

WHAT

HOW

WHERE

## The NAGASE Group's Strengths

Corporate Philosophy of the NAGASE Group

### Sustainability Basic Policy

"Continue to make efforts for solving social and environmental issues through our corporate activities for the sustainable growth of the NAGASE Group and society" is positioned as a common idea throughout the philosophy structure.

### Management Philosophy

We recognize our responsibility to society and offer beneficial products and services while maintaining the highest standards of integrity. Through our growth, we will contribute to society and enrich the lives of our employees.

### Vision

To realize a sustainable world where people live with peace of mind, each of us embodies our value proposition, "Identify, Develop and Expand" through daily activities.

"Ideal NAGASE"  
for 2032 (200th Anniversary)

### Business Designer that creates a sustainable future:

"Identify, Develop and Expand" —  
Contribute to the development of a sustainable society.

1. Business operations with integrity

2. Good relationship with society

3. Consideration for the environment

## Our Significance

We also established the Sustainability Basic Policy as a way of thinking shared throughout our value system, including our management philosophy and vision. Our raison d'être is to contribute to society and enrich the lives of our employees by maintaining the highest standards of integrity, which is a cornerstone of our management philosophy. We aim to help realize a sustainable world where people live with peace of mind through activities rooted in our process for value creation, "Identify, Develop and Expand."

# "Identify, Develop and Expand"

### The NAGASE Vision

#### ● Strengths/ Characteristics

- » **Maintaining the highest standards of integrity** for almost 200 years
- » **Working with partners** to enable new businesses
- » **Driving new technologies** with knowledge and experience
- » **Staying a step ahead of the market** to actively offer solutions

#### ● Value Proposition

- » **Identify**  
We discover untapped business opportunities
- » **Develop**  
We convert opportunities into customer value
- » **Expand**  
We deliver solutions to multiple fields and regions

#### ● Vision for the Future

We will contribute to a sustainable world where people live with peace of mind

# History of Value Creation

Fiscal year ended March 31, 1967  
(Non-consolidated)

Net Sales: **65.0** billion yen  
Total Assets: **27.5** billion yen  
Operating Income: **1.8** billion yen

Fiscal year ended March 31, 1987  
(Non-consolidated)

Net Sales: **430.5** billion yen  
Total Assets: **193.6** billion yen  
Operating Income: **6.4** billion yen

Fiscal year ended March 31, 2007  
(Consolidated)

Net Sales: **701.3** billion yen  
Total Assets: **422.8** billion yen  
Operating Income: **21.6** billion yen

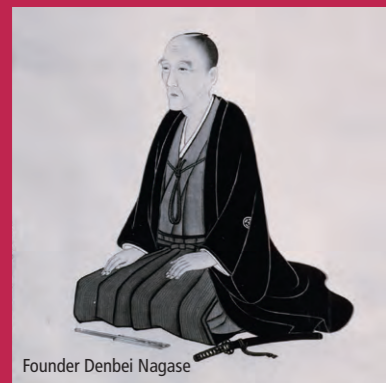
Fiscal year ended March 31, 2022  
(Consolidated)

Net Sales: **780.5** billion yen  
Total Assets: **739.7** billion yen  
Operating Income: **35.2** billion yen

\* The Company adopted the Accounting Standard for Revenue Recognition, etc. (ASBJ Statement No. 29, March 31, 2020) from the start of the fiscal year ended March 31, 2022.

1832—

Founding



Founder Denbei Nagase

The NAGASE Group traces its roots to 1832 when founder Denbei Nagase established Urokogataya, a dyestuffs wholesaler that handled safflower, *funori* seaweed and starches in Nishijin, Kyoto. Later on, we established a foothold in the chemical industry by starting to handle synthetic dyes.

1901—

Forging Ties with Leading Overseas Manufacturers



General Electric Co. (GE)

Entering the 1900s, the NAGASE Group started doing business with overseas manufacturers to pursue the possibilities of chemicals. As it expanded its import business, NAGASE established an office in Lyon, France in 1901. That spurred the expansion of partnerships with overseas manufacturers, including Basel Chemical Co. of Switzerland (at that time called Ciba), as well as Eastman Kodak Co. (now Kodak) and DuPont of the U.S. While importing state-of-the-art products from overseas, including technology not yet available in Japan, and making great strides as a trading company specializing in chemical products, the NAGASE Group delivered new value.

