ Stretch materials for sportswear

# Financial Highlights (Consolidated)

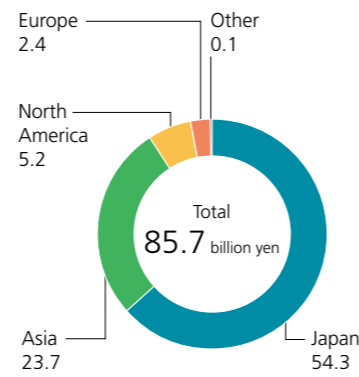
**Sales by business segment**  
(billion yen)



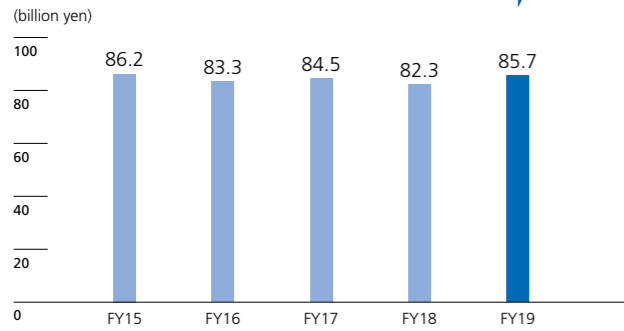
**Profit/loss by business segment**  
(billion yen)



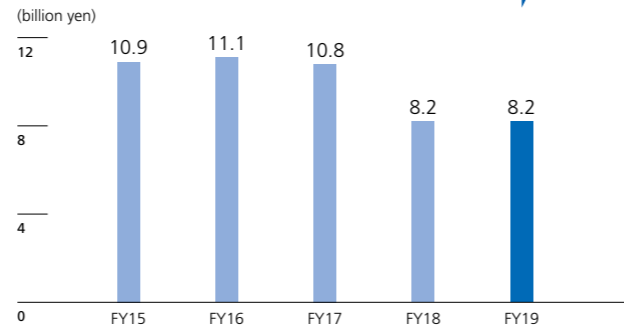
**Sales by geographic region**  
(billion yen)



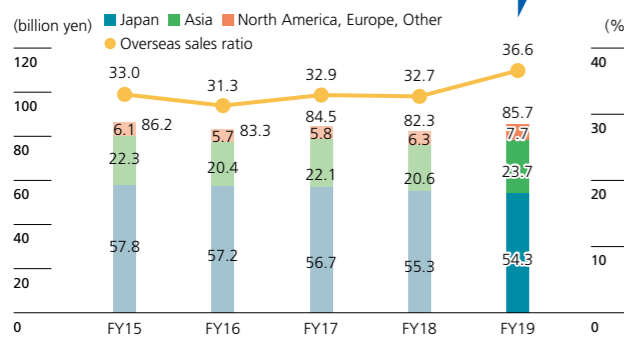
**Net sales**



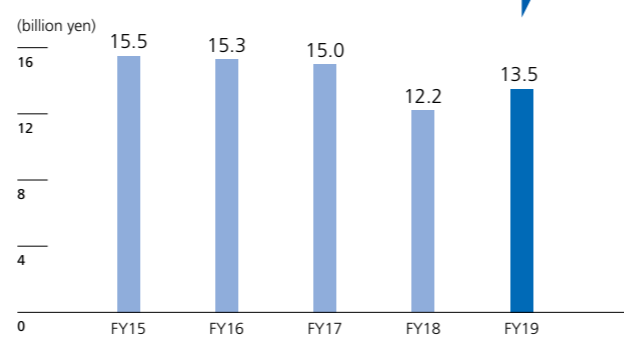
**Operating profit**



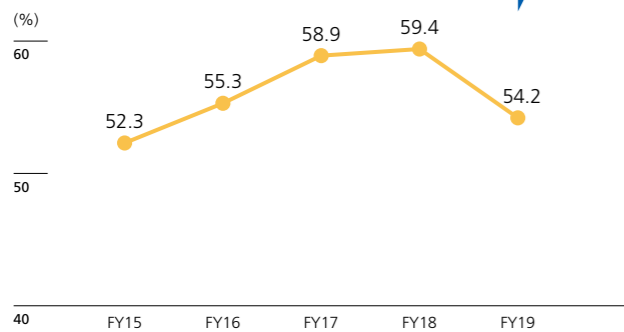
**Sales by geographic region/overseas sales ratio**



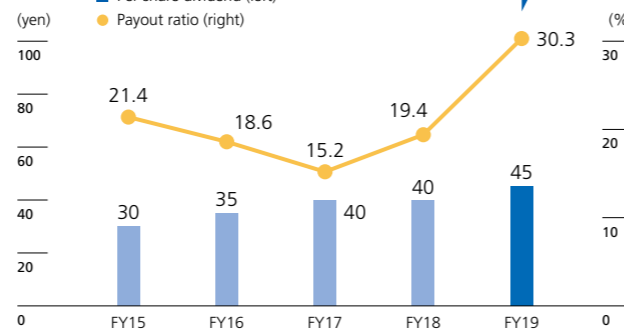
**EBITDA**



**Equity ratio**



**Dividends/Payout ratio**

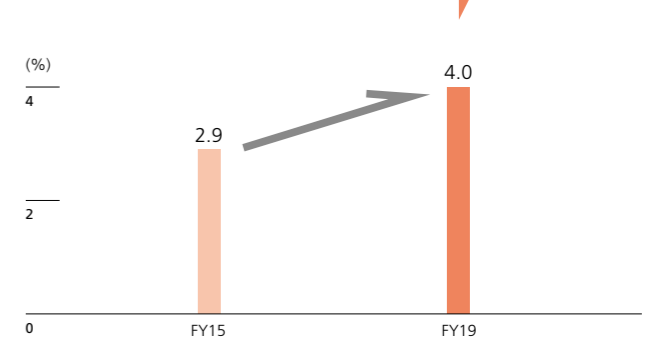


# Non-Financial Highlights

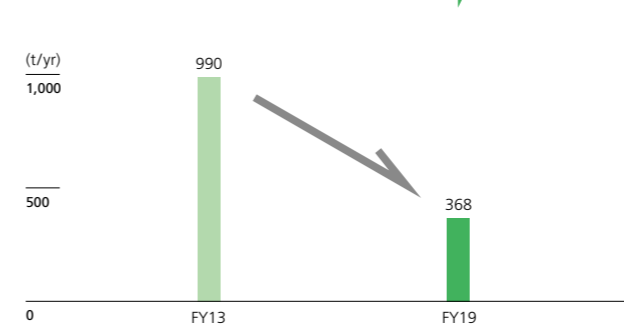
**CO<sub>2</sub> emissions per unit of consolidated net sales**



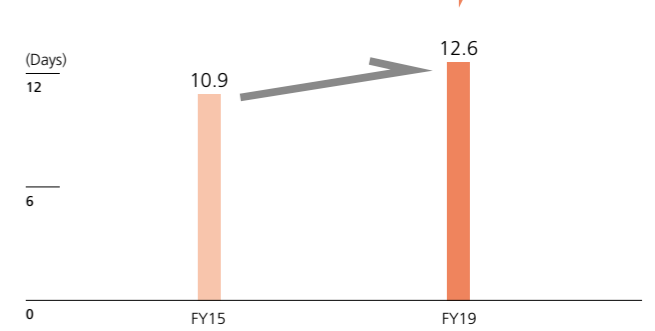
**Ratio of women in management positions**



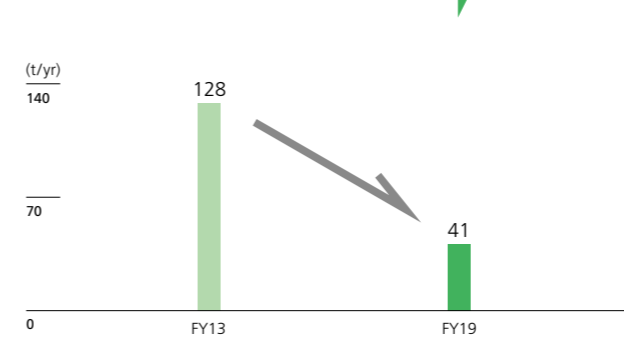
**Air pollutant emissions**



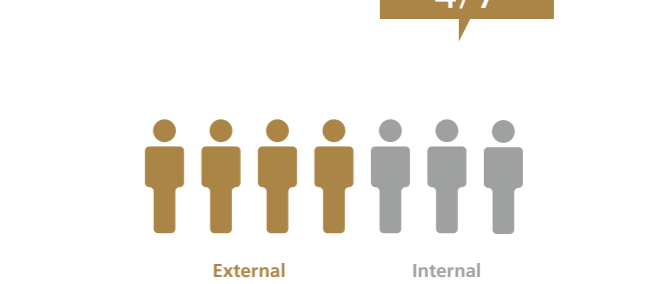
**Annual paid leave days taken**



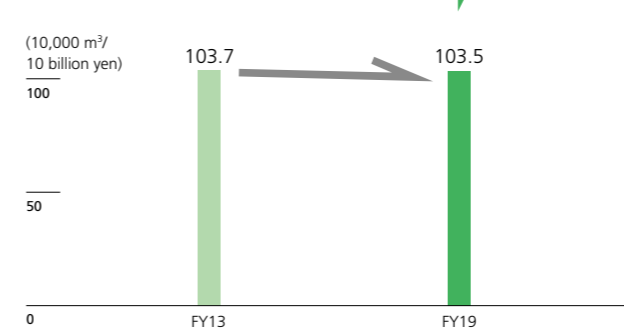
**PRTR substance emissions**



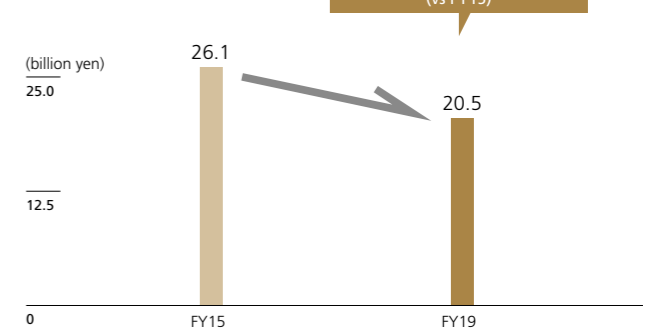
**Ratio of External Directors**



**Withdrawal water per unit of consolidated net sales**



**Cross-shareholdings**



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



**Yuichi Tsuji**

Director,  
Representative and Chief Executive Officer

**All employees will unite toward realizing our Long-term Vision**

In its Corporate Philosophy, the Nittobo Group states its aim as being to enhance its significance by striving to create healthy and comfortable lifestyles, and thereby continue to contribute to the realization of prosperous communities. In line with this mission, our contribution to society has been through products created with our superior technologies. Looking ahead, our Corporate Philosophy will remain the core, around which we need to continue changing and evolving to adapt to the new era. This is the approach underlying the Mid- to Long-term Business Plan “Long-term Vision 101,” which we formulated in 2017 as a goal to work toward for our 100th anniversary in 2023, ready to launch into our 101st year and another century of business.

**Our Corporate Vision “Long-term Vision 101”**

**A company that delivers innovation worldwide from our origins in Fukushima and Japan, offering unique value-added business and products based on client expectations and technology**

In formulating the Long-term Vision, we held repeated discussions to set out the appropriate vision for the Nittobo Group. Up to now, the Nittobo Group has contributed to society through its core competence of unique technologies. This essential feature will remain unchanged going forward. However, in the age of dramatic change which we are entering, it will not be possible to achieve sustainable growth based solely on the ‘product-out’ approach of using superior technologies to deliver advanced products. To signal an enhanced emphasis on the ‘market-in’ approach of intensifying customer focus to create products that match customer needs, we selected ‘based on client expectations and technology’ as part of the key phrase heading up our “Long-term Vision 101.” We believe that customer-oriented technologies are the key to creating unique businesses and products and will secure for us the leading position in niche markets. Nittobo is a company founded in Fukushima, where almost half of our employees work today. Due to our strong conviction that the recovery and development of Fukushima is indispensable to the Nittobo Group’s prosperity, we also refer to the Fukushima origin of our company and products in our Vision heading. By repeatedly publicizing the Long-term Vision to our staff, we work to ensure that its message permeates the organization and thereby creates shared values and goals. Under this vision, all employees will work in unison to reinforce our status as a company trusted by all its stakeholder groups.

→ Please see page 16 for an outline of “Long-term Vision 101.”

**Active investment for future growth**

Since the financial crisis set off by the Lehman Brothers bankruptcy in 2008, the Nittobo Group has worked to establish a resilient business structure able to generate earnings under any conditions. We have focused on strategically targeted strengthening of our financial basis, which has also meant restricting research and development and investment for growth. In fiscal 2017, however, when we were on course to achieve our financial strengthening goals, the Nittobo Group formulated the Mid-term Business Plan “Go for Next 100,” which signaled a switch in our operating mode to a proactive pursuit of new growth and included an active investment plan to lay a foundation for growth in the period up to fiscal 2020. As well as outlining to all stakeholders the course the Nittobo Group needed to follow, the plan communicated to our employees the clear message that taking on new work challenges at the individual level and the resulting personal growth would feed into growth for their organization and growth for the Nittobo Group.

From the beginning of our new Mid-term Business Plan starting in fiscal 2021, we intend to steadily build on the growth foundation laid down by our current Mid-term Business Plan. We have confirmed that the growth investment planned up to the end of fiscal 2019, which marks the completion of the third year of our current Mid-term Business Plan, has proceeded according to plan. Specifically, we have invested comprehensively in production facilities, research and development, and human resources to globally expand our medical business and to enhance production capacity for the Special Glass\* used in 5G-related devices. In the Special Glass business, where demand is booming, our newly completed melting furnaces continue full-scale operation and have begun to contribute to business results. Even amid the COVID-19 and the resulting uncertainty as to future social and economic conditions, our policy of implementing continuous investment for future growth in this area remains unchanged. As the demand for 5G base stations and data centers is forecast to continue increasing in the medium to long term, in addition to ensuring stable and efficient operation of our existing facilities, we plan to construct new melting furnaces at three sites in Japan in fiscal 2020 and to start operation of a new factory in Taiwan in the fall of 2021. In this way, we will seek to further consolidate our profit base to fulfill our profit targets for fiscal 2023, the final year of “Long-term Vision 101.”

→ Please see page 16 for an outline of our Mid-term Business Plan “Go for Next 100.”

\* Special Glass: the glass fiber materials NE-glass (low dielectric) and T-glass (low thermal expansion, high strength) developed using Nittobo’s unique technologies. These products are highly competitive as substrates used in electronic materials for 5G applications.

**Working with customers to create new products that help resolve social issues**

We estimate that there is currently a high entry barrier to the Special Glass field due to the advanced technologies required. However, since it is seen as a sector for continued growth, we envisage that competitors

will emerge, and that competition will also arise in the form of alternative materials. Given also the rapid pace of technological advance expected going forward, we believe that it is fair to predict intensified competition. Nevertheless, in addition to the technologies and expertise that we have built up over many years, we also have strong relationships of trust with customers, many of whom evaluate our products highly and comment for instance that the highly stable quality of our Special Glass provides excellent support for their cutting-edge product development. We believe that we will be able to retain our competitive edge by further strengthening these relationships of trust and responding to customer needs, which in turn will contribute to resolving social issues. With a committed approach to developing next-generation materials, we take the customer perspective in an effort to progressively deepen communication. The expected rapid pace of technological innovation going forward makes it all the more important for us to lead our competitors in establishing the de facto standard of the new generation. Rather than being satisfied with the 'product-out' approach of simply continuing a stable supply of superior products, Nittobo will work to reinforce the trust of its customers through a committed, customer-oriented approach to meeting sophisticated customer needs and shaping the future together.

→ Please see page 24 for more information on the development of Special Glass.

### Impact of COVID-19 on the Nittobo Group

The COVID-19 pandemic has applied a sharp brake to the world economy, and in Japan as elsewhere, business confidence is waning, the employment situation is worsening, and consumer spending is in decline. This situation has also had major impacts on the Nittobo Group's businesses. In the glass fiber business, despite the COVID-19, the spread of 5G infrastructure, such as servers for base stations and data centers, means that the demand for Special Glass for electronic materials is expected to continue expanding in the medium to long term. On the other hand, reduced demand and changing lifestyles have led to very challenging conditions for textile products for the apparel industry and the glass fiber used in industrial materials for automobiles and residential buildings. In addition, the in vitro diagnostic reagents business, which had previously been resilient to economic fluctuations, has seen a temporary reduction in demand due to the fall in hospital visits caused by fears of in-hospital COVID-19 infection and the postponement of regular medical examinations for corporate and educational institutions.

Nevertheless, the Nittobo Group's long-term strategy remains unchanged. Keeping close watch on social trends, we will continue as before to invest financial and human resources in growth businesses and research fields where we wish to boost future competitiveness. By practicing strict cash management, including optimization of inventory levels, and taking other appropriate measures, we will at the same time steer a management course in keeping with our basic principles.

### Facing the COVID-19 from a medium to long term perspective

The impact of COVID-19 seems likely to accelerate the trend toward changes in people's behavior and the social structure. Remote working and the increasing use of non-contact procedures will further promote the digitization of society, while the spread of remote working in various fields is likely to speed the advance of 5G, the high-speed telecommunications standard of the next generation, and give further momentum to the development of increasingly sophisticated and high-speed functions in telecommunications infrastructure and devices such as tablets and smartphones. The Nittobo Group's unique glass fiber material technologies will be in a position to contribute to the progress of this 'social digitization.'

In the medical field likewise, there is a move away from treatment toward better diagnosis and prevention. In line with the advances of a range of diagnostic and testing technologies, including those relating to the prevention of infectious diseases, it is likely that home-based medical treatment and other more effective and efficient preventive treatments will become increasingly available. Here, the in vitro diagnostic reagents supplied by the Nittobo Group will be able to play a part.

Amid this social change, the Nittobo Group needs to consider how it can best contribute using its core technologies. We can then begin to target our thinking and actions toward the world of ten or twenty years from now. We are confident that management that looks ahead to the post-COVID society, in other words, fuller



exploitation of the Nittobo Group's strengths, will allow us to act in line with our Corporate Philosophy as a corporate group that creates healthy and comfortable lifestyles and realizes prosperous communities. In this way, we will realize both social contribution and sustainable growth for the Nittobo Group.

### Driving reform of in-house operations and systems in parallel with COVID-19 infection prevention measures

As a COVID-19 infection prevention measure, a home working system was introduced from March 2020 at Tokyo Headquarters and other business locations. After the lifting of the state of emergency, the system continued, with two days of home working a week as a general rule. Face-to-face meetings have been avoided wherever possible in favor of online meetings. We have found it possible in online meetings to achieve adequate discussion and effective outcomes in the same way as in face-to-face meetings, and when the COVID-19 is over, we intend to continue with online meetings as an efficient tool.

The COVID-19 pandemic has highlighted the need for reform of workstyles and the introduction of digitization. As reform of inhouse operations and systems had lagged behind in some areas, we see the present COVID-19 as a suitable moment to drive reform of indirect operations and the personnel system. As part of this, we are looking into introducing 'smart' procedures for administrative operations, for instance by reducing the required use of stamps and paper-based documents in authorization procedures and switching instead to an electronic workflow. It has also emerged that the current personnel system is inadequate in many respects to deal with the regulation and evaluation of home working. Rather than piecemeal adjustment, we believe the human resources system needs rebuilding. We would like employees to use the free time generated by this workstyle reform and the move to smart operations in a way that serves the individual's future goals, for instance to enhance their skills, pursue personal interests, or enjoy time with their families.

### Contributing to global environmental protection as an important management task

It is no exaggeration to say that contributing to global environmental protection is not an activity complementary to our business operations but one vital to business continuity. To reduce the environmental burden associated with manufacturing processes, we have been moving toward more efficient systems through a process of trial and error.





From the late 2000s, the fuel for glass fiber melting furnaces was changed from heavy oil to liquid natural gas, while we recently moved to further improve combustion efficiency by introducing oxygen combustion and hybrid combustion with electric power as a partial heat source. Going forward, we will continue with initiatives that include reducing greenhouse gas emissions, reducing water and raw material consumption, reducing the generation of byproducts, and re-using or recycling these resources as appropriate.

The Nittobo Group also contributes to reducing global environmental burden with the products it supplies. Weight reduction in vehicles and aircraft to increase fuel efficiency is one route to greenhouse gas reduction, with glass fiber as a potential substitute for metal materials. To save energy in the home, glass wool, an eco-friendly material made from recycled glass, is an essential heat-insulating material, while glass fiber is also used in the blades of wind power turbines and the dust-collection filters of factories and incineration plants. In this way, the materials we supply support the reduction of environmental burden across a wide range of industries. We are committed to expanding our range of environment-friendly products in the future. Realizing such products involves controlling costs, designing mass production systems, and numerous other issues, which we will overcome one by one with our sights fixed firmly on commercialization. With increasing calls for a move toward a recycling-oriented society, environment-friendly products are likely to yield significant added value. By listening carefully to opinions in the public sphere, then presenting concrete solutions, we will continue working to protect the global environment.

→ Please see page 43 for more information on environmental initiatives. → Please see page 32 for more information on glass wool.

### Benefiting from the input of external directors in management

In 2014, Nittobo shifted to the corporate governance structure of a company with Nomination Committee, etc., as outlined in Japan's Companies Act, and has worked since then to reinforce supervisory functions and ensure highly transparent management, prompt execution of business and enhanced management agility. So that this system functions effectively for sound and transparent management, we believe it necessary to conduct management oversight from wide ranging stakeholder viewpoints. It is therefore essential to be able to draw on the experience and knowledge of external directors from diverse backgrounds. In fiscal 2020, our newly appointed external directors include individuals with many years of experience in corporate management and a female director, who will each strengthen the diversity profile of the Board of Directors.

To stimulate more active and in-depth discussion at Board meetings, sharing of information with external directors is indispensable. Therefore, one week in advance of each meeting, we hold a preliminary briefing where the agenda items are explained and questions answered to the satisfaction of the external directors. Partly as a result of this, our Board of Directors meetings are always characterized by frank and lively discussion that frequently overruns the allotted time. Equipped with wide-ranging knowledge, the external directors supervise the execution

of Company business with a probing eye, so I approach the Board of Directors meetings in the same frame of mind as the General Meeting of Shareholders. Their particular perspective means that external directors are often able to point out to us risks and opportunities that are not apparent to insiders. It also stimulates discussion of the Nittobo Group's business from multiple angles and under multiple aspects, which is then reflected in our business execution.

→ Please see page 52 for more information on corporate governance.

### Creating a corporate culture open to active participation by all

In fiscal 2020, we appointed a new female external director, and this reflects our wish to create an environment still more conducive to active female participation. However, real organizational diversity does not mean merely increasing the number of females in managerial roles. We believe that the important thing, which applies also to the Board of Directors, is to create a corporate culture in which diverse employees can discuss issues from multiple perspectives in an atmosphere of mutual respect drawing on their respective areas of knowledge. To achieve this requires the cooperation of all Group officers and employees in creating a corporate culture open to participation by all with equal treatment in areas such as pay and conditions and staff assessment regardless of gender, nationality, or other characteristics. I am keenly aware of my role as chief executive in leading the creation of such an organization, and going forward I am committed to being open in my relations with employees and sharing with them our successes and issues.

→ Please see page 48 for more information on human resources diversity.

### Approach to shareholder returns

Our basic policy on shareholder returns is to aim for a steady dividend increase while taking overall account of other demands such as the strengthening of our financial base and building an adequate internal reserve to support stable future growth. I think the Nittobo Group is currently at the active investment stage, and we are therefore working to build a foundation for future growth. In fiscal 2020, we will continue with growth investment by adding to our Special Glass melting furnaces in Japan, constructing a new Special Glass factory in Taiwan, and also expanding the production sites of our medical business in Japan and the U.S. While paying careful attention to the balance between shareholder returns and growth investment, we have followed the basic shareholder returns policy I outlined above by increasing the annual dividend three times since I became president in 2016. In fiscal 2019, our investment in Special Glass facilities in Koriyama City in Fukushima Prefecture progressed according to plan and started contributing to profit in the second half of the fiscal year. This has enabled us to increase the annual dividend per share by 5 yen from the previous fiscal year to 45 yen.

### Emphasis on dialogue with shareholders

My motto is "openness," and as soon as I became president, I made it one of my basic policies to establish a culture of openness both internally and externally. As far as possible, I attend Financial Results Briefings and investor meetings, where I can communicate my own ideas and opinions directly to shareholders and investors. At these meetings, I take the approach of presenting the full picture without hiding anything, giving not only positive information but also the facts on the management issues and risks we face. I also attach great importance to listening carefully to shareholder opinion. When formulating business plans and strategies, we take account of their suggestions and opinions and reflect them in our policies. Our shareholders have strong future expectations from the Special Glass and medical businesses which we have designated as growth businesses. In order to reliably meet those expectations, the Mid-term Business Plan due to launch in fiscal 2021 will present a new vision for the Nittobo Group of the year 2030 and will set out how we can best leverage the Nittobo Group's core competences to contribute to realizing a healthy, safe and secure society that is digitally advanced and at the same time values energy-conservation and the global environment.

I hope that we can rely on your continuing support and encouragement in the long term.

# Progress of Mid-term Business Plan

On April 1, 2023, Nittobo will celebrate the 100th anniversary of its foundation. So that the Nittobo Group can look forward to another 100 years of sustainable growth, we have formulated two strategic outlines: “Long-Term Vision 101,” which sets out a vision to work toward for our 101st year in fiscal 2023; and a Mid-term Business Plan “Go for Next 100” for the Nittobo Group covering the four-year period from fiscal 2017 to fiscal 2020.

## A Corporate Vision for the Nittobo Group

The Nittobo Group believes that now is the time to lay the foundation for the next century of business. It is our duty to stakeholders to ensure our business continuation in our home country of Japan, while seeking sustainable growth on a global scale.

### Our Corporate Vision: “Long-term Vision 101”

A company that delivers innovation worldwide from our origins in Fukushima and Japan, offering unique value-added business and products based on client expectations and technology

## Overview of Mid-term Business Plan

Our Mid-term Business Plan “Go for Next 100,” covering the four years from fiscal 2017 to fiscal 2020, is an important first step toward realizing our Corporate Vision by building a foundation to maintain current profitability while capturing future growth opportunities.



# Go for Next 100

—Challenges for Change and Creation— (FY2017-FY2020)

## Management Targets (Consolidated)

	Mid-term Business Plan “Go for Next 100” FY2020	“Long-term Vision 101” FY2023
Net sales	100.0	150.0
Operating profit	12.0	15.0
EBITDA	20.0	—
Net profit	8.0	10.0
ROE (%)	8% or higher	10% or higher

We will work to build a financial base that supports growth investment and to enhance shareholder return

**Hiroyuki Tada**  
Managing Executive Officer  
General Manager of the Corporate Business Planning Division



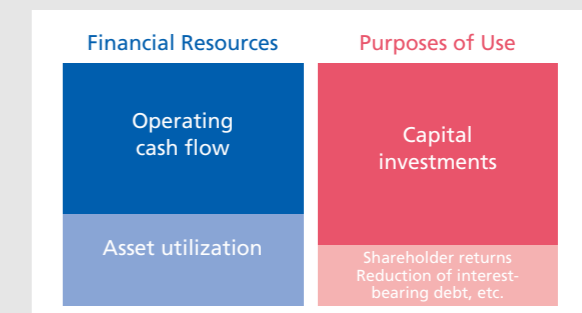
Since the financial crisis set off by the Lehman Brothers bankruptcy, the Nittobo Group has worked to build a business structure able to generate earnings under any conditions.

Under our current Mid-term Business Plan, the priority has been to use operating cash flow from business activities and capital proceeds from the sale of unused assets and cross-shareholdings to carry out growth investment for a shift to high value-added products while maintaining a sound financial basis. In fiscal 2019, we raised capital by issuing corporate bonds and expanded our committed credit lines in order to ensure financial stability and short-term liquidity for the event of sudden changes in the financial environment.

We view dividend policy as one of the most important management issues and have adopted a basic shareholder return policy of implementing stable dividend growth while monitoring the dividend payout ratio. We are satisfied that the investment in new Special Glass melting furnaces carried out so far has

been successful and that it began to show results in fiscal 2019. Accordingly, we have set the year-end dividend at 25 yen per share, a 5-yen increase compared to the interim dividend, for a total annual dividend of 45 yen.

We will continue to invest for future growth while maintaining a sound financial position, and also take a dynamic and flexible approach to shareholder returns in line with our financial situation.



## Shareholder Returns

	FY16 results	FY17 results	FY18 results	FY19 results	FY20 forecast
Per share dividend	35 yen	40 yen	40 yen	45 yen	45 yen
Payout ratio	18.6%	15.2%	19.4%	30.3%	17.5%
Total return ratio	41.7%*	22.8%	19.5%	30.4%	17.6%

\* Repurchased own shares



# Strategy for Research and Technology Development

For progressing with advanced research and technology development to adapt to changing times

**Minoru Takeuchi**  
 Managing Executive Officer  
 Head of the Research &  
 Development Headquarters



## Nurturing Research and Technology Capabilities in the Long Term

At the heart of Nittobo's research and development and technology development is a pioneering spirit in constant pursuit of new discovery, exemplified by the motto of our second president, Sanpei Katakura: "Let's turn anything into fibers." In the spirit of this motto, Nittobo has developed a whole series of unprecedented new materials and associated manufacturing methods. Having achieved Japan's first commercial production of glass fiber, glass wool, staple fiber, and rock wool, Nittobo can indeed be described as a unique company with a rich pioneering spirit. Our consistent embrace of change as an opportunity to move forward by creating new products and new technologies is for us a further indication of the pioneering spirit we have inherited. The glass fiber that is our main product was used before and during the war as a nonflammable material. During the post-war period of strong economic growth, it found a wide range of applications as a plastic reinforcing material and contributed to the development of mass production methods. In the electronics field, which began to evolve rapidly from the late 1960s, it was used as a glass cloth insulating layer for integrated circuits. Today, Nittobo's Special Glass cloth is a material

indispensable to the infrastructure and terminals supporting 5G, the next-generation telecommunications standard.

Another approach central to our thinking is to engage in specialized development of materials and raw materials at the upstream end of the supply chain. Since Japan's post-war period of strong economic growth, rapid change in market needs has shortened product life cycles. When end products are having to adapt to meet the requirements of the day, our special focus on material development and supply, at the upstream end of the supply chain, has allowed Nittobo to ride out the change.

Our pioneering approach to new technology and our priority attention to the materials and raw materials field provide the driving force to consistently produce results. These in turn are rooted in a corporate culture that focuses on nurturing technologies from a long-term perspective. If we take the example of Special Glass and in vitro diagnostic reagents, it took a long time before they began to yield profit, but now they have grown into the pillars of the Nittobo Group's prosperity. Going forward, we will continue with committed initiatives to nurture the seeds of innovative technologies.

## Our Vision for the Research & Development Headquarters

Many of our technology breakthroughs have emerged from general research activities in the respective business divisions. However, one difficulty was the priority given to product development that yields immediate profit, leaving fewer resources for research and development leading to the creation of new businesses in the future. To acquire basic technologies that will serve as future business pillars and generate further innovation, we needed to bring together the knowledge resources of all business divisions to generate synergies. In 2017, we responded by reorganizing the research and development departments which had been under the control of individual business divisions, integrating them into a newly formed Research & Development Headquarters.

One of the key policies of our Mid-term Business Plan is to establish a research and development structure to promote themes in the medium to long term. This reflects our wish to provide a conducive research environment in which staff can devote themselves unhindered to their research activities. As well as providing an organizational framework for the Research & Development Headquarters, we gave it physical form with the completion in April 2020 of a new facility known as NI-CoLabo, which was conceived as a landmark symbolizing the Nittobo Group's research and development functions. This new facility creates an open environment for development based on the concept of pursuing synergies by removing the barriers between business divisions, individual enterprises, and the local community.

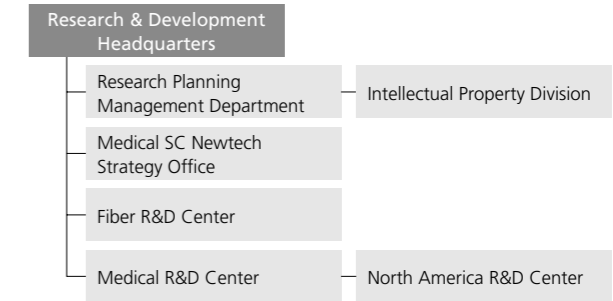
## Organizational Framework for Research and Development

Nittobo's organizational framework for research and development consists of a Research & Development Headquarters under the control of which are placed the Fiber R&D Center, Medical R&D Center, and Medical SC Newtech Strategy Office. The Research & Development Headquarters acts as the control center, promoting horizontal collaboration company-wide and reinforcing the research and development functions of existing businesses. Additionally, it explores basic and cutting-edge technologies to serve as the business pillars of the future.

In 2018, to upgrade the functions of the Medical SC Newtech Strategy Office, we established NI-Tech as a satellite laboratory center in Kawasaki City, Kanagawa Prefecture. This facility is located on the third floor of the Innovation Center of NanoMedicine, which is equipped with state-of-the-art experimental equipment. Situated in Kawasaki's King Skyfront

area, which is a hub for the latest knowledge in medical science, it offers the optimal research environment for open innovation on an international basis. Here, we aim to create medical diagnosis technologies that will unlock new domains for our future in fields such as oncology and genetics.

### Organizational Chart



## Focus Fields in Research and Development

The Fiber R&D Center engages in activities including development of novel glass fiber compositions for use with 5G and the next-generation 6G; research into ultra-thin glass fiber cloth; research into bio-compatible glass fiber materials for environment-friendly applications; and ultra-high strength glass fiber development.

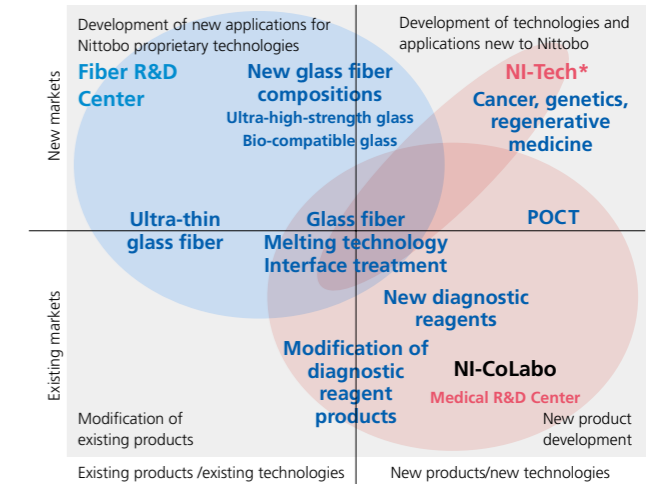
The Medical R&D Center is focused on in vitro diagnostic reagents and engages proactively not only in modification of existing products but also development of novel items. Specifically, we are concentrating on enhancement of the Nittobo Group strengths in immunology, inflammation, and osteoporosis. We are also developing devices and reagents with a view to diagnosis based on POCT\*, and have launched a project for stable supply of antisera through collaboration with overseas business sites.

The research work of the Medical SC Newtech Strategy Office not only covers our established diagnostic fields, but also extends to diagnostic technology in the fields of oncology and genetics.

As a Research & Development Headquarters, we intend to devote resources to research and development fields that cross the boundaries between individual businesses. In fields not specifically connected to existing businesses also, we will promote collaborative projects based on the application of the

polymer technology of our specialty chemicals business in areas such as glass fiber interface technology, and expanded applications for the infectious disease preprocessing kits of our Medical Business.

\* Point-of-care testing (POCT): real-time testing with compact analysis devices and rapid diagnosis kits



\* Medical SC Newtech Strategy Office

## Research and Development with Active Participation of Diverse Human Resources

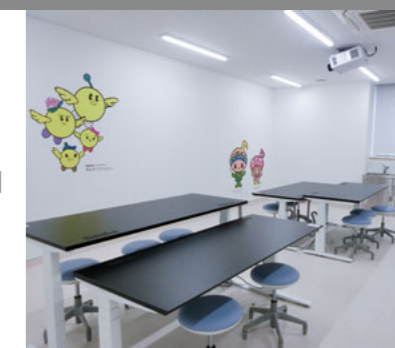
For the Research & Development Headquarters to generate innovation through its organization and facilities, human resources development is essential. To encourage this by adding a scholarly dimension to our researchers' work, we have put in place an employee education system to promote the acquisition of academic degrees and support overseas study. To enhance researcher motivation, we have additionally established a system that gives financial rewards for contributions to business operations. This has already produced results, with an increase in the number of patent applications and other significant concrete benefits.

Meanwhile, as part of our efforts to create an environment

that matches the diversity of our researchers, we have taken steps to enhance employment conditions so that staff can achieve a good work-life balance and approach their duties in a positive frame of mind. As a result, we have achieved a situation where almost half the researchers in our Medical Business are female, and in 2020 we appointed the first female manager in our development divisions. Going forward, by enhancing diversity, creating a more conducive workplace, and establishing a solid human resources base, we aim to enhance our potential in terms of both physical and intangible assets to drive growth in the Nittobo Group's research and development capabilities.

## Promoting Open Innovation

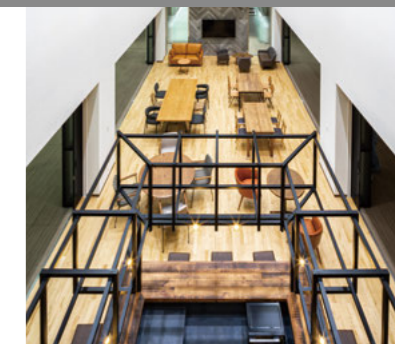
# Establishment of NI-CoLabo, a new research site



### Children's Experimental Laboratory

As part of NI-CoLabo, we have created a permanent Children's Experimental Laboratory. Meanwhile, employees from the Fukuyama Enterprise Center hold science classes at local elementary schools to give the children who are tomorrow's leaders an opportunity to encounter science and develop their interest and curiosity. This initiative has been rated highly for encouraging children to learn through experiment in a fun atmosphere and is also valued by the Nittobo Group and its employees as an important contact point with the local community. Going forward, we will seek still more active contact with the local community and also promote opportunities for children to discover the excitement of science through hands-on experiences.

### Recreational Space



At NI-CoLabo, we have created a recreational space arranged around the central atrium at second- and third-floor level. With its high ceiling, the space has an open feel and is infused with the organic warmth of wooden materials. Serving as a relaxed environment to eat lunch or take time out in, it is also a shared space where staff from different fields of work can enjoy casual contact in breaks from their research work.