1970—

Enhancing Functions as a Manufacturer



Panoramic view of Ciba in 1893

Since its founding, the NAGASE Group has engaged in diverse operations. In 1970, it established Nagase-CIBA Ltd. (now Nagase ChemteX Corporation) as a joint venture with Ciba for manufacturing epoxy resins. The following year, it established Engineering Plastics, Ltd. (EPL) in a 50-50 joint venture with GE. It also built several new plants as part of steps to strengthen and expand its manufacturing, processing, and other functions as a manufacturer.

1990—

Demonstrating Advantages in R&D Functions



Nagase Bio-Innovation Center

From the 1990s, the NAGASE Group began enhancing its R&D functions in earnest. In 1990, it established the Nagase R&D Center (now the Nagase Bio-Innovation Center) as a base for R&D into bio-related materials. In the 2000s, it established Nagase ChemteX (Wuxi) Corporation in China as an epoxy resin plant for Nagase ChemteX Corporation. It also made Pac Tech-Packaging Technologies GmbH of Germany a subsidiary. In 2007, it opened the Nagase Application Workshop, an open innovation laboratory, in a push to also secure an advantage in R&D functions.

2010—

Gearing Up the Food Ingredients Business



Prinova Group

In the 2010s, biotechnology also started to gain more attention. In 2012, the NAGASE Group made the biotechnology specialist Hayashibara Co., Ltd. a subsidiary to strengthen its food ingredients business. In 2019, it made Prinova Group LLC, a U.S.-based company that sells and processes food ingredients and has a global sales network, a subsidiary. By generating synergies among the new Group companies, NAGASE brought its food ingredients business into full swing and global development.