In its blueprint for sustainable growth, Long-Term Vision 101, the Nittobo Group declares its Corporate Vision of delivering innovation worldwide from its origins in Fukushima and Japan, offering unique value-added business and products based on client expectations and technology.

Our Mid-term Business Plan, which is the roadmap to this vision, takes as its key research and development strategy the establishment of a structure to promote medium- to long-term themes. To realize this strategy, in April 2020, the Nittobo Group opened NI-CoLabo, a research site designed to act as the core of our research and development activities. To continue contributing to society going forward through well-timed proposal of high value-added products, we need a

research system that can transcend existing frameworks to operate freely across organizational boundaries. NI-CoLabo brings together a number of functions previously dispersed as separate departments within the Fukuyama Enterprise Center—the Medical R&D Center, Specialty Chemicals R&D Center, Research Planning Management Department, and Intellectual Property Division—in an integrated system for our research and technological development functions, of which the Glass Fiber Division is also a part.

Inside NI-CoLabo, in addition to research areas for clean and safe handling of chemicals and medical experimental equipment, we have also provided extensive 'free' space available for recreation and for casual communication. Within

this environment, researchers can devote themselves to unhindered scientific inquiry. The advanced facilities also feature experimental facilities and meeting rooms for collaborative research with industry, government agencies, and educational institutions and a training center for engineers. The environment we aim to create is one where the barriers between individual industries and companies are transcended, stimulating interaction between researchers from both within and outside the company to generate innovation and enable partnerships. We also want to be a research institute that is felt to be part of the surrounding community and can serve as a facility for community exchange. Although we will have to restrict activities temporarily during the COVID-19 pandemic,

the facility includes spaces for learning through scientific experiment that will host events for children from the neighborhood, areas open for site tours by outside visitors, and seminar facilities available for use by external bodies as well as for in-house purposes.

Among the core competences of the Nittobo Group is its unique, world-leading technology. So as to continue with sustainable growth for the next 100 years, our research facilities will continue evolving and refining our fundamental technologies. At the same time, NI-CoLabo's activities will aim to open up technology domains and applications that are new to the Nittobo Group.

# Glass fiber opens the future high-speed telecommunications

Accelerate next-generation product development by anticipating the needs of the times and of our customers

**Hideyuki Hatanaka**  
Managing Executive Officer  
Vice President of Research & Development Headquarters  
Director of Product Planning and Development  
Headquarters of Glass Fiber Division



## Building a Major Position in the Electronic Materials Field

In 1938, Nittobo succeeded in Japan's first industrial production of glass fiber. Since then, we have continued developing products to meet the needs of the times. To reinforce basic research functions, we established a Minerals Fiber Research Center in 1954 and began working full-scale on research and development of glass fiber composition and development of precision fiber-spinning technology. Given the post-war recovery demand and the growing use of plastics, the main application of glass fiber at the time was in construction and plastic reinforcing materials.

From the 1970s, electrical products which had previously run on wired circuits began to adopt printed wiring boards, in which glass cloth, made by spinning glass fiber into cloth form, was explored as an insulating layer. Due to its insulating properties and dimensional stability, Nittobo's glass cloth was widely adopted in combination with resins as a substrate for printed wiring boards.

The rapid spread of computer use and their increasingly compact dimensions, coupled with trends such as the increasingly advanced functions of home appliances, led printed wiring boards to acquire an ever wider range of applications. To respond by strengthening the research and development of glass cloth, we established the Electronics Materials Research Laboratories in 1987. While the abovementioned Minerals Fiber Research Center undertakes

research into the upstream processes of glass composition and spinning technology, the Electronics Materials Research Laboratories engage in the downstream processes of developing technology to make thinner glass cloth and fiber spread-out technology to unravel strands in woven glass cloth, as well as research and development of high-performance binder.

In the 1980s, Nittobo established a subsidiary for the manufacture of printed wiring boards and semiconductor packages (Asaka Electronics Co., LTD., 1983 to 1996), which rolled out operations in a field directly connected to end manufacturers. This not only allowed us to acquire expertise in printed wiring boards and semiconductors, but also gave us an entry into the electronic device and semiconductor industry with its fast-paced technological innovation. This experience equipped us with the major assets of speedy market response and a customer-oriented approach, which remain part of our DNA today.

Nittobo is thus involved in both upstream research and downstream production activities and has established a position as a leading company of glass fiber in the electronic materials field, having created the world's finest glass yarn with a filament diameter of 3.5μm, ultra-thin glass cloth, NE-glass with low dielectric properties and T-glass with low thermal expansion and other superior properties.

## Higher Speed and Larger Volume in Telecoms Infrastructure Boosts Demand for Low-dielectric Glass

To realize high speed, which alongside large-volume is one of the features of 5G telecommunications, higher frequency is required. This leads to transmission loss and deterioration of signal quality, so that reduction of dielectric constant and dielectric dissipation factor is required.

Modern telecommunications entered its first generation (1G) in the 1980s and progressed from 3G to 4G around 2010. At the same time, materials with low dielectric constant were in demand, but instead of glass fiber, modified resins

were used to realize low dielectric properties. In 2020, which has been called year zero for 5G, upgrading of the telecommunications infrastructure is in progress to realize the high-speed, large-volume telecommunications promised by 5G, but this demands further lowering of the dielectric constant to cut transmission loss. As there is a limit to the performance achievable with resins, glass cloth is now being targeted for low-dielectric properties, and as a result, the demand for low-dielectric NE-glass is surging.

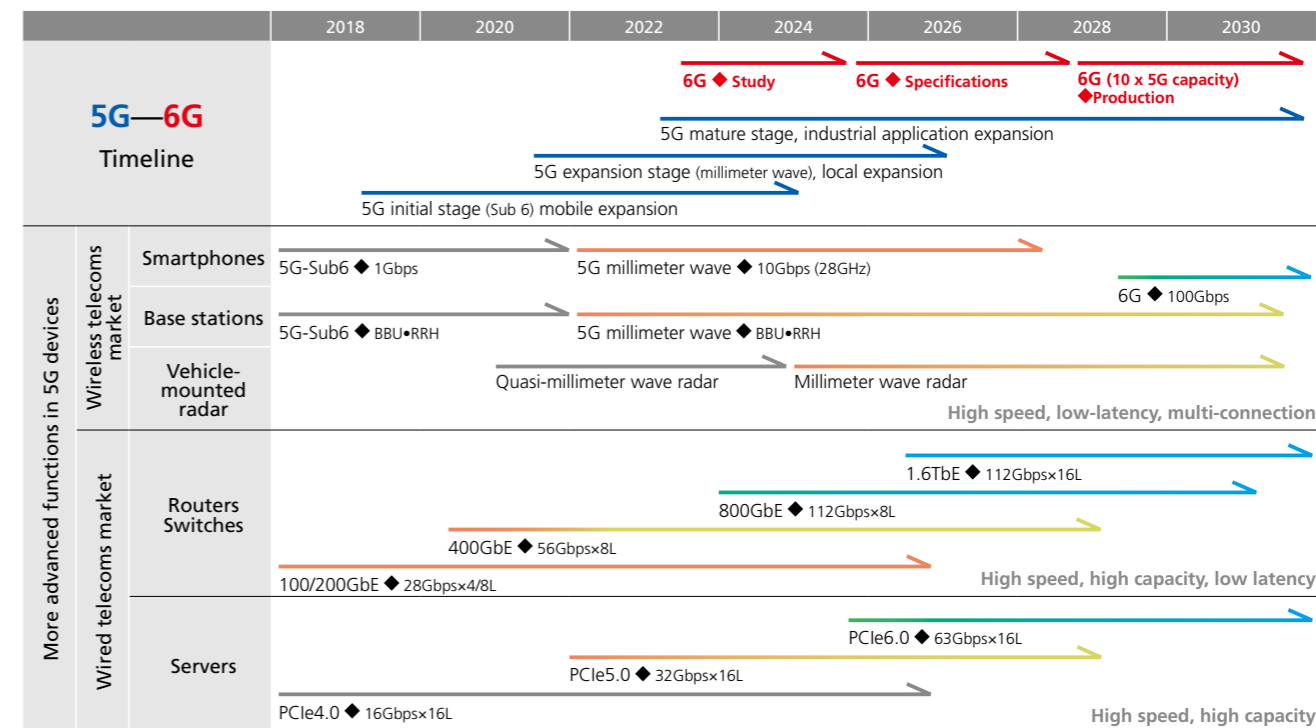
## Roadmap for the Rollout of Next-generation Telecommunications

The 5G device market divides into wireless telecommunications devices such as base stations and smartphones, and wired devices such as servers, switches, and routers. The wired market requires NE-glass to facilitate high-speed operation of devices such as the servers of data centers for large-volume data processing, the routers that connect between networks, and the switches that connect networks with servers and other electronic devices. In the wireless market similarly, we expect that NE-glass demand will step up further from around 2022, when millimeter wave, which delivers 5G-level performance, goes live.

Looking ahead to the technology advance we envisage in telecommunications and electronic devices, we believe that

NE-glass and the next-generation low-dielectric product known as NER-glass will provide sufficient performance up to the level of 5G. However, when 6G launches in around 2030, glass cloth with still lower dielectric constant and dielectric dissipation factor will be needed. We are therefore proceeding urgently with research and development of the generation-after-next products DX I and DX II. As long as the trend toward high speed and large volume in information and telecommunications continues, development of substrate materials with ever lower dielectric properties will be essential. We are committed to steadily advancing with a research and development roadmap designed in response.

### Implementing the 5G-6G Roadmap



### Products Supplied/Under Development by Nittobo

	Low transmission loss (in mass production)	Ultra-low transmission loss (in testing)	Next-generation super-low loss I (under development)	Next-generation super-low loss II (under development)
Low-dielectric, low-loss glass fiber	NE	NER	DX I	DX II

(Source: Ministry of Internal Affairs and Communications materials)

## Future Outlook

As a high-speed, large-volume telecommunications network takes shape worldwide, Nittobo, which supplies the low-dielectric glass fiber essential to its realization, is aware of its great role and responsibility. At the same time as strengthening the production system to ensure stable supply, we are accelerating research and development for next-generation products to contribute to the rollout of the next generation of information and telecommunications infrastructure. By publishing a research and development roadmap that looks ten years ahead, we want to demonstrate our commitment not only to meeting immediate 5G demand, but also to building the information infrastructure of the future.

In parallel with ultra-high-speed telecommunications, the development of advanced functions in information processing

is also progressing, which promises to bring expanding demand for Nittobo's low thermal expansion T-glass used in semiconductor packages. We are confident of our ability to continue contributing to the advanced information society in the two areas of NE-glass for telecommunications and T-glass for semiconductor packages.

We believe that glass fiber has the potential for rollout to a wide range of fields. Combining low-dielectric glass with expertise in the composite materials field, we have commercialized a resin reinforcing material permeable to radio waves which is now in use in the covers of 5G smartphones. For the future, we are looking into applications in fields such as automated driving and aviation.

# Glass Fiber Division

● Glass Fiber Yarn Business ● Glass Fiber Cloth Business ● Glass Fiber for Industrial Materials Business

Taking the customer perspective, design products that contribute to the advanced digital society



**Kazuhiko Igarashi**  
Managing Executive Officer  
General Manager of the Glass Fiber Division

## Review of Fiscal 2019

The Glass Fiber Division divides into three business segments: the Glass Fiber Yarn Business, covering glass fiber yarns for electronic and industrial materials and glass fiber for plastic composite materials; the Glass Fiber Cloth Business, consisting of glass fiber cloth for electronic materials; and the Glass Fiber for Industrial Materials Business, including glass wool as a residential heat-insulating material and glass fiber cloth for industrial materials. One of the Nittobo Group's strengths is high value-added products, including items for use in electronic materials. Here, we have established a reputation as a global leader thanks to our production technology for the world's finest glass fiber yarn and thinnest glass fiber cloth, our range of Special Glass products based on glass compositions uniquely developed for advanced performance, and an integrated production system equipped not only for yarn production but also inhouse processing of yarn into cloth.

To support the rollout of high-speed, large-volume telecommunications under 5G (5th-generation mobile communication system), there is increasing demand for information infrastructure equipment

such as base stations and data centers, in which Nittobo's Special Glass is used as an essential substrate material. Our current Mid-term Business Plan, which sets out a policy of further enhancing the Nittobo Group's strengths, has allocated resources to putting in place a production system able to meet the resulting boom in demand for Nittobo products by increasing the number of Special Glass yarn melting furnaces. These new melting furnaces began contributing to business performance after coming into full operation in the second half of fiscal 2019. In the second quarter of fiscal 2019, to reinforce glass cloth processing, we integrated as a consolidated subsidiary Baotek Industrial Materials Ltd., a manufacturer based in Taiwan, which is known for its concentration of electronic component manufacturers.

In the area of glass fiber for plastic composite materials, global competitors have emerged, leading to increased commoditization and intensified competition. We therefore believe that development of high value-added products in this field is an urgent task.

Under the impact of the COVID-19 pandemic, the Glass Fiber Division has seen a polarization of results. Coinciding with the rise of 5G-based high-speed, large-volume telecommunications, the pandemic has accelerated the trend toward social digitization, particularly in the form of remote working and the switch to online solutions. As a result, demand for Special Glass has continued to boom throughout the COVID-19 pandemic. We will therefore move ahead with our plans to increase the number of melting furnaces in Japan and to construct a new factory in Taiwan while keeping a close watch on market trends going forward.

## Impact of COVID-19

The market for composite materials, commodity yarn, and glass wool insulation has been heavily impacted by the COVID-19 pandemic, which caused a reduction in automobile production and delay or suspension of work on residential, hotel, office, and other construction projects. Although there is no clear prospect for an end to the COVID-19, we are resolved to keep a close eye on changes in the business environment and to respond decisively to emerging issues with optimal measures.

## Building Information Infrastructure and Contributing to Environmental Burden Reduction

The Nittobo Group has industry-leading technological capabilities to provide stable supply of ultra-fine yarn manufactured with world-class precision and Special Glass with novel compositions in the usage for electronic materials. While 5G has yet to reach full-scale rollout, we are pushing energetically ahead with research and development of products compatible not only with the current state of 5G but also the 6G standard that will come on stream in 2030. In this way, we aim to create cutting-edge Special Glass products to meet customer needs.

In the area of materials for use in composites and industrial applications, our aim is to continuously develop new products that contribute to

environmental burden reduction. In the field of mobility-related applications, a shift toward lighter-weight and electric vehicles is under way with a view to CO<sub>2</sub> reduction. This is an area where we can provide the light weight and high strength which are joint features of glass fiber. Going forward, the Research & Development Headquarters will join forces with the Glass Fiber Division to develop products that are not only environment-friendly but lead to real environmental improvement.

## FOCUS ON

### Building a Special Glass Production System in Taiwan

With the development of high-speed, large-volume telecommunications and the global rise of 5G, the demand for Special Glass for base stations and data centers is expanding and we are enhancing production facilities in response.

To enhance production capacity for Special Glass yarn, in fiscal 2019 we installed a number of melting furnaces at Koriyama City, Fukushima Prefecture. In fiscal 2020, we will install melting furnaces at three sites in Japan (Fukushima City and Koriyama City in Fukushima Prefecture and Moka City in Tochigi Prefecture), and in the fall of 2021 we plan to start operation of the new Special Glass yarn at NITTOBO ASIA Glass Fiber Co., Ltd., in Taiwan.

Likewise, to enhance glass cloth production capacity, we are progressing with allocation of human resources and provision of technology support ahead of the planned start of Special Glass cloth production at the Taiwan-based company Baotek Industrial Materials Ltd., which became a consolidated subsidiary in 2019. Our aim is to establish an integrated production system in Taiwan able to manufacture materials from Special Glass yarn to cloth.

This will enable us to produce Special Glass at a number of sites worldwide, which will reduce the risk to business continuity in the supply chain and enhance customer confidence.

### Global production system for Special Glass (planned for 2021)

Japan: 4 sites  
(3 for yarn, 1 for cloth)

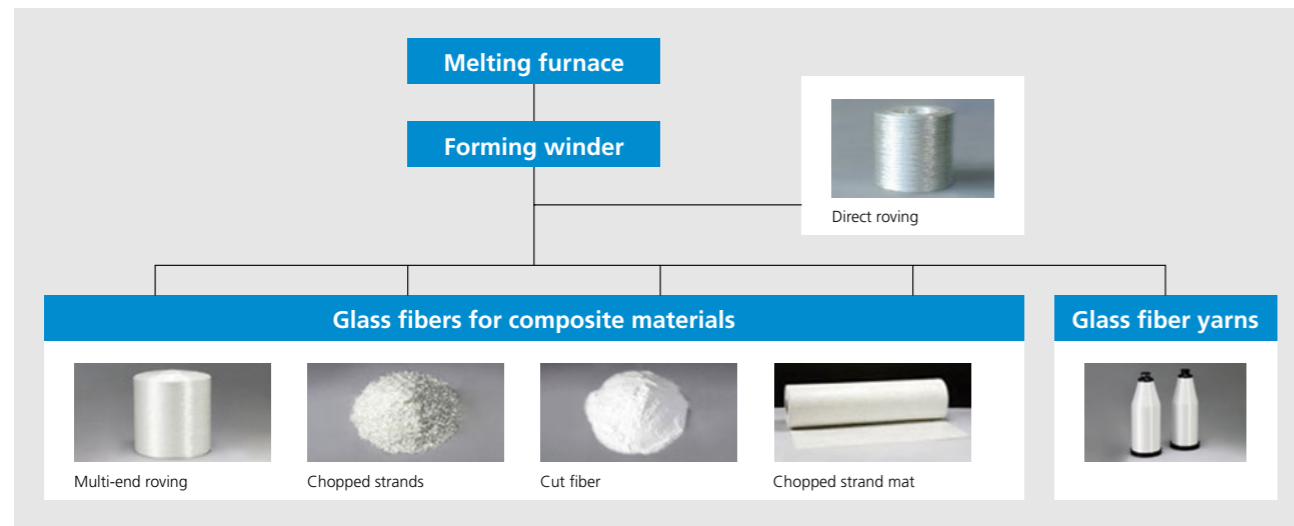
Taiwan: 2 sites  
(1 for yarn, 1 for cloth)

	Yarn	Cloth
FY2019	● Japan: 1 site (Koriyama)	● Japan: 1 site (Fukushima No. 2)
FY2020 plan	● Japan: 3 sites (Koriyama, Fukushima, Moka)	● Japan: 1 site
FY2021 plan	● Japan: 3 sites ● Taiwan: 1 site (Chiayi)	● Japan: 1 site ● Taiwan: 1 site (Taoyuan)

# 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.

## Products Manufactured

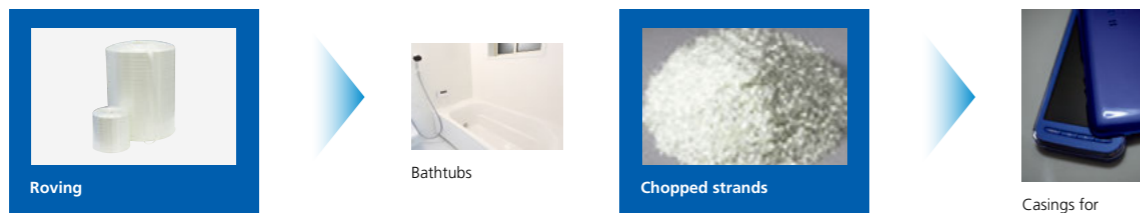


### Glass fiber for composite materials

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

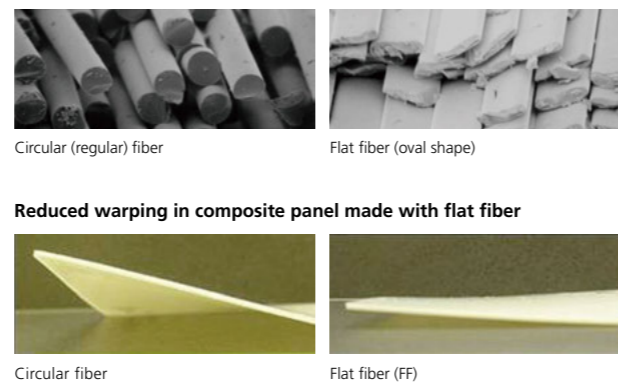
**Strength** ● Flat fibers (FF) with an oval shape cross-section to control the warping and twisting of molded products

## Main Products



### Flat Fiber (chopped strand)

Based on unique technology development, Nittobo's flat fiber is high-performance chopped strand that uses fibers of modified cross-section. The cross-section of regular fibers is circular, but in flat fibers it is oval-shaped. Because of this shape, these chopped strands exhibit diverse characteristics as base materials for injection molding.

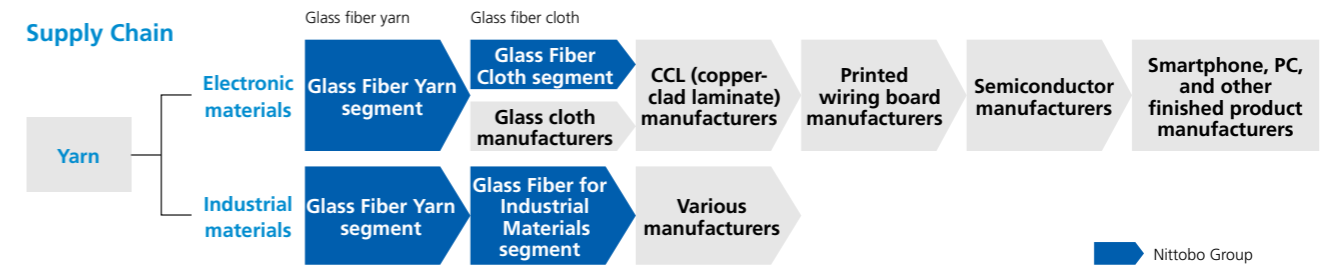


## Glass fiber yarns

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. Nittobo possesses proprietary technology to manufacture superfine yarns with world-class precision, along with special yarns with such functionality as low-dielectric and low thermal expansion properties.

- Strengths**
- Manufacturing technology for the world's most precise yarns (3.5μm)
  - Development and manufacturing of low-dielectric and low thermal expansion Special Glass

## Supply Chain



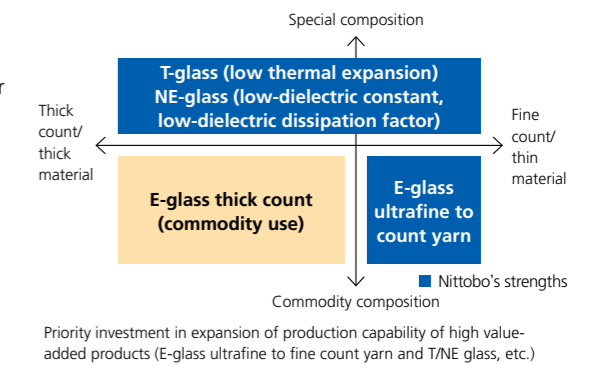
## Main Products



## Investment Domains

Under its "Long-term Vision 101," the Nittobo Group's vision for the Glass Fiber Division is to solidify its leadership in the glass fiber industry by maintaining a stable supply of high value-added products to customers amid dramatic change in the industry environment. To achieve this vision, we are bolstering our capabilities in electronic materials field. Our initiatives include building our Special Glass development capabilities and production capacity, advancing our superfine yarn spinning capabilities, and expanding our glass cloth business at Baotek Industrial Materials Ltd., a Taiwanese company that we converted into a consolidated subsidiary.

➔ For more information on major investment projects, please see page 19.



## Social and Environmental Contributions

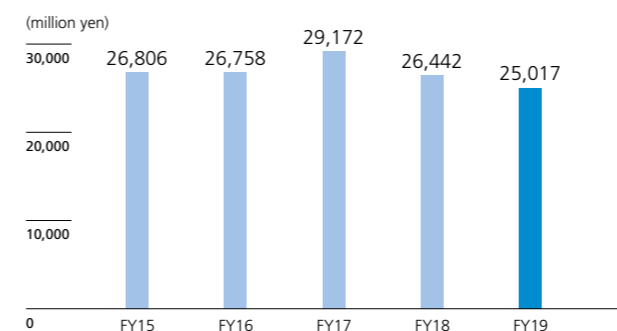
Nittobo's glass fiber contributes to thinner and more compact dimensions in electronic devices such as smartphones and to lighter weight in automobiles and aircraft.

## FY2019 Business Results

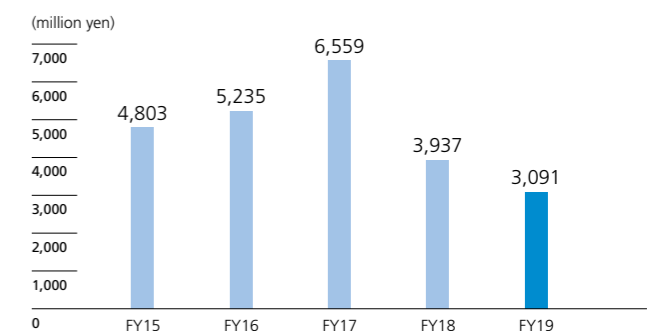
In the area of glass yarn for electronic materials, the operational start of new Special Glass melting furnaces allowed us to begin sales of NE-glass yarn and recovery has been observed in sales of ultra-fine yarn for smartphones, but sales of commodity yarn were slack. Composite materials for reinforced plastics continued to face difficult market conditions. Given the additional impact of an increase in personnel and depreciation costs in line with our policy of strengthening our business foundation, a fire accident at our consolidated subsidiary Fuji Fiber Glass Co., Ltd., and flood damage at our Fukushima Factory caused by a typhoon, the result was a decline in profit.

## Business Result Highlights

### Net sales



### Operating profit





# Glass Fiber Cloth Business

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

## Glass cloth for printed wiring boards

Glass cloth is widely used as an electric substrate material 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 electric devices. Our Special Glass cloths are developed using unique compositions and feature low-dielectric constant and low-dielectric dissipation factor required in broadband communications, as well as low thermal expansion. These properties make the cloths vital components of data center equipment, mobile phone base stations, high frequency components, and semiconductor packages for servers and smartphones.

- Strengths**
- Technology for making ultra-thin glass cloth
  - Spread-out technology to unravel strands in woven glass cloth
  - High-performance binder technology

For more information on the supply chain, please see page 29.

## Main Products



Glass fiber yarns



Glass fiber cloths

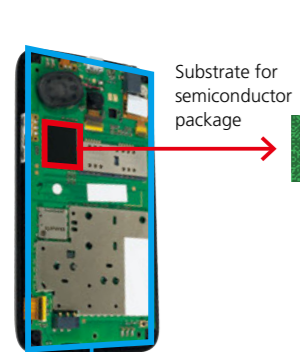


Printed wiring boards

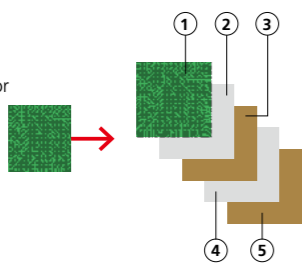


Smartphones, PCs, etc.

## Image of Glass Fiber Cloth Application

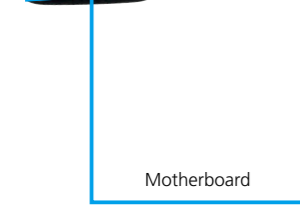


Substrate for semiconductor package

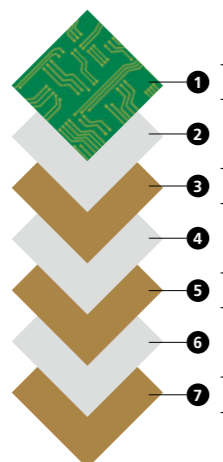


- ① Surface layer circuit
- ② Insulation layer (resin-impregnated glass cloth)
- ③ Inner layer circuit
- ④ Insulation layer (resin-impregnated glass cloth)
- ⑤ Surface layer circuit

Substrate for semiconductor package (glass cloth used)



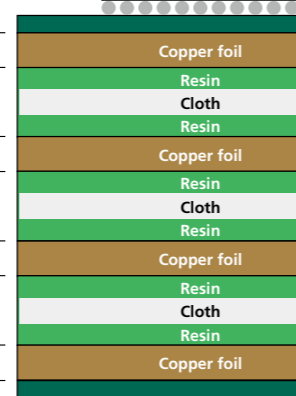
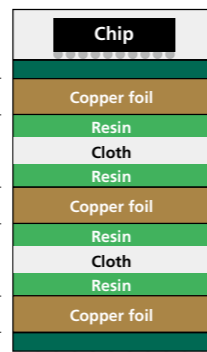
Motherboard



- ① Surface layer circuit
- ② Insulation layer (resin-impregnated glass cloth)
- ③ Inner layer circuit
- ④ Insulation layer (resin-impregnated glass cloth)
- ⑤ Inner layer circuit
- ⑥ Insulation layer (resin-impregnated glass cloth)
- ⑦ Surface layer circuit

Motherboard (glass cloth used)

## Diagram of Substrate Cross-section



## Nittobo Special Glass

Fifth-generation mobile communication system (5G) will enable processing and transmission of large amounts of data without latency, along with the simultaneous connection of a massive number of devices. Low-dielectric glass which reduces transmission loss is one of the technologies required for printed wiring boards in electronic devices. These technologies make it possible to transmit data at higher speeds and frequencies. In addition, higher speeds and functionality of electronic devices generate more heat on the precision wiring boards. As such, 5G requires new types of glass which can minimize thermal expansion.

Nittobo Special Glass uses unique glass fiber which can support 5G technological innovation.

NE-glass is made from glass fibers specially designed with a low-dielectric and low-dielectric dissipation factor which prevent data transmission loss. NE-glass is used as high frequency components in data center servers and mobile phone base stations which require high-speed processing of large volumes of data.

T-glass, another type of Special Glass, features low thermal expansion as well as high tensile elasticity. T-glass is used for semiconductor package substrates installed in servers, which require high stability and reliability, and in smartphones and other devices which are becoming increasingly compact and functional.

	Thermal expansion coefficient ( $\times 10^{-6}/^{\circ}\text{C}$ )	Tensile elasticity (GPa)
E-glass	5.6	75
T-glass	2.8	86

These Special Glass products have become essential components of mobile phone base stations and other communications infrastructure as well as highly functional servers. Nittobo Special Glass is lauded worldwide for its performance and quality. As we enter a new era in AI, automated driving and other new technologies, the expectations for Nittobo Special Glass will increase. We will strive to maintain a stable supply of Special Glass to contribute to the realization of innovative technologies.

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

## Social and Environmental Contributions

Glass cloth made from Nittobo Special Glass is used as a low-dielectric substrate for electric components, helping to realize the next-generation telecommunication standard 5G.

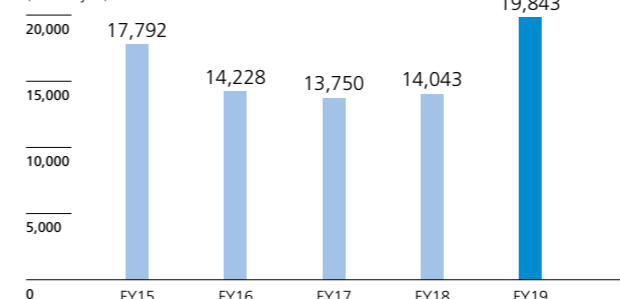
## FY2019 Business Results

We continued to see booming demand for Special Glass for the electronic materials that facilitate high-speed, large-volume telecommunications, while the addition of new melting furnaces in the Glass Fiber Yarn segment led to an expansion in sales of Special Glass cloth in the Glass Fiber Cloth segment. The inclusion of Baotek Industrial Materials Ltd. as a consolidated subsidiary also boosted net sales.

## Business Result Highlights

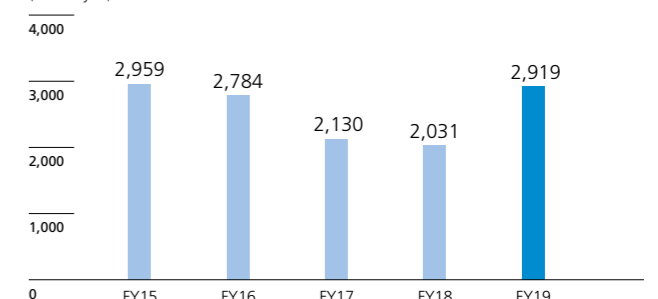
### Net sales

(million yen)



### Operating profit

(million yen)



# Glass Fiber for Industrial Materials Business

**Business Description** 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** 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, glass wool is an environmentally friendly product contributing to resource recycling, as the raw materials include discarded bottles and glass windows.

**Strengths**

- Proprietary precision fiber technology for high insulating effect and energy-efficiency housing
- Formaldehyde-free insulation for human-friendly housing

**Main Products**

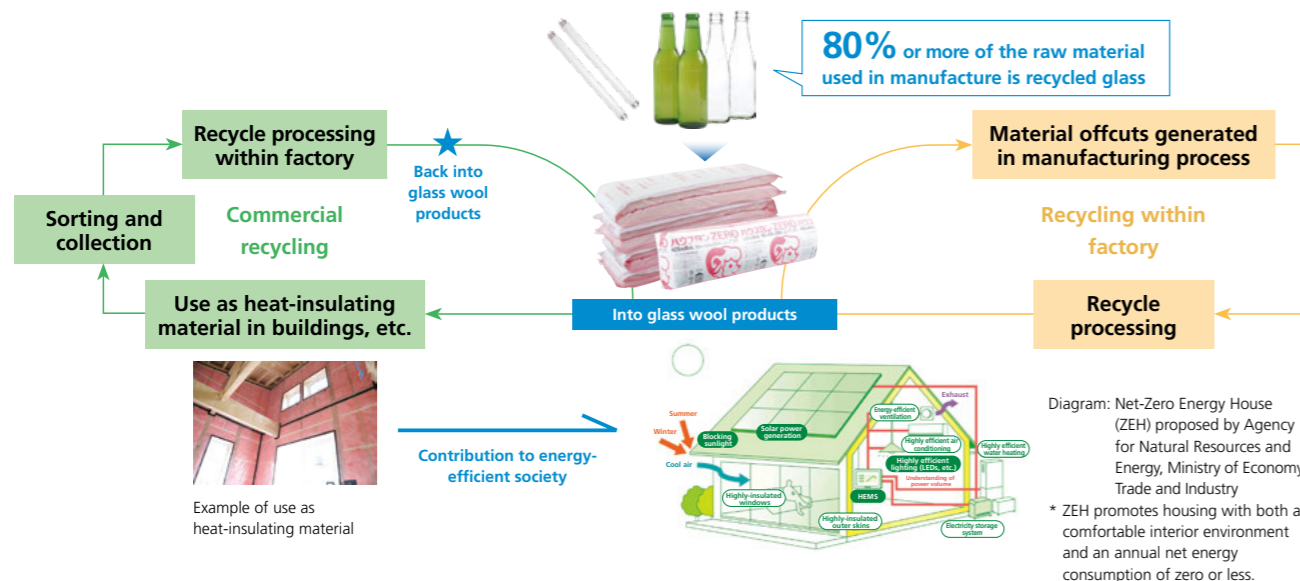


**Social and Environmental Contributions**

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.

**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 has a wide range of applications, from membranes for large-scale buildings to 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
  - World-class broad-cut membranes

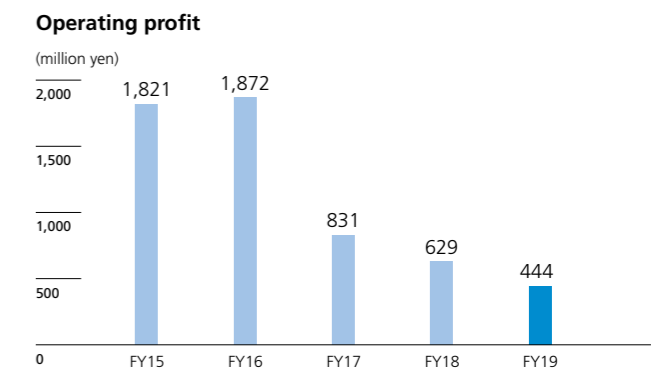
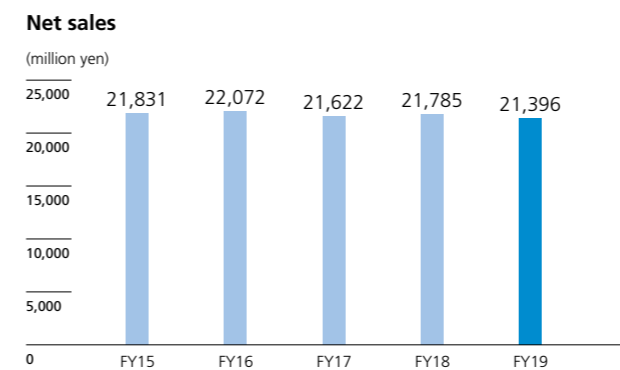
**Main Product Groups**

	Interior furnishings	Exterior furnishings	Automobiles and aircraft	Construction
Applications	Light shades (illumination covers)	Tent films	Vibration-damping materials	Concrete corrosion-proofing and reinforcement
	Surface cloths	Back-lit signboards	Aircraft	External wall reinforcement
	Insect screens			Coating film waterproofing
	Roll-up blinds			
	Roll-up blinds	Tent films	Vibration-damping materials	Coating film waterproofing

**FY2019 Business Results**

In addition to reduced sales of glass fiber and glass wool, other factors, including an increase in depreciation costs due to capital investment, resulted in a decline in profit.

**Business Result Highlights**



# Strengthen our global value chain to grow the Medical Business into the second pillar of the Nittobo Group

**Tatsuo Sakae**  
Executive Officer  
General Manager of the Medical Division  
Chairman and CEO of Nittobo America Inc.



## Review of Fiscal 2019

The Nittobo Group's in vitro diagnostic reagents have earned us a reputation within the industry as 'Nittobo the Immunology Specialists,' with a particularly strong presence in the field of immunological diagnostic reagents. Our U.S.-based subsidiary Nittobo America Inc., engaged at the upstream end of the value chain in manufacture and sale of antisera, and Japan-based NITTOBO MEDICAL CO., LTD., engaged in the downstream processes of manufacture and sale of the end-product reagents,

are the two arms of the integrated production system we have put in place as an essential feature of the distinctive Nittobo business model. This system gives us great advantages when it comes to ensuring the stability of both quality and supply. As products derived from biological sources, immunological reagents are inevitably subject to quality variation, but the Nittobo Group's integrated production system allows us to minimize this variation to maintain a high level of quality.