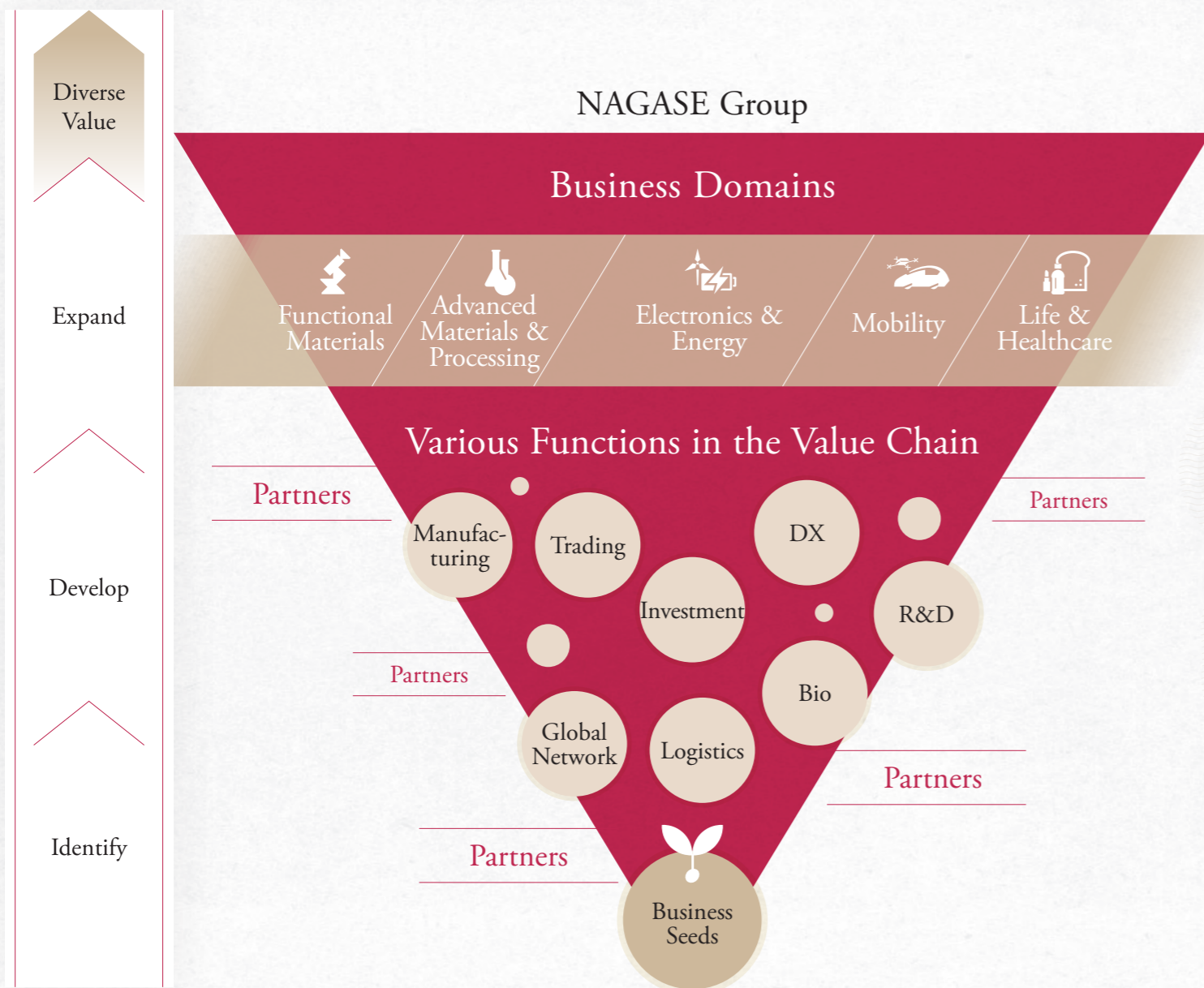
2020—

Promoting Sustainability



The NAGASE Group has grown into a corporate entity with diverse functions, including trading, manufacturing, processing, and R&D. While leveraging and adding on to those functions as a Business Designer, the Group strives to create an array of value. With the establishment of the Sustainability Committee and formulation of the Sustainability Basic Policy in 2020, it has also been focusing on sustainability in recent years. The Group aims to help solve social and environmental issues for the sustainable growth of society and the Group.

# Our Business Model

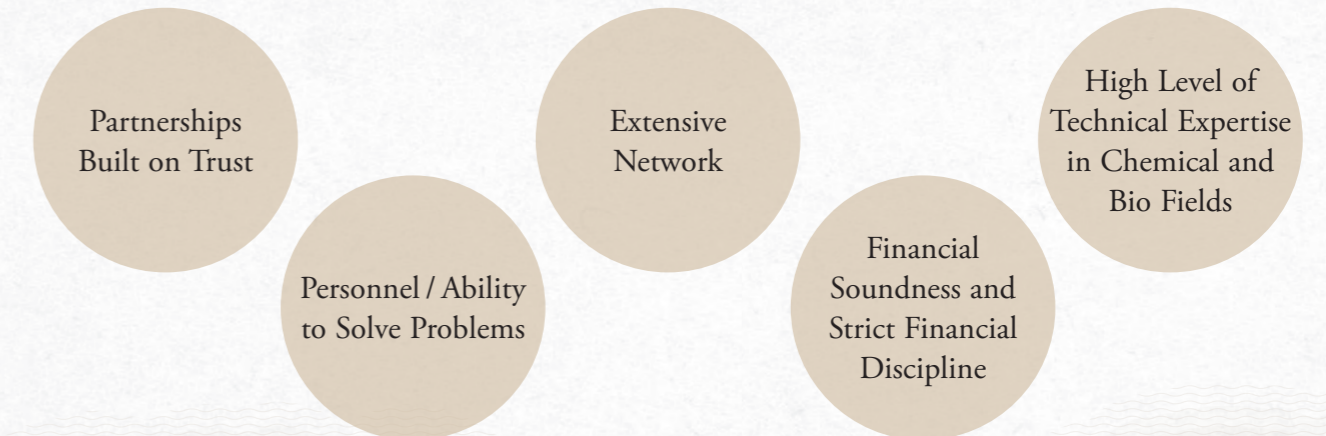


## A Business Designer Working with Partners to Create an Array of Value through “Identify, Develop, and Expand”

The technologies that the NAGASE Group has cultivated over its 190-year history are one of its strengths. In addition to trading capabilities with a wide array of business domains and an extensive global network, it has enhanced its manufacturing, R&D, and other capabilities. In addition, it has strengthened new functions such as digital transformation (DX) to evolve into a corporate group that creates a myriad of value.