In fiscal 2019, we posted major sales expansion, mostly in overseas markets, for the antisera produced at our U.S. sites, which boosted overall profit. This is a great achievement indicating that Nittobo America Inc., which had previously functioned only as a raw material production site, has grown to become a profit center.

Another important development was our acquisition of the antisera manufacturer and sales company Capricorn Products LLC (Maine, U.S.A.). This places the Nittobo Group beyond the reach of competitors in its global market share of goat antisera.

## Impact of COVID-19

Previously, our in vitro diagnostic reagents had remained relatively unaffected by economic fluctuations but COVID-19 has upset this status. The number of hospital visits has fallen sharply as people attempt to avoid infection, while the regular health checkups carried out at corporate and educational institutions have been postponed or canceled,

contributing to an unprecedented slump in short-term demand. Having bottomed out in the second quarter of fiscal 2020, demand is now on a recovering trend, but as this is not a business where a rebound due to delayed demand can be expected, a negative impact on business results is unavoidable.

## Confronting new Social Needs

Challenging conditions continue in the short term, but as the in vitro diagnostic reagents sector is a business concerned with human health, global expansion is certain in the medium to long term. In developed countries, high-performance diagnostic reagents are sought that can detect the signs of disease more accurately and at an earlier stage. In emerging countries, demand for diagnostic reagents is rising due to population increase and economic growth, particularly in Asia. Across all markets, there is a common trend toward rising living standards and heightened health awareness, combined with a shift from treatment to prevention. By making optimal use of its value chain, the Nittobo Group will steadily capture the resulting increase in global demand.

We believe that the current COVID-19 pandemic marks a potential major turning point that could transform medical treatment-related businesses and

see the emergence of new social needs. With people now avoiding face-to-face contact, the conventional practice of visiting a clinic for medical attention may change in favor of remote consultation systems. A possible business model is one that makes it possible to undergo testing and diagnosis without leaving home, followed by online prescription and home delivery of medication based on the findings. As an in vitro diagnostic reagent manufacturer, we need to consider going forward how we can best contribute in such a scenario and how to respond flexibly to the change. This means swiftly identifying trends in digitization and putting in place a system that can respond to future social needs. To fulfill the Nittobo Corporate Philosophy of creating healthy and comfortable lifestyles, we will continue with bold initiatives in the Medical Business based on strengths that our competitors cannot emulate.

## FOCUS ON

### Strengthening our Global Value Chain in the Medical Business

Under the current Mid-term Business Plan, we have sought to build an extensive global value chain with high capacity and resilience by implementing mergers and acquisitions and conducting capital investment. The result is a unique global business system integrating all operations from research and development to sales. Going forward, to grow the Medical Business as the second pillar of the Nittobo Group, we will move energetically to expand sales overseas as well as in Japan.

### Building a global integrated production system



# Life Science Business

**Business Description** Life Science Business manufactures and supplies in vitro diagnostic reagents and antisera, specialty chemicals products, and soft drinks.

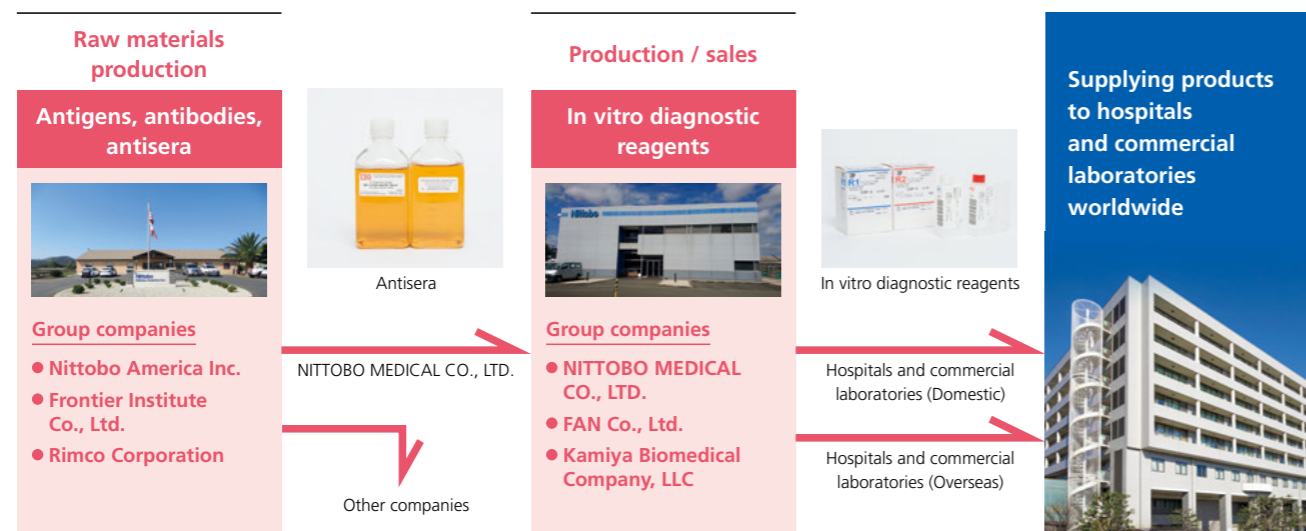
**In vitro diagnostic reagents**

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. Results of these tests done in hospitals and commercial laboratories are referred by doctors for deciding on 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

## Flow Chart of In Vitro Diagnostic Reagents



### Nittobo America Inc.

Nittobo America Inc. produces high quality goat antisera in three facilities in the U.S. These antisera are supplied to NITTOBO MEDICAL CO., LTD. and other manufacturers worldwide as raw materials for in vitro diagnostic reagents for immunological tests.

Kamiya Biomedical Company, LLC, a wholly owned subsidiary of Nittobo America Inc., was established in 1983 in the U.S. and manufactures and distributes in vitro diagnostic reagents today. With its home base in the world's largest medical market, Kamiya Biomedical boasts sales networks spanning the globe.

### NITTOBO MEDICAL CO., LTD.

NITTOBO MEDICAL CO., LTD. manufactures and sells in vitro diagnostic reagents including those made from goat antisera. Its core strength lies in reagents for immunological tests, utilizing antigen-antibody reaction. Since its establishment in 1987, NITTOBO MEDICAL has stably supplied a variety of high quality in vitro diagnostic reagents, and by today, it has gained a stature known as "Nittobo the Immunology Specialists" in Japan.

### 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.

### Product groups

Category	Applications		
Auxiliary agents for metal processing	Electrolytic plating	Acid corrosion inhibitor	Metal processing cutting oil additive
Surface-protective agent SSG®	Anti-fouling	Anti-corrosion coating	Solid natural wood protection
Water treatment agents	Wastewater treatment	Metal scavenger	Decoloring
Auxiliary agents for textile processing	Dye-fixing	Friction fastness improver	Deep-coloring



### Soft drinks

In the soft drinks 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.



### Social and Environmental Contributions

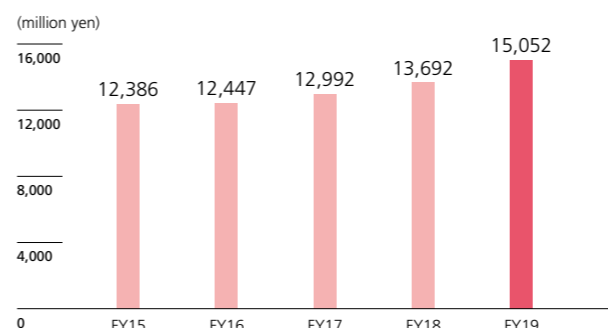
The Nittobo Group helps create healthy lifestyles for people around the world through the supply of immunological in vitro diagnostic reagents and antisera.

### FY2019 Business Results

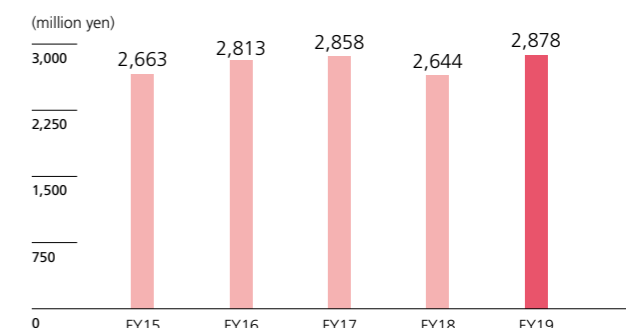
In the in vitro diagnostic reagents business, we achieved strong sales performance, particularly of immunological reagents, through initiatives to expand sales in Japan and overseas. In the specialty chemicals products business, we maintained stable supply in Japan and overseas, with the main focus on high value-added products. In the soft drinks business, we continued responding to multi-item small-lot demand across a wide range.

### Business Result Highlights

#### Net sales



#### Operating profit



## Switch to a growth trajectory by expanding our proprietary technologies to a wide range of fields



**Mitsuhiro Kato**  
General Manager of  
the Textile Division

### Review of Fiscal 2019

In fiscal 2019, we have transferred the equity of Chinese manufacturing site Nittobo (China) Co., Ltd., to raise efficiency by consolidating interlining production in Japan. Additionally, by implementing cost reductions and rationalization across all functions from development and production to sales, we laid the foundation for a return to profitability. However, just when we had established the prospect of returning to a positive operating profit balance from fiscal 2020 based on the market launch of high value-added new products, the COVID-19 pandemic caused a dramatic change in the business

environment. The response in Japan, which included the voluntary closure of department stores and shopping centers and avoidance of public places, has had a great negative impact on the whole of the textile industry. Nevertheless, we are confident that the structural reform we pushed through in fiscal 2019 was absolutely the right strategy and has laid the foundation for the regeneration of our textile business. So as to achieve further growth in the post-COVID world, we will continue working to strengthen all business functions.

### Impact of COVID-19

After the trough of spring 2020, when demand hit the low point, there is now a basic trend to recovery, the pace of which remains slow, however. In addition, the changes in people's lifestyles have altered consumer behavior. One example is the normalization of remote working, which has reduced people's reasons for going out in public and thus

dampened the inclination to buy new clothes. Even when the COVID-19 pandemic is over, demand will not necessarily return to pre-COVID levels, and we have discussed intensively how we should develop our business operations in order to regenerate the textile business. The conclusion we have reached is to return to our roots, in other words, to emphasize our

Corporate Philosophy of creating healthy and comfortable lifestyles to contribute to the realization of prosperous communities.

A topical example of this is how our textile business responded to the spread of COVID-19: after considering how we could contribute, we developed an interlining that can be used safely in face masks. Fitting Nittobo's adhesive interlining in a home-made cloth face mask helps it to retain shape even after washing. So that people can use it with full confidence, our product became the first interlining for face masks to be recognized under Class 1 of the OEKO-TEX® STANDARD 100 safety certification

system, which means it can also be used for babies and infants.

The business environment is challenging, but going forward, we will use Nittobo's unique technology as the basis for continuing to develop new high value-added products that meet contemporary needs. In this way, we will appeal to a global market.

\* The OEKO-TEX® STANDARD 100 certificate is the world's strictest safety standard for textile products, with certification granted only to products that have passed stringent analytical tests for over 350 harmful chemical substances. Class 1 designates products for use in babies and infants and is the category with the strictest conditions.

### Leveraging Our Strengths to Switch to a Growth Trajectory

Nittobo's proprietary technology is the resource from which we generate products that contribute to society. One of our core technologies and a major strength is the adhesive technology for coating fabric with adhesive resin in a uniform dot pattern. This advanced technology can be applied in a wide range of fields, and we think it will play a very important role in supporting the future of our Textile Business. As difficult conditions continue in the high-end ladies' apparel market that is our main target, in addition to focusing on the apparel field, we need to progressively expand our scope to new fields. The key to this is the application of adhesive technology to industrial materials. To unlock this new domain, we have strengthened coordination with the Research & Development Headquarters and the Glass

Fiber Division. In this way, the Nittobo Group will come together in initiatives to leverage the core technologies of the Textile Business and place it on a growth trajectory.

COVID-19 is likely to bring about a change in the kinds of product the market requires. There will however be no change in our practice of listening attentively to customers, which has been one of the most important elements of our approach. In the post-COVID world, the creativity to identify the needs of our long-standing customers and respond by developing products will be increasingly important. By applying the proprietary technologies of our Textile Business to a wide range of fields, we will progressively realize our full potential.

## FOCUS ON

### Development of Interlining and Inner Materials Friendly to the Global Environment

The Textile Division is progressing with environment-friendly product development as a leading player in the interlining business. We have already begun sales of standard-type products made with recycled raw materials. In 2020, we deployed the thin fabric processing technology which is one of our strengths to develop a 13-decitet\* nylon product and a 17-decitet polyester product, both among the world's lightest weights for a recycled textile, and a 13-decitet nylon product which is also in the lightest grade for nylon synthesized from plant-derived raw material. We plan to acquire certification under the Global Recycled Standard (GRS) in the fall of 2020 and are expanding sales to sports brands. Going forward, we will work to develop sustainable products from a wide range of perspectives with the aim of reducing environmental burden.



Interlining made with recycled nylon inner material/ bio-nylon

\* Decitex: unit of thickness for yarn indicating the weight per 10,000 meters; the lower the decitex count, the finer the yarn.

# Textile Business

**Business Description** In the Textile Business, Nittobo manufactures and sells auxiliary materials for clothing, raw yarns, and other products closely connected to our daily lifestyles. Our adhesive interlinings command a large share in the high-end ladies' apparel market, while our multilayer structured yarns are pushing the boundaries of stretch materials. Nittobo Dishcloth™ has been a consumer favorite for more than sixty years.

**Interlinings** Interlinings are an auxiliary material for clothing used between the outer and inner materials to retain and adjust clothing shape

**Strengths**

- Processing and adhesive technology to produce the world's thinnest, lightest interlinings
- Development of products with deodorizing, antibacterial and other functions, along with products reducing the environmental burden

## Adhesive Interlinings



## Innovative Fabric™

Materials used for both inner materials and interlining



Applying our proprietary adhesive dot processing technology to functional materials enhances functionality

## Rollout to Industrial Materials

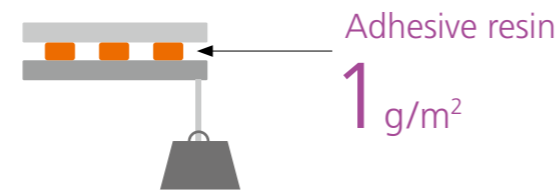
We are collaborating with the Glass Fiber Division in the rollout of adhesive technology to industrial materials

### Adhesion to a wide range of materials



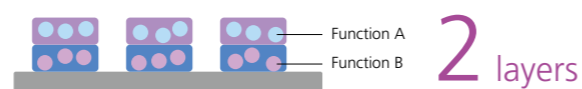
Firm adhesion between different materials

### Uniform adhesion with very small amounts of resin



High adhesive strength with a small amount of resin

### Layering of functions



A single process produces two layers, each with a different functional chemical

## Raw yarn

'C-S-Y™' (core spun yarn) is a multilayer structured yarn in two or three layers combining staple fibers and polyurethane to create innovative stretch fabrics. Its applications are broad, from denim, suits, socks and other daily apparel to bandages for use in medicine and sports.

**Strengths**

- World-class technology in multilayer structured yarn covering

## Multilayer Structured Yarns

Combining fibers with different properties in two- to three-layered structures produces multiple functions



## Paper-core yarn 'pa-pia'



Using Japanese paper in the core produces a distinctive texture

## 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.



## 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.



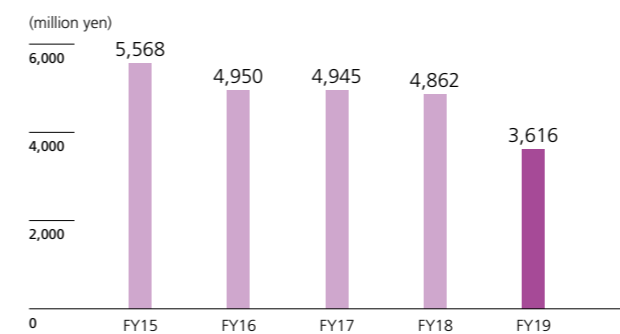
Environmentally conscious product catalogue "For Sustainability"

## FY2019 Business Results

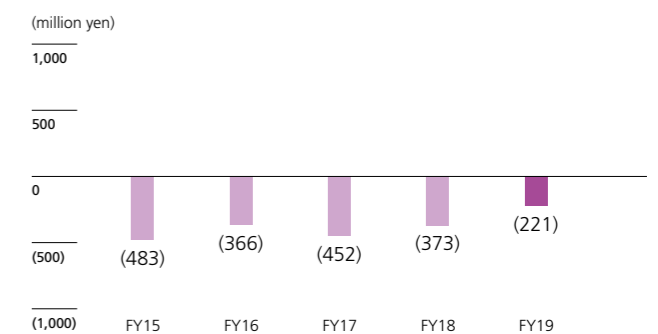
Net sales declined due to the transfer of equity of Nittobo (China) Co., Ltd., and the stagnation of the market. In contrast, the permeating effect of price rises and the transfer of production from China to Japan had a positive impact on profit.

## Business Result Highlights

### Net sales



### Operating profit or loss



# ESG Initiatives

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

## Responsibilities as a Corporate Citizen

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 the 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 and 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.

### Environment

The Nittobo Group is aware of the importance of global environmental problems, and we are actively engaged in voluntary efforts to save energy, use resources effectively, prevent pollution and other environmental conservation activities for the purpose of creating and maintaining a better environment, a requirement for business continuity.

- Solutions to environmental problems through businesses and products
- Continuous efforts to reduce environmental impacts

### Social

The Nittobo Group believes it is important to develop in harmony with local communities through its business activities and promote open communication with local communities as a good corporate citizen. That thinking underpins the Group’s CSR activities.

- Harmonious coexistence with local communities
- Human resource utilization (promoting diversity and women’s participation)

### Governance

To ensure Nittobo continues to develop as a corporate group that retains the trust of society, the Group has put in place a corporate governance structure to rigorously comply with all laws, regulations and corporate ethics.

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

# Environment

## 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.

#### Action Guidelines

<p><b>1 Environmental protection</b></p> <p>Aim at improving the environment continuously and coexisting with the local community by striving to reduce environmental impacts in a systematic way.</p>	<p><b>2 Environmentally conscious corporate activities</b></p> <p>Promote energy-saving, resource-saving, recycle-oriented, and environmentally conscious operations in all business domains in Japan and abroad.</p>	<p><b>3 Compliance with environmental policy and voluntary management</b></p> <p>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.</p>	<p><b>4 Periodic audits</b></p> <p>Conduct periodic environmental audits to verify the appropriateness of management standards and improve environmental and safety management to raise such standards.</p>	<p><b>5 Training and education</b></p> <p>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</p>
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Established on October 1, 1998  
Revised on July 1, 2005

### Company-Wide Environmental Policy

We strive to control carbon dioxide emissions by streamlining energy use.

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

Ensure appropriate management of hazardous substances and strive to reduce their discharge to the environment.