The NAGASE Group brings together those capabilities in working with partners to identify the seeds of technologies and businesses, develop them into new value, and expand that through business development that goes beyond borders and domains. Delivering an array of value to society and customers as a Business Designer developing unique businesses that set us apart from competitors is our current business model.

## Our Strengths



## Global Network



<b>Consolidated Net Sales</b>  <b>780.5</b> billion yen <small>Overseas 530.1 billion yen</small> <small>(Fiscal year ended March 31, 2022)</small>	<b>Overseas Gross Profit Ratio</b>  <b>48.8%</b> <small>(Fiscal year ended March 31, 2022)</small>	<b>Number of Bases</b>  <b>32</b> Countries and Areas <b>114</b> Companies <small>(Fiscal year ended March 31, 2022)</small>
<b>Number of Manufacturing Companies</b>  <b>16</b> Countries and Areas <b>50</b> Companies <small>(Fiscal year ended March 31, 2022)</small>	<b>Number of Sales and Servicing Companies</b>  <b>30</b> Countries and Areas <b>64</b> Companies <small>(Fiscal year ended March 31, 2022)</small>	<b>Number of Employees (Consolidated)</b>  <b>7,113</b> <small>Overseas 3,319</small> <small>(Fiscal year ended March 31, 2022)</small>

»See P66–67, “Regional Strategy”

# Important Management Resources

Here, we introduce important management resources supporting the NAGASE Group's sustainable growth.

## Financial Capital

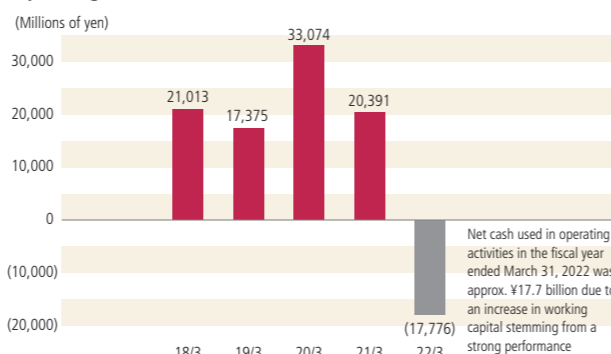
The NAGASE Group has sufficient financial capital to handle its various financial needs. Specifically, it recognizes the importance of steadily and flexibly securing funds to meet its capital requirements, including for working capital, capital investments, M&A, DX, and other investments in new growth. Its main source of capital is funds provided by operating activities. It also uses loans from financial institutions as a means of procuring funds, and obtains funds from the capital market by flexibly issuing corporate bonds and commercial paper. It takes a diversified and well-balanced approach to fund procurement.

We announced the NAGASE Group Carbon Neutral Declaration in January 2022. We are also conducting financing through Sustainability Linked Bonds to increase the effectiveness of using finance to achieve carbon neutrality and realize a sustainable society.

### Credit Rating

Name of Credit Rating Agency	Issuer Rating	Commercial Paper Rating
Rating and Investment Information, Inc. (R&I)	A	a-1

### Operating Cash Flows



» See P10-13, "CFO Message"

## Nagase Business Expert Co., Ltd.

### Helping Group Companies Raise Productivity and Profitability

Nagase Business Expert Co., Ltd. is a shared services company. By standardizing and streamlining intra-Group operations such as logistics, trade, payroll services, accounting, credit control, general affairs, account settlements, and tax services, it is helping increase productivity and profitability. It also supports the Group by developing human resources. Going forward, it will continue to contribute to the Group's sustainable growth on the

human resources front and by enhancing governance and making intra-Group operations even more efficient.