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

### Environmental Impacts of the Nittobo Group

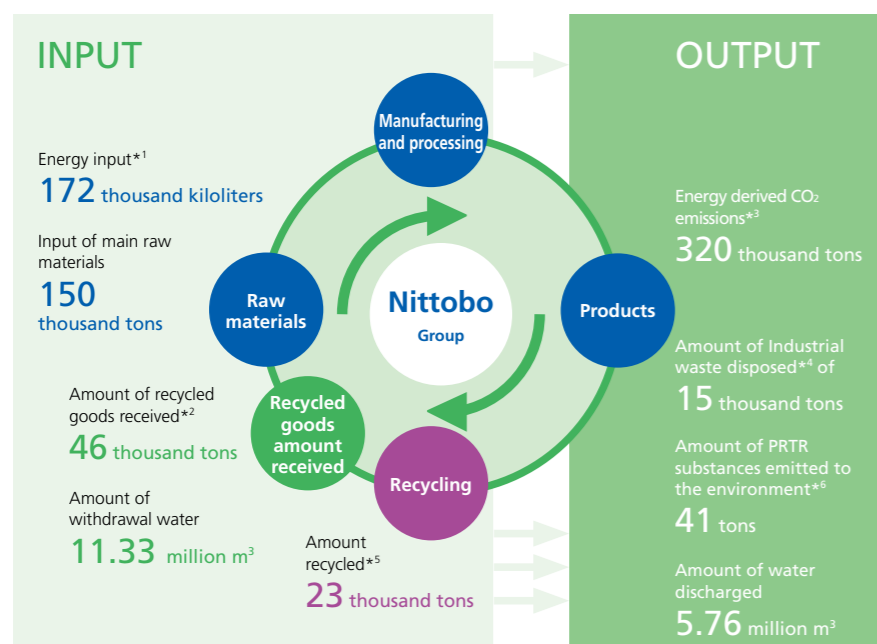
The Nittobo Group manufactures a wide range of products by using natural resources and chemical substances as raw materials and consuming fuel and electric energy. Major environmental impacts include carbon dioxide generated as a result of energy consumption, chemical substances that are

discharged to the environment without being collected, and industrial waste that is simply incinerated or sent to external landfill sites. 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 FY2019

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.)



Scope of Data Collection  
 Domestic business sites: Data collected from April 2019 to March 2020  
 Overseas business sites: Data collected from January to December 2019

- \*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 Energy-derived CO<sub>2</sub> emissions: 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: 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)

### Main Changes in Environmental Load in the Nittobo Group

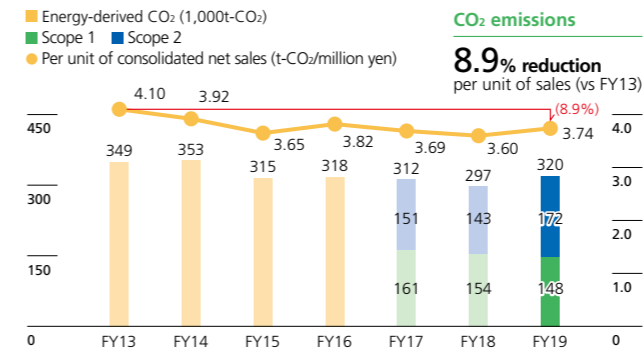
The Nittobo Group uses large amounts of energy in glass melting furnaces, used mainly to manufacture glass fiber, and emits carbon dioxide (CO<sub>2</sub>). For this reason, the Group has reduced CO<sub>2</sub> emissions by converting glass melting furnace fuel from heavy oil to utility gas and by installing oxygen combustion systems at Group factories.

Since the installation of oxygen combustion systems in particular enables CO<sub>2</sub> emissions reduction by improving the combustion efficiency of melting furnaces and other equipment and also enables substantial elimination of nitrogen oxides (NO<sub>x</sub>), it has led to reduced emissions of air pollutants.

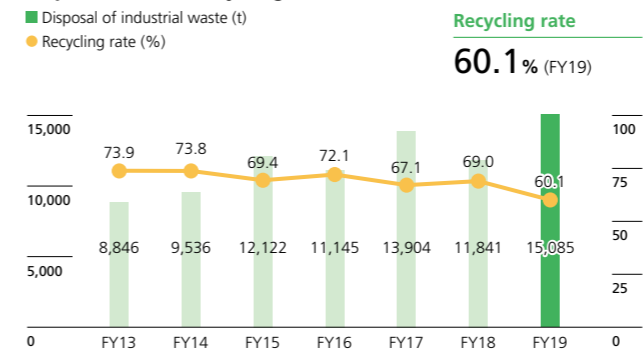
The status of environmental load in fiscal 2019 is as shown on the next page. Overall, environmental load has increased from the previous fiscal year due to the consolidation of Baotek Industrial Materials Ltd., but energy-derived CO<sub>2</sub> emissions per unit of consolidated net sales have declined 8.9% compared with the fiscal 2013 level. We have reduced the total amount of air pollutant emissions by 62.8% from the fiscal 2013 level, thanks in part to the installation of oxygen combustion systems. Also, the recycling rate is 60.1%.

The Group will continue to work in unison to reduce environmental impacts.

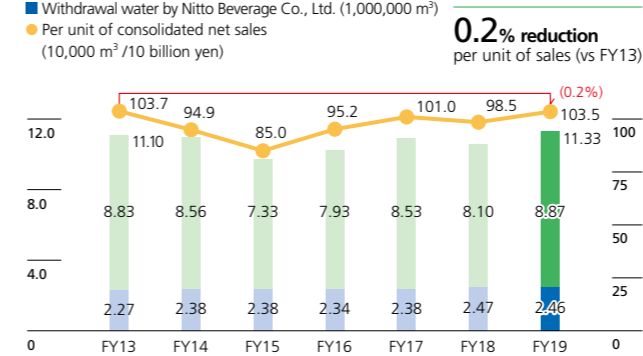
#### Chronological changes in the amount of energy-derived CO<sub>2</sub> emissions



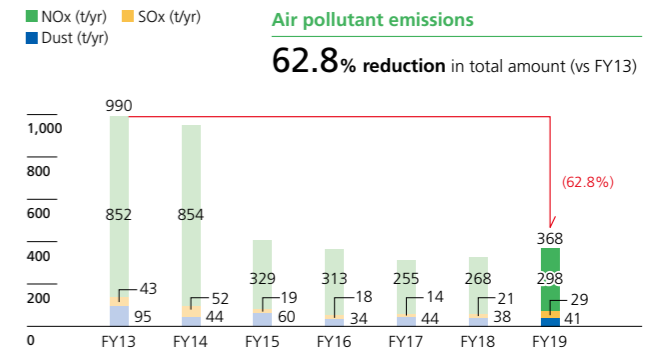
#### Chronological changes in the amount of industrial waste disposal and the recycling rate



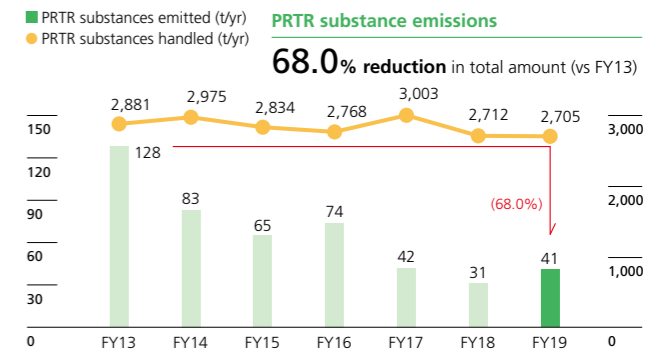
#### Chronological changes in the amount of withdrawal water



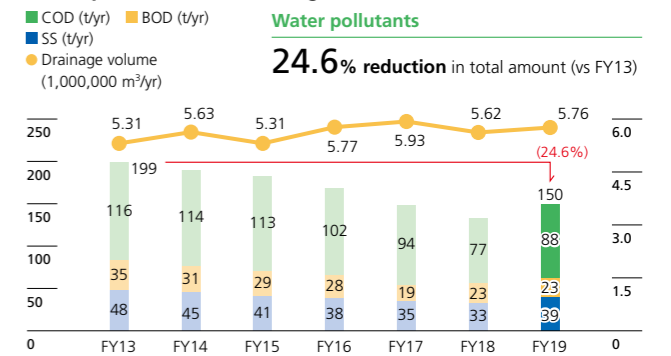
#### Chronological changes in the amount of air pollutant emissions



#### Chronological changes in the amounts of PRTR substances emitted and handled



#### Chronological changes in the amounts of water pollutants and drainage



### Amount of Scope 3 emissions by the Nittobo Group

In fiscal year 2017, the Nittobo Group started to calculate the amount of greenhouse gas emitted (Scope 3) in its value chain. The results for fiscal year 2019 are as follows:

Category	Amount of CO <sub>2</sub> emitted (t-CO <sub>2</sub> )	Calculation method
Category 1	107,302	Calculated by multiplying the purchase prices of the top 70% of products and services purchased by business sites by the CO <sub>2</sub> unit value stipulated in the guidelines
Category 2	87,756	Calculated by multiplying the amount of capital goods (buildings, structures, machinery, and equipment) by the CO <sub>2</sub> unit value stipulated in the guidelines
Category 5	592	Calculated by multiplying the amount of each type of waste by the CO <sub>2</sub> unit value stipulated in the guidelines
Category 6	350	Calculated by multiplying the number of employees by the CO <sub>2</sub> unit value stipulated in the guidelines
Category 7	226	Calculated by multiplying the amount of transportation expenses by the CO <sub>2</sub> unit value stipulated in the guidelines
Category 9	3,384	Amount of CO <sub>2</sub> emitted as included in the periodic reports of specified shippers under the Energy Conservation Act

\* The amount of CO<sub>2</sub> emitted in each category was calculated with reference to the Ministry of the Environment's Green Value Chain Platform and other guidelines.

Reference materials  
 Basic Guidelines on Accounting for Greenhouse Gas Emissions throughout the Supply Chain (Ver.2.2), Ministry of the Environment  
 Database of Emissions Intensity for Accounting of Greenhouse Gas Emissions from Organizations throughout the Supply Chain (Ver.2.4), Ministry of the Environment



## 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.



Arakawa River cleanup project in Fukushima City



Volunteer river cleanup work in the Sakura area

### Fukushima Reconstruction Support

Every year since 2016, the Nittobo Group has held Fukushima Marche, a fair to support the reconstruction of Fukushima Prefecture, at the Tokyo Headquarters. At the fair, we publicize initiatives for reconstruction of Fukushima Prefecture and for food security and safety by displaying panels depicting reconstruction and recovery in Fukushima Prefecture and selling local culinary specialties from the prefecture.



Fukushima Marche



Fukushima local specialties

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



Loading 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.



Picture taken in FY2019

### 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.



Children's science class (Fukushima Factory)



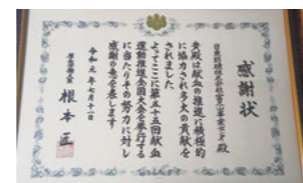
Children's science class (Fukuyama Enterprise Center)

### Blood Drive Activities

The Fukuyama Enterprise Center has cooperated in blood drives for more than 40 years. A bloodmobile visits the Center every year in the spring and autumn for employees donate blood. In 2015, Fukushima Prefecture awarded the Center a governor's Certificate of Appreciation for Organizations Cooperating in Public Health Projects in recognition of its blood drive activities over many years.



Bloodmobile (Fukuyama Enterprise Center)



Fukushima Prefectural Governor's Certificate of Appreciation for Organizations Cooperating in Public Health Projects

## Safety Initiatives

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.

Course of Action				
<b>1 Establishment of a Safe Workplace Environment</b> Perform a risk assessment to remove and decrease hazardous and harmful factors and invest in necessary management resources to maintain and improve our safe and healthy working environment.	<b>2 Promote Health Maintenance</b> 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 to prevent harassment or excessive workload at the workplace.	<b>3 Compliance and Management of Labor Policy</b> Comply with laws, regulations and other standards regarding safety and health and to set our own environmental policies and management standards.	<b>4 Implementation of Periodic Inspection</b> Seek to examine and improve safety and health control systems and to enhance such control standards through the implementation of periodic safety and health inspections.	<b>5 Education/Enlightenment</b> Create safe and healthy working environments across our organization by thoroughly providing all of our employees with safety and health education and to understand safety and health guidelines.

Established on July 1, 2017

### Examples of Safety Initiatives

#### Response to Major Disasters

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.

#### 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

#### Response to COVID-19

In its response to the COVID-19, 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 are being advised to work from home. All Group factories and subsidiaries are focusing on preventing infection by enforcing rules on wearing face masks and using alcohol sanitizer. In addition, in April 2020, the Group established a COVID-19 Response Headquarters, led by the Representative and Chief Executive Officer, to further reinforce Groupwide systems for preventing infection. The Group is also regularly reviewing supply chains, building stockpiles of face masks and other necessary medical products, and implementing staggered work hours to avoid the "Three Cs" (closed spaces, crowded places, close-contact settings).

	Date	Response
Groupwide	January 2020	Notice issued on pneumonia caused by COVID-19
	April 2020–	COVID-19 Response Headquarters established
Tokyo Headquarters and other urban sales offices, except factories	March to early June 2020	In principle, all employees to work remotely (roughly 20% of workforce onsite)
	Early June to end of September 2020	In principle, all employees to work remotely three days per week (roughly 40% of workforce onsite)
Factories	October 2020–	In principle, all employees to work remotely two days per week (roughly 60% of workforce onsite)
	Progressively implemented from February 2020	Strict measures to prevent infection, including sanitization on arrival onsite, wider spacing between seats in canteens and avoiding close contact in break rooms, changing rooms and other areas



Enforcing rules on wearing face masks and using alcohol sanitizer

# Active Roles of Diverse Talent

## Basic Approach

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 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.

## 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.

## Human Resource Development

The Nittobo Group is made up of businesses ranging from glass fiber and textiles to medical products. Each business is involved in various activities, such as product planning, development, manufacturing and sales. A wide variety of people including young talent and seasoned veterans, men and women, Japanese and foreign nationals, re-employed workers, mid-career hires, temporary workers, and other employees of various generations with different experiences and values work in those businesses. To maximize the performance of these human resources, and thus promote further business and individual growth, we will meticulously engage in human resource (HR) management focused on individuals, while continuously enhancing our HR systems and training programs.

### Training Program

Course	Content
Overseas language study course	Overseas study mainly for the development of foreign language skills
Study at business schools	MBA acquisition at a business school in Europe or the U.S.
Overseas research institute assignment course	R&D in a global environment
Overseas company internship course	Practical experience in a global environment
Graduate school for working people course	MBA/MOT* acquisition while continuing work

\* MBA: Master of Business Administration / MOT: Management of Technology

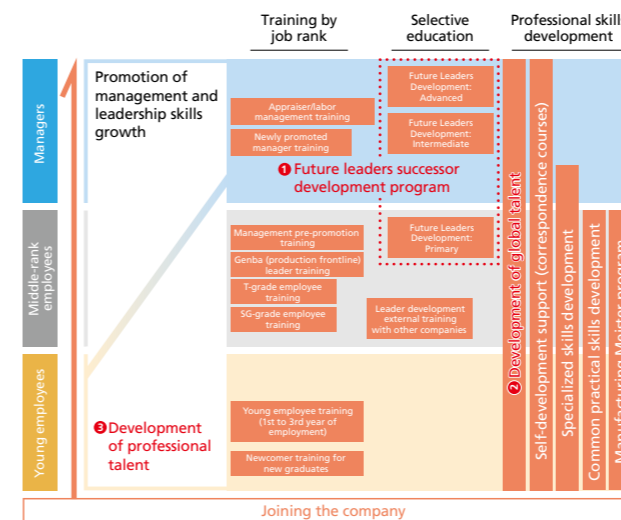
### Growth Support Program

Course	Content
TOEIC test	Conducted in-house (at company expense)
Online English conversation lessons	Opportunities for English conversation practice (at company expense)
Foreign trade practice course	Export-related skills acquisition (at company expense)
Correspondence courses	TOEIC, business English conversation, etc. (fixed-amount company contribution)

## 1 Development of the next generation of management leaders

In addition to conventional stratified training for personnel from new graduate entrants, young employees and newly promoted team managers through to department and division managers, in fiscal 2018 Nittobo launched its Successor Development Programs. 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.

### Outline of Training System



In particular, 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.

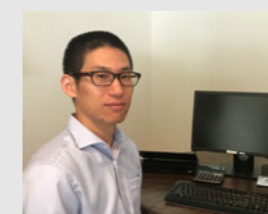
## 2 Development of global talent

To prepare for further globalization of our 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 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.

## VOICE



**Yoshiki Kaneko**  
Corporate Planning  
Nittobo America Inc.

I currently work in Corporate Planning at Nittobo America Inc., where I formulate budgets and Mid-term Business Plans and develop, design and manage systems that help the company attain its business targets.

After joining Nittobo, I took an interest in the overseas posting system as a way of challenging myself in new environments. With Nittobo’s support I was given the opportunity to study business at a university for six months while doing a home-stay in the U.S. My overseas study experience in the U.S. brought me into contact with a diverse

range of values and personalities, giving me first-hand insights into the challenges of communicating in different countries. I was also able to acquire the fundamental skills needed for communicating and facilitating meetings with local executives and managers, which is vital for my current role.

My work experience so far has helped me realize that seeing change as an opportunity and always taking a positive approach will support career development. That’s because, as somebody who previously led a sheltered life in Japan, my global experience has helped me become resilient enough to take on new challenges without fear of failure and continue studying without giving up. My goal is to develop my career further by continuing to seek out new challenges and slowly but surely gain new positive experiences.



## Work Style Reform and Health Management

### 1 Promotion of work-life balance

Average monthly overtime per employee at Nittobo in fiscal 2019 was approximately eight 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 based on hourly units 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 will continue to embed and improve new work practices that achieve both a high-quality work-life balance and significant improvements in productivity.

#### Work-Life Balance Support Programs

Childcare	Nursing care
Hourly paid leave	Hourly paid leave
Shorter working hours during pregnancy, staggered working hours	Nursing care leave
Pregnancy leave	Flextime system
Childbirth leave (employees and spouses)	Shorter working hours system for nursing care
Childcare leave	Accumulated sick leave (employee/nursing of family members)
Flextime system	Overtime and late-night work exemption and limitation
Shorter working hours system for childcare	
Nursing-care leave	
Accumulated sick leave (employee/nursing of family members)	
Overtime and late-night work exemption and limitation	
Babysitter expense assistance	

### 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.

#### Nittobo Health Insurance Association Preventive Health Checkup Menu

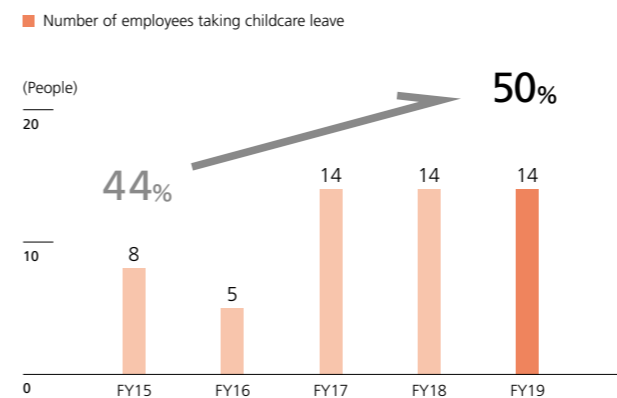
	Age 20-	Age 30-	Age 40-
<b>1 Health checks sent by post</b> < ordinary members and dependents >			
Gum disease check			
Stomach cancer (helicobacter pylori test, pepsinogen test)			● →
Tf colorectal cancer test (one day), hilar lung cancer test, prostate cancer test <men>			● →
Osteoporosis test			
Cervical cancer <women>	● →		
<b>2 Separate cancer tests for women</b> < women, ordinary members >			
Breast cancer examination / cervical cancer test		● →	
<b>3 Special optional health checks</b> < women, ordinary dependents, private members and dependents >			
Breast cancer examination / cervical cancer test			● →
<b>4 Optional health check</b> < ordinary members and dependents, private members and dependents >			
Gastroscopy test			● →
Breast cancer examination / cervical cancer test <women>			● →

### 3 Work after the age of 60

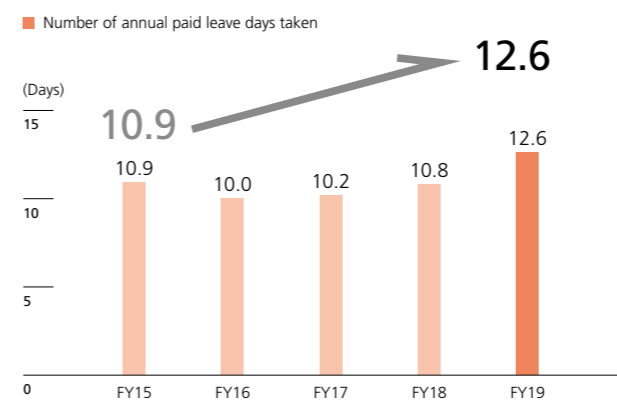
A declining working population is a major social issue in Japan, which has a declining birthrate and aging population, and competition to secure human resources is likely to become increasingly intense. Against that backdrop, we will enhance programs and mechanisms that encourage employees to pursue 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 until the end of their careers.

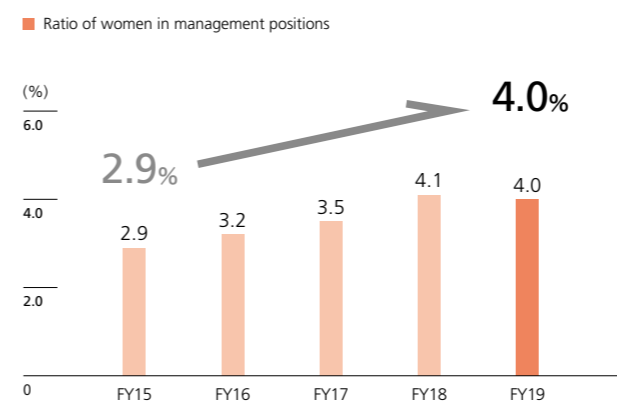
#### Number and proportion of employees taking childcare leave



#### Number of annual paid leave days taken



#### Ratio of women in management positions



## VOICE



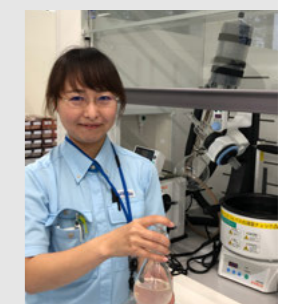
**Yoko Teruuchi**  
 Manager  
 Specialty Chemicals  
 Development Group  
 Medical Business Department  
 Nitto Boseki Co., Ltd.

I'm involved in the design and development of hard coating agents for construction and automotive applications and amino acid-based polymers, which are used in a wide range of applications such as washing detergent and pharmaceutical ingredients. As the manager of the Development Group, my main role is to allocate work and manage the progress of development themes.

In both work and family life, I think it's important to use limited time efficiently and get help from people around us. I sometimes have to take time off work at short notice to care for sick children or for other emergencies, but I do my best to prioritize jobs while also receiving support from colleagues and family. When I have urgent or important work to do, I check with my family first then swap holidays with my partner or use the hourly paid leave system to balance my work and home commitments.

I think relationships with colleagues are key to continuing work. Good relationships make it easier to ask for help or seek advice, creating a team spirit that helps to keep work on track. I make an effort to take the initiative and communicate with the members of my group.

I've been involved in development work since joining Nittobo as a new graduate, and I hope to continue working in this field. In the future, I want to acquire the expertise to propose new materials that reflect account customer requirements and end-product specifications.



# Corporate Governance

## Basic Approach Concerning 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 the Nittobo Group's 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 has 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 execution through selection of directors making up the Nomination, Remuneration and Audit Committees, election and dismissal of Executive Officers and delegation of business to Executive Officers, 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

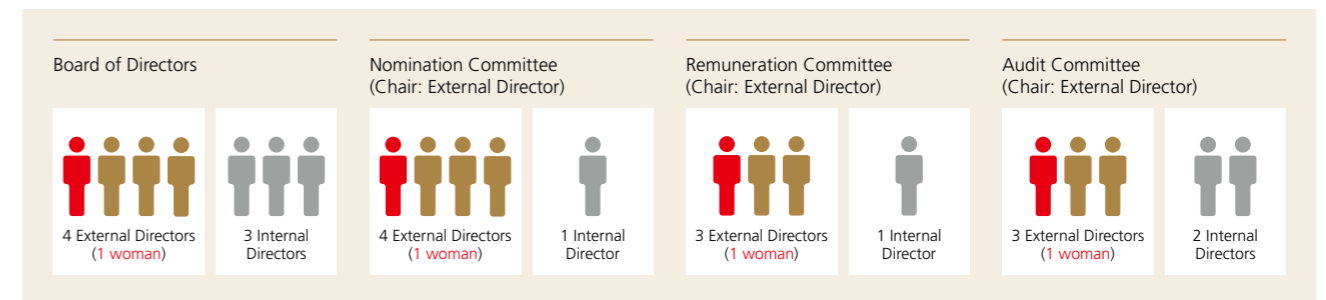
The Audit Committee's responsibilities include auditing the state of execution of duties of Directors and Executive Officers, and the preparation of audit reports. Working with accounting auditors and the Audit Office, audits, etc., are conducted based on audit plans approved in the Audit Committee. 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

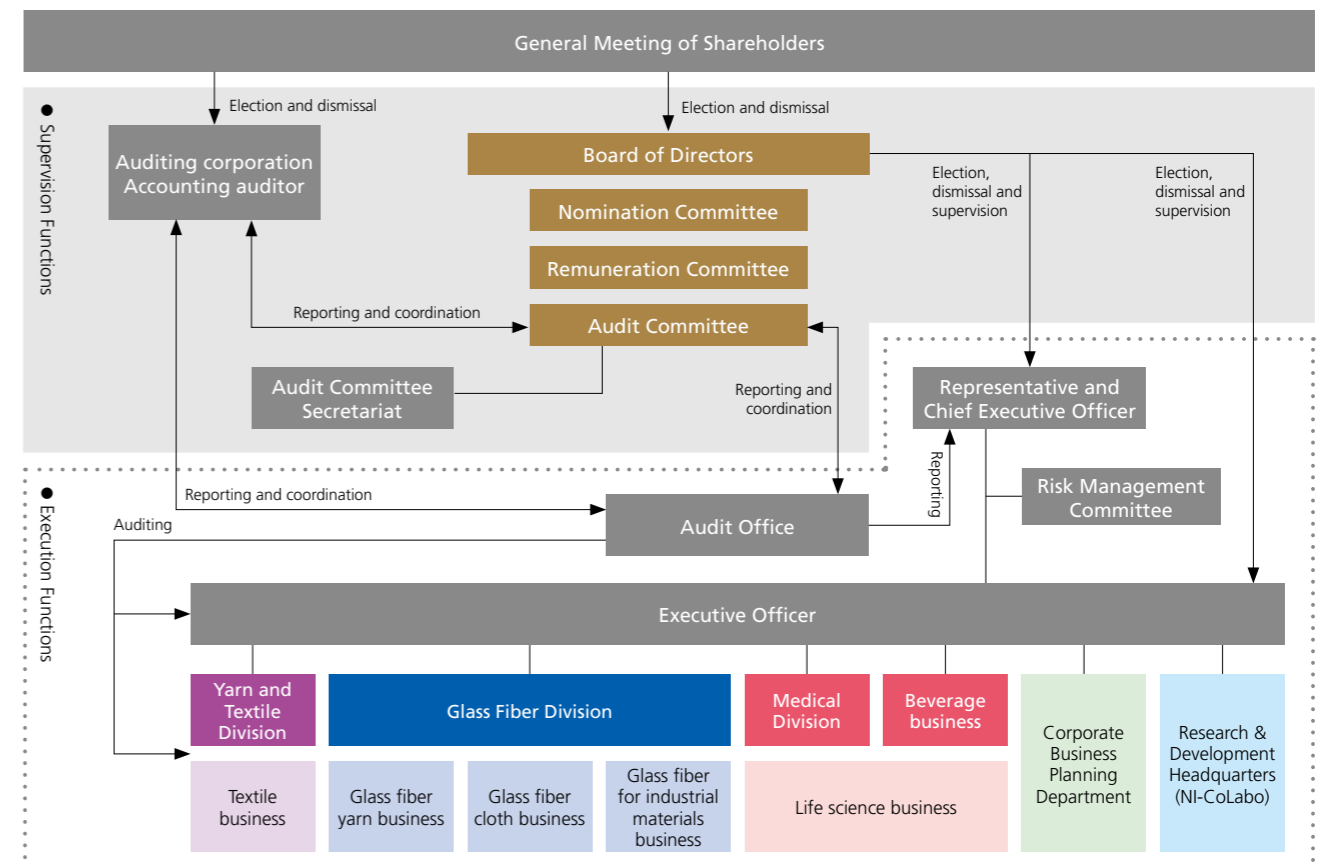
As of the date of the publication of this report, the Company had 12 Executive Officers, of which one has been selected as Representative and Chief Executive Officer.

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

The composition, operation, supervision, support structure, shareholder dialogue, etc., of the Company's Board of Directors are analyzed and evaluated by the Board of Directors based on evaluations by each director by implementing surveys using external attorneys.

In the self-evaluation concerning the effectiveness of the Board of Directors in fiscal 2018, the opinion was expressed that further improvements need to be made to matters such as the suitability of personnel for the Board of Directors; the diversity and term of office of Directors; the activities of the Nominating, Remuneration and Audit Committees; and communication with Directors and Executive Officers. In response to this opinion, the following initiatives were adopted in fiscal 2019.

#### Initiatives in Fiscal 2019

- The Nomination Committee's activities were stimulated and the committee held discussions regarding the suitability and diversity of personnel for the Board of Directors. At the Ordinary General Meeting of Shareholders held in June 2020, the Company increased the number of candidates for External Director by one and appointed External Directors with diverse backgrounds.
- The Remuneration Committee began discussing the introduction of a share-based compensation system, and held several discussions about this.
- With regard to large-scale capital investment projects and disaster responses in Japan and overseas, the Executive Officers provided explanations and reports at the preliminary briefings and individual explanations to the External Directors, and deepened deliberations by the Board of Directors.

In a survey covering fiscal 2019, some responded that the operation of the Board of Directors and each committee had improved. However, some responded that the following items require improvement.

#### Remedial Measures

- Enhancement of feedback from Executive Officers on matters resolved by the Board of Directors
- Deepening of discussion on management policy and management strategy, including from the perspective of ESG and SDGs
- Further strengthening of risk management, such as disaster countermeasures, fraud prevention measures and Group management, etc.
- Review of the balance of items and time for discussion at meetings of the Board of Directors and the distribution of authority with the Executive Officers

The Company will continue to make improvements to ensure the Board of Directors performs effective supervisory functions.

### Corporate Governance Highlights

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Corporate Governance System	Company with Board of Directors			Company with Nomination Committee (from June 2014)							
Committees	—			Nomination Committee (Chair: External Director)		Remuneration Committee (Chair: External Director)		Audit Committee (Chair: Internal director)			Audit Committee (Chair: External Director)
Directors	7	6	8	7	6	7	6	7	7	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)	4 (more than half)	4 (more than half)	
Of which, women										1	
Operation of Board of Directors						Briefings before Board of Directors meetings					
Revisions to systems, regulations						Board of Directors Evaluation of effectiveness					
						Consultant and special advisor systems abolished					
						Executive Meeting regulations formulated					

### Executive Remuneration

#### Executive Remuneration, etc.

##### 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

Position	Percentage composition of executive remuneration (if the achievement ratio of company and individual targets is 100%)		
	Basic remuneration	Performance-linked remuneration (note)	
		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%	—	—

(Note) 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 Targets and Percentage Reflection in Performance-linked Remuneration

Company performance	Operating profit (compared to budget) 25%	Operating profit (year on year) 25%	ROE (year on year) 25%	Dividends (year on year) 25%
Individual performance	Operating profit of responsible division (compared to budget) 40%		Status of initiatives to address issues in mid-term business plan for responsible division 60%	

#### ■ Process of Determining Remuneration

The Remuneration Committee chaired by an External Director checks the exhibition of competencies and the level of achievement of company 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 the previous fiscal year
  - Individual performance = amount of basic remuneration for each prior fiscal year x percentage of individual performance for the previous fiscal year
- Performance-linked remuneration is determined by combining the company performance and the individual performance calculated as shown above.

The Remuneration Committee checks the validity of the level of remuneration based on data on executive remuneration periodically provided by external consultants.

«Reference»

Targets and actual values of company performance for fiscal 2018 used in the calculation of performance-linked remuneration in fiscal 2019

[Operating profit (compared to budget)] Target: 10,000 million yen\* / Actual: 8,198 million yen

[Operating profit (year on year)] Target: 10,837 million yen / Actual: 8,198 million yen

[ROE (year on year)] Target: 9.4% / Actual: 9.1%

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

1. Individual performance targets are set using individual quantitative and qualitative targets, and calculated based on the results thereof.
2. The value indicated with an asterisk is the adjusted target value after the announcement of the financial results for the six months ended September 30, 2019.

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

Category of Executive	Total amount of remuneration, etc. (million yen)	Total amount by category of remuneration, etc. (million yen)			Number of officers who are recipients
		Fixed remuneration	Performance-linked remuneration	Retirement benefits	
Directors (excluding External Directors)	61	44	17	—	3
Executive Officers	205	147	58	—	10
External Directors	78	78	—	—	4

- (Notes) 1. The above numbers include, where applicable, one Director who retired as of the conclusion of the 158th Ordinary General Meeting of Shareholders held on June 26, 2019.  
 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.

(iii) We conduct briefings for analysts and institutional investors promptly after the announcement of annual and semi-annual financial results.

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 Executive Officer in charge of the Corporate Communication Department, and appropriately provided as feedback to management executives and the Board of Directors by means of reporting to the Executive Meeting, etc., as needed.

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.

- (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.

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 Group in fields including sales, raw material procurement and finance, smoothly advancing business activities of the Group, and enhancing corporate value in the Group. However, when the Company deems that shares in its cross-shareholding are not contributing to the sustainability and growth of the 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 three different company shares worth 783 million yen in fiscal 2019, and 14 different company shares worth 4,138 million yen in the three-year period from fiscal 2017.

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 conduct 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 from the occasion demands, such as opinions and advice from corporate attorneys and specialized lawyers regarding corporate management and daily operations.

# Directors and Officers

## Directors (as of June 25, 2020)



Director  
**Masamichi Ouchi**


External Independent Officer  
Nomination Chairman of Audit

### Career Summary

- 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 Public Accountants
- Jul. 2007 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)
- Jan. 2015 Established MO Partners, Public Tax Accountant Corporation
- Jun. 2015 External Director of the Company (current)

### Reason for Appointment

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  
**Sadayoshi Fujishige**


External Independent Officer  
Chairman of Nomination Remuneration

### 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
- Mar. 2002 Representative Director, Senior Executive Director, Responsible for Home Products Business, Executive General Manager of Home Products Sales Headquarters of Lion Corporation
- Mar. 2004 Representative Director, President and CEO of Lion Corporation
- Mar. 2006 Representative Director, President and CEO, Chairman of the Board of Directors, Responsible for Home Products Business of Lion Corporation
- Jan. 2012 Representative Director, Chairman and CEO, Chairman of the Board of Directors of Lion Corporation
- Jan. 2014 Representative Director, Chairman, Chairman of the Board of Directors of Lion Corporation
- Mar. 2016 Advisor of Lion Corporation (current)
- Jun. 2020 External Director of SATO HOLDINGS CORPORATION (current)
- Jun. 2020 External Director of the Company (current)

### Reason for Appointment

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  
**Hiroshi Kagechika**


External Independent Officer  
Nomination Chairman of Remuneration  
Audit

### 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)

### Reason for Appointment

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.



Director  
**Agasa Naito**


External Independent Officer  
Nomination Remuneration Audit

### Career Summary

- Oct. 2001 Registered as an attorney
- Joined Nagashima Ohno & Tsunematsu
- Registered as an attorney at New York State Bar Association
- 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)

### Reason for 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  
Representative and  
Chief Executive Officer  
**Yuichi Tsuji**


Nomination Remuneration

### 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
- Feb. 2016 Director and Representative Executive Officer
- Jun. 2016 Director and Representative and Chief Executive Officer (current)

### Reason for Appointment

Mr. Tsuji assumed his office as Executive Officer in 2014 and was responsible for overall headquarters 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 his appointment.



Director  
**Toyoshi Nishizaka**

Non-executive Audit

### 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 stationed at Main Branch (Fukushima)
- May 2012 President, Representative Director of Nittobo Allied Service Co., Ltd.
- Apr. 2013 Advisor and Head of Fukuyama Center of the Company
- 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  
**Yu Nozaki**

Non-executive Audit

### 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, Managing Executive Officer, Responsible for Human Resources Dept., Corporate Business Planning Dept., Corporate Communication Dept., Accounting and Finance Dept.
- Apr. 2018 Director, Managing Executive Officer, Responsible for Human Resources Dept., General Affairs Dept., Corporate Communication Dept., Accounting and Finance Dept. and General Manager of Environment & Health Division
- Oct. 2018 Director, Managing Executive Officer, Responsible for Human Resources Dept., General Affairs Dept., Corporate Communication Dept., Accounting and Finance Dept., Risk Management Dept.
- Aug. 2019 Director, Managing Executive Officer, Responsible for Audit Office, Risk Management Dept.
- Apr. 2020 Director (current)

### Reason for Appointment

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 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.

## Executive Officers (as of June 25, 2020)

Name	Position and Main Areas of Responsibility
Yuichi Tsuji*	Representative and Chief Executive Officer CEO
Minoru Takeuchi	Managing Executive Officer President of Research Institute and Head of Medical SC Newtech Strategy Office
Hiroyuki Tada	Managing Executive Officer Responsible for the Corporate Management Division and the Yarn and Textile Division, and General Manager of the Corporate Business Planning Division
Kazuhiko Igarashi	Managing Executive Officer General Manager of the Glass Fiber Division
Hideyuki Hatanaka	Managing Executive Officer Vice President of Research Institute and Director of Product Planning and Development Headquarters of Glass Fiber Division
Tatsuo Sakae	Executive Officer General Manager of the Medical Division and Chairman and CEO of Nittobo America Inc.
Takanobu Matsunaga	Executive Officer Deputy General Manager of the Glass Fiber Division and President and Representative Director of Paramount Glass Manufacturing Co., Ltd.
Yuji Sugama	Executive Officer Deputy General Manager of the Medical Division, General Manager of the Medical Division Product Planning and Development Headquarters, and Vice President of the Research Institute
Akimasa Kajita	Executive Officer General Manager of the Glass Fiber Division Production and Technology Headquarters and Head of the Fukushima Factory
Hiroki Kajikawa	Executive Officer General Manager of the Corporate Planning Headquarters and Assistant General Manager of the Product Planning and Development Headquarters in the Glass Fiber Division
Hisanobu Hayashi	Executive Officer Deputy General Manager of the Glass Fiber Division Production and Technology Headquarters and President of NITTOBO ASIA Glass Fiber Co., 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., Fukuyama Enterprise Center, the Fukuyama Region Redevelopment Project, Osaka Branch, Nagoya Branch and General Manager of the Corporate Business Planning Dept.

\* Also serves as Director

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

Non-executive Director not concurrently serving as an Executive Officer

Nomination Member of Nomination Committee Remuneration Member of Remuneration Committee Audit Member of Audit Committee

## Consolidated Balance Sheet

(Millions of yen)

	As of March 31, 2019	As of March 31, 2020
<b>Assets</b>		
<b>Current assets</b>		
Cash and deposits	16,145	22,874
Notes and accounts receivable—trade	25,353	25,164
Merchandise and finished goods	7,757	7,999
Work in process	3,978	4,382
Raw materials and supplies	16,850	16,983
Other	2,593	3,495
Allowance for doubtful accounts	(4)	(1)
<b>Total current assets</b>	<b>72,674</b>	<b>80,899</b>
<b>Non-current assets</b>		
<b>Property, plant and equipment</b>		
Buildings and structures, net	12,246	15,851
Machinery, equipment and vehicles, net	13,400	22,935
Land	12,595	15,512
Leased assets, net	2,414	1,949
Construction in progress	5,973	5,194
Other, net	892	1,849
<b>Total property, plant and equipment</b>	<b>47,523</b>	<b>63,292</b>
<b>Intangible assets</b>	<b>1,680</b>	<b>2,705</b>
<b>Investments and other assets</b>		
Investment securities	24,757	21,404
Retirement benefit asset	287	233
Deferred tax assets	2,935	3,119
Other	1,177	1,206
Allowance for doubtful accounts	(36)	(36)
<b>Total investments and other assets</b>	<b>29,122</b>	<b>25,927</b>
<b>Total non-current assets</b>	<b>78,326</b>	<b>91,925</b>
<b>Total assets</b>	<b>151,000</b>	<b>172,824</b>

(Millions of yen)

	As of March 31, 2019	As of March 31, 2020
<b>Liabilities</b>		
<b>Current liabilities</b>		
Notes and accounts payable—trade	9,415	6,290
Short-term borrowings	7,708	7,562
Current portion of long-term borrowings	5,290	5,293
Lease obligations	449	426
Income taxes payable	532	1,103
Provision for bonuses	1,110	1,107
Other	7,559	8,024
<b>Total current liabilities</b>	<b>32,066</b>	<b>29,808</b>
<b>Non-current liabilities</b>		
Bonds payable	—	10,000
Long-term borrowings	9,696	14,975
Lease obligations	2,445	2,058
Provision for repairs	5,013	5,584
Retirement benefit liability	9,805	9,887
Other	1,232	1,807
<b>Total non-current liabilities</b>	<b>28,193</b>	<b>44,311</b>
<b>Total liabilities</b>	<b>60,259</b>	<b>74,120</b>
<b>Net assets</b>		
<b>Shareholders' equity</b>		
Share capital	19,699	19,699
Capital surplus	19,037	19,037
Retained earnings	51,440	55,574
Treasury shares	(2,544)	(2,554)
<b>Total shareholders' equity</b>	<b>87,633</b>	<b>91,757</b>
<b>Accumulated other comprehensive income</b>		
Valuation difference on available-for-sale securities	3,542	3,998
Foreign currency translation adjustment	429	117
Remeasurements of defined benefit plans	(1,892)	(2,219)
<b>Total accumulated other comprehensive income</b>	<b>2,079</b>	<b>1,897</b>
<b>Non-controlling interests</b>	<b>1,027</b>	<b>5,049</b>
<b>Total net assets</b>	<b>90,740</b>	<b>98,704</b>
<b>Total liabilities and net assets</b>	<b>151,000</b>	<b>172,824</b>



## Consolidated Statement of Income

(Millions of yen)

	For the fiscal year ended March 31, 2019	For the fiscal year ended March 31, 2020
Net sales	82,292	85,722
Cost of sales	54,632	57,628
Gross profit	27,660	28,094
Selling, general and administrative expenses	19,461	19,933
Operating profit	8,198	8,160
<b>Non-operating income</b>		
Interest income	63	57
Dividend income	578	560
Share of profit of entities accounted for using equity method	77	29
Rental income	88	89
Foreign exchange gains	292	—
Other	354	262
<b>Total non-operating income</b>	<b>1,454</b>	<b>999</b>
<b>Non-operating expenses</b>		
Interest expenses	208	266
Foreign exchange losses	—	118
Expenses related to inactive real estate for rent	322	332
Other	187	240
<b>Total non-operating expenses</b>	<b>718</b>	<b>957</b>
Ordinary profit	8,934	8,202
<b>Extraordinary income</b>		
Gain on sales of non-current assets	1,895	169
Gain on sales of investment securities	883	233
Insurance claim income	—	883
Subsidy income	—	993
<b>Total extraordinary income</b>	<b>2,779</b>	<b>2,280</b>
<b>Extraordinary losses</b>		
Loss on disposal of non-current assets	451	264
Impairment loss	1,035	92
Loss on sales of investments in capital of subsidiaries and associates	—	351
Loss on disaster	371	1,083
Loss on tax purpose reduction entry of non-current assets	—	943
Other	25	155
<b>Total extraordinary losses</b>	<b>1,883</b>	<b>2,890</b>
Profit before income taxes	9,830	7,592
Income taxes—current	1,003	1,805
Income taxes—deferred	808	(153)
<b>Total income taxes</b>	<b>1,812</b>	<b>1,651</b>
Profit	8,017	5,941
Profit attributable to non-controlling interests	33	170
Profit attributable to owners of parent	7,984	5,771

## Consolidated Statement of Comprehensive Income

(Millions of yen)

	For the fiscal year ended March 31, 2019	For the fiscal year ended March 31, 2020
Profit	8,017	5,941
<b>Other comprehensive income</b>		
Valuation difference on available-for-sale securities	(2,512)	441
Foreign currency translation adjustment	(675)	(358)
Remeasurements of defined benefit plans, net of tax	49	(326)
Share of other comprehensive income of entities accounted for using equity method	(107)	107
<b>Total other comprehensive income</b>	<b>(3,246)</b>	<b>(136)</b>
<b>Comprehensive income</b>	<b>4,771</b>	<b>5,804</b>
Comprehensive income attributable to		
Comprehensive income attributable to owners of parent	4,739	5,589
Comprehensive income attributable to non-controlling interests	31	215

## Consolidated Statement of Changes in Equity

For the fiscal year ended March 31, 2019

(Millions of yen)

	Shareholders' equity					Accumulated other comprehensive income				Non-controlling interests	Total net assets
	Share capital	Capital surplus	Retained earnings	Treasury shares	Total shareholders' equity	Valuation difference on available-for-sale securities	Foreign currency translation adjustment	Remeasurements of defined benefit plans	Total accumulated other comprehensive income		
<b>Balance at beginning of period</b>	<b>19,699</b>	<b>19,037</b>	<b>45,105</b>	<b>(2,538)</b>	<b>81,304</b>	<b>6,068</b>	<b>1,197</b>	<b>(1,941)</b>	<b>5,324</b>	<b>919</b>	<b>87,548</b>
Cumulative effects of changes in accounting policies					—						—
Restated balance	19,699	19,037	45,105	(2,538)	81,304	6,068	1,197	(1,941)	5,324	919	87,548
Changes during period											
Dividends of surplus			(1,649)		(1,649)						(1,649)
Profit attributable to owners of parent			7,984		7,984						7,984
Purchase of treasury shares				(6)	(6)						(6)
Net changes in items other than shareholders' equity						(2,526)	(767)	49	(3,245)	108	(3,136)
<b>Total changes during period</b>	<b>—</b>	<b>—</b>	<b>6,335</b>	<b>(6)</b>	<b>6,329</b>	<b>(2,526)</b>	<b>(767)</b>	<b>49</b>	<b>(3,245)</b>	<b>108</b>	<b>3,192</b>
<b>Balance at end of period</b>	<b>19,699</b>	<b>19,037</b>	<b>51,440</b>	<b>(2,544)</b>	<b>87,633</b>	<b>3,542</b>	<b>429</b>	<b>(1,892)</b>	<b>2,079</b>	<b>1,027</b>	<b>90,740</b>

For the fiscal year ended March 31, 2020

(Millions of yen)

	Shareholders' equity					Accumulated other comprehensive income				Non-controlling interests	Total net assets
	Share capital	Capital surplus	Retained earnings	Treasury shares	Total shareholders' equity	Valuation difference on available-for-sale securities	Foreign currency translation adjustment	Remeasurements of defined benefit plans	Total accumulated other comprehensive income		
<b>Balance at beginning of period</b>	<b>19,699</b>	<b>19,037</b>	<b>51,440</b>	<b>(2,544)</b>	<b>87,633</b>	<b>3,542</b>	<b>429</b>	<b>(1,892)</b>	<b>2,079</b>	<b>1,027</b>	<b>90,740</b>
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
<b>Total changes during period</b>	<b>—</b>	<b>—</b>	<b>4,218</b>	<b>(10)</b>	<b>4,208</b>	<b>456</b>	<b>(311)</b>	<b>(326)</b>	<b>(181)</b>	<b>4,021</b>	<b>8,048</b>
<b>Balance at end of period</b>	<b>19,699</b>	<b>19,037</b>	<b>55,574</b>	<b>(2,554)</b>	<b>91,757</b>	<b>3,998</b>	<b>117</b>	<b>(2,219)</b>	<b>1,897</b>	<b>5,049</b>	<b>98,704</b>

## Consolidated Statement of Cash Flows

(Millions of yen)

	For the fiscal year ended March 31, 2019	For the fiscal year ended March 31, 2020
<b>Cash flows from operating activities</b>		
Profit before income taxes	9,830	7,592
Depreciation	4,080	5,388
Impairment loss	1,035	92
Increase (decrease) in retirement benefit liability	(512)	(442)
Increase (decrease) in provision for repairs	(967)	570
Interest and dividend income	(642)	(618)
Interest expenses	208	266
Loss (gain) on sales and valuation of investment securities	(883)	(185)
Loss (gain) on sales of investments in capital of subsidiaries and associates	—	351
Loss (gain) on sales and retirement of non-current assets	(1,443)	94
Insurance claim income	—	(883)
Decrease (increase) in trade receivables	521	498
Decrease (increase) in inventories	(3,500)	566
Increase (decrease) in trade payables	359	(2,673)
Other, net	(137)	(173)
<b>Subtotal</b>	<b>7,948</b>	<b>10,444</b>
Interest and dividends received	642	618
Interest paid	(204)	(258)
Proceeds from insurance income	—	883
Income taxes paid	(3,068)	(1,073)
<b>Net cash provided by (used in) operating activities</b>	<b>5,317</b>	<b>10,614</b>
<b>Cash flows from investing activities</b>		
Purchase of non-current assets	(12,634)	(17,176)
Proceeds from sales of non-current assets	3,770	534
Purchase of investment securities	(3,954)	(51)
Proceeds from sales of investment securities	2,064	835
Purchase of shares of subsidiaries resulting in change in scope of consolidation	(511)	(1,258)
Payments for sales of investments in capital of subsidiaries and associates resulting in change in scope of consolidation	—	(247)
Other, net	(122)	447
<b>Net cash provided by (used in) investing activities</b>	<b>(11,389)</b>	<b>(16,917)</b>
<b>Cash flows from financing activities</b>		
Net increase (decrease) in short-term borrowings	2,926	(541)
Proceeds from long-term borrowings	9,590	11,462
Repayments of long-term borrowings	(6,374)	(6,180)
Proceeds from issuance of bonds	—	10,000
Dividends paid	(1,649)	(1,552)
Other, net	(545)	(559)
<b>Net cash provided by (used in) financing activities</b>	<b>3,948</b>	<b>12,628</b>
<b>Effect of exchange rate change on cash and cash equivalents</b>	<b>(55)</b>	<b>71</b>
<b>Net increase (decrease) in cash and cash equivalents</b>	<b>(2,178)</b>	<b>6,398</b>
<b>Cash and cash equivalents at beginning of period</b>	<b>18,324</b>	<b>16,145</b>
<b>Increase (decrease) in cash and cash equivalents resulting from change in scope of consolidation</b>	<b>—</b>	<b>152</b>
<b>Cash and cash equivalents at end of period</b>	<b>16,145</b>	<b>22,695</b>

# Company Profile

## Company Profile

### Dates of establishment

February 1898 Koriyama Kenshi Boseki Co., Ltd. (Koriyama)  
 April 1918 Fukushima Seiren Seishi Co., Ltd. (Fukushima)  
 April 1923 Nitto Boseki Co., Ltd.

**Head Office at:** Aza Higashi 1, Gonome, Fukushima-shi, Fukushima, 960-8161, Japan

**Headquarters at:** 2-4-1, Kojimachi, Chiyoda-ku, Tokyo, 102-8489, Japan

**Paid-in capital:** 19.6 billion yen

### Representative and Chief Executive Officer:

Yuichi Tsuji

**Employees:** 2,690 (Consolidated),  
830 (Parent company)

(as of March 31, 2020)

### Business Operations

- Manufacture, processing, and sale of textile products
- Manufacture, processing, and sale of glass fiber products
- Manufacture, processing, and sale of chemical products and pharmaceutical products
- Manufacture and sale of soft drinks
- Planning, supervision, and contracting for construction
- Design, manufacture, and sale of machinery and equipment, etc.

## Business Locations

### Tokyo Headquarters

Location: 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

Location: 4-3-10, Kourabashi, Chuo-ku, Osaka-shi, Osaka, 541-0043, Japan (Nissei Fushimicho Building New Building)  
 Telephone: +81-6-6208-5015

### Nagoya Branch

Location: 2-14-21, Nishiki, Naka-ku, Nagoya-shi, Aichi, 460-0003, Japan (Maruyama Nissei Building)  
 Telephone: +81-52-231-5131

### Fukushima Factory

Location: 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

Location: 20, Ipponsugi, Sakurashimo, Fukushima-shi, Fukushima, 960-2154, Japan  
 Telephone: +81-24-593-1231

### Fukuyama Enterprise Center

Location: 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

Location: 500, Hirayanagi, Asahi-machi, Shimoniikawa-gun, Toyama, 939-0744, Japan  
 Telephone: +81-765-82-1133

### Niigata Enterprise Center

Location: 6-50, Toshincho, Higashi-ku, Niigata-shi, Niigata, 950-0065, Japan  
 Telephone: +81-25-273-7191

### Itami Production Center

Location: 1-6-1, Kuwazu, Itami-shi, Hyogo, 664-8501, Japan  
 Telephone: +81-72-782-2621

### Satellite Laboratory

Location: Suite #3108, 3rd floor, Innovation Center of NanoMedicine 3-25-14, Tonomachi, Kawasaki-ku, Kawasaki-shi, Kanagawa, 210-0821, Japan  
 Telephone: +81-44-266-8322

Ni-Tech (Medical SC Newtech Strategy Office)

## Consolidated Subsidiaries

### ● Glass fiber yarn

#### Nitto Glass Fiber Manufacturing Co., Ltd.

Location: Koriyama-shi, Fukushima  
 Business operations: Production and sale of glass fiber products

#### Fuji Fiber Glass Co., Ltd.

Location: Moka-shi, Tochigi  
 Business operations: Production and sale of glass fiber products

#### NITTOBO ASIA Glass Fiber Co., Ltd.

Location: Chiayi County, Taiwan  
 Business operations: Production and sale of glass fiber products

### ● Glass fiber cloth

**Soyo Co., Ltd.**  
 Location: Chiyoda-ku, Tokyo  
 Business operations: Sale of glass fiber products, etc.

#### Shinwa Denzai Co., Ltd.

Location: Chiyoda-ku, Tokyo  
 Business operations: Sale of glass fiber products, etc.

#### Baotek Industrial Materials Ltd.

Location: Taoyuan, Taiwan  
 Business operations: Production and sale of glass fiber products

#### Nittobo Taiwan Co., Ltd.

Location: Taoyuan, Taiwan  
 Business operations: Sale of glass fiber products

#### Nittobo Macau Glass Weaving Co., Ltd.

Location: Macau  
 Business operations: Production and sale of glass fiber products

### ● Glass fiber for industrial materials

**Nitto Glasstex Co., Ltd.**  
 Location: Oizumi-machi, Oura-gun, Gunma  
 Business operations: Production and sale of glass fiber products

#### Paramount Glass Manufacturing Co., Ltd.

Location: Sukagawa-shi, Fukushima;  
 Ebetsu-shi, Hokkaido;  
 Suzuka-shi, Mie

Business operations: Production and sale of glass wool products

#### Nittobo FRP Laboratory Co., Ltd.

Location: Koriyama-shi, Fukushima  
 Business operations: Production and sale of glass fiber products, etc.

### ● Life science

#### NITTOBO MEDICAL CO., LTD.

Location: Chiyoda-ku, Tokyo  
 Business operations: Production and sale of in vitro diagnostic reagents and specialty chemicals

#### Frontier Institute Co., Ltd.

Location: Ishikari-shi, Hokkaido  
 Business operations: Development, manufacturing and sale of bioassay kits and consignment of antibody production

#### Nitto Beverage Co., Ltd.

Location: Asahi-machi, Shimoniikawa-gun, Toyama  
 Business operations: Production and sale of soft drink

#### Nittobo America Inc.

Location: California, Iowa and Maine, U.S.A.  
 Business operations: Production and sale of antisera used for in vitro diagnostic reagents

#### Kamiya Biomedical Company, LLC

Location: Washington, U.S.A.  
 Business operations: Production and sale of in vitro diagnostic reagents

### ● Textiles

#### Nittobo Interlining Co., Ltd.

Location: Chiyoda-ku, Tokyo  
 Business operations: Sale of interlining

#### Bunkyo Seiren Co., Ltd.

Location: Fukui-shi, Fukui  
 Business operations: Processing of textile products

#### Nittobo Niigata Co., Ltd.

Location: Niigata-shi, Niigata  
 Business operations: Production and sale of core spun yarns, etc.

### ● Others

#### Nittobo Allied Service Co., Ltd.

Location: Fukushima-shi, Fukushima  
 Business operations: Various contracted services and insurance agency

#### Nittobo Ecology Co., Ltd.

Location: Chiyoda-ku, Tokyo  
 Business operations: Various contracted services

#### Nittobo Techno Co., Ltd.

Location: Koriyama-shi, Fukushima  
 Business operations: Design, manufacture, and sale of mechanical facilities; design and construction of civil engineering work and building

As of June 30, 2020

# Stock Information

## Stock Status

**Authorized number of shares** 120,000,000 shares  
**Number of shares issued** 39,935,512 shares (including treasury shares, 1,136,069 shares)  
**Number of shareholders** 7,833

### Major shareholders

As of March 31, 2020

Name	Number of shares held (in thousands)	Percentage of shares held* (%)
Japan Trustee Services Bank, Ltd. (Trust account)	3,076	7.93
The Master Trust Bank of Japan, Ltd. (Trust account)	2,789	7.19
Sumitomo Real Estate Sales Co., Ltd.	2,383	6.14
Nippon Life Insurance Company	1,614	4.16
The Dai-ichi Mutual Life Insurance Company, Limited	1,316	3.39
SSBTC CLIENT OMNIBUS ACCOUNT	1,279	3.30
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 percentage of shares held 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 electric 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** 1-2-1, Yaesu, Chuo-ku, Tokyo, 103-8670, Japan  
 Mizuho Trust & Banking Co., Ltd.

## Distribution of Shareholders