**Established: 2017**

**Number of employees: About 240**  
(Fiscal year ended March 31, 2022)

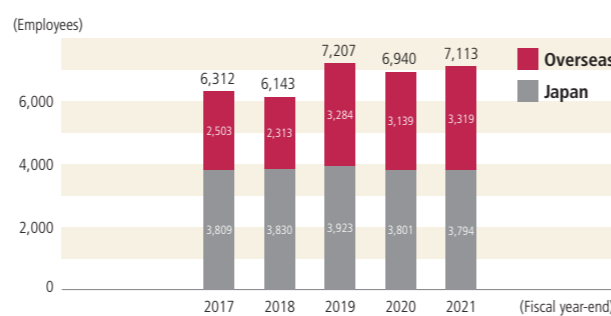
## Human Capital

The NAGASE Group has robust human capital. Of its 7,113 employees in total, 3,319 reside overseas. It aims to build a strong organization from both fronts to strengthen human resources to drive reforms and to bolster compliance.

Human resources are a source of sustainable growth. ACE 2.0 advocates to strengthen human resources to drive reforms as part of corporate climate reform. To give an example, the Global Marketing Division Philadelphia (GMD-P) in the U.S., which has an abundance of specialized human resources, was established to promote transformation in the digital and marketing fields and strives to assign the right people to the right places. In addition, we launched an employee engagement improvement project in 2021 to realize sustainable growth and development of employees and the company.

The NAGASE Group also regards respect for employee personality and individuality and human rights in general as a prerequisite for maintaining and enhancing human resources' capabilities. It has accordingly released a Group Code of Conduct, and conducts compliance training as needed to improve awareness among all Group employees in Japan and overseas.

### Number of Employees (Consolidated)



» See P46-47, "Creating Social Value"

» See P48 for Global Marketing Division Philadelphia (GMD-P) initiatives

## Intellectual Capital

The NAGASE Group's intellectual capital is distinctive in that it is not limited to chemicals, but extends to various domains, including electronics, automobiles, and healthcare. Another feature of the Group's intellectual capital is that it often applies for patents jointly with an array of partners such as universities and corporations as a trading company. To harness its total

capabilities and create new businesses, the Group undertakes R&D for the purpose of providing technical information and developing new technologies and products based on marketing activities. Expediting the mobilization of such expertise serves to enhance intellectual capital, which is a fount of innovative business activities.

## Nagase Bio-Innovation Center (formerly the Nagase R&D Center)



### Creating Innovation through Biotechnological Expertise and Technologies

The Nagase Bio-Innovation Center aims to create new value that contributes to society in such ways as improving people's health and solving environmental problems through research and development in the biotechnology field. Biotechnology, which enables environmentally friendly production processes, is expected to be used in a wide range of industrial fields. The center will promote bio-innovation throughout the Group by collaborating with Group companies and related organizations that possess bio-related technologies, and by integrating planning, research and development. Under ACE 2.0, we aim to expand new material production platform technologies in addition to

further developing our origin N-STEPP™ material production technology using streptomyces.

#### Developments harnessing and linking together our expertise

- Fermentation Production of Trehangerin, a promising antiaging ingredient
- Fermentation production of the so-called longevity vitamin ergothioneine
- Fermentation production of D-sedoheptulose, a rare sugar with potential uses in supplements and medicine

**Established: 1990**

**Location: Kobe City, Hyogo Prefecture**

## Nagase Application Workshop (NAW)



### Providing Customers with a Place for Collaboration

The Nagase Application Workshop is an open innovation laboratory for plastics and coatings. As a reliable development partner to the NAGASE Group's customers, NAW provides evaluation and analysis of unique new technologies and materials, advances the development of new applications and more in an ongoing pursuit of function and design in the fields of plastics and coatings, with a focus on developing environmentally friendly materials. In addition to enriching open laboratory capabilities, NAW targets global collaboration among laboratory functions within the Group. It is promoting information sharing among domestic and overseas business bases, including Nagase ChemteX Corporation,

Hayashibara Co., Ltd., and Interfacial Consultants LLC of the U.S. It is also working to build systems for global cooperation in Japan, Asia and the U.S.

#### Developments harnessing and linking together our expertise

- Development of various biodegradable coating and plastic materials derived from biomass
- Color design proposals according to customer needs

**Established: 2007**

**Location: Amagasaki City, Hyogo Prefecture**

## New Value Creation (NVC) Office

### Create the Core of Future Business

The NVC Office advances the NAGASE Group's innovation. It forms the core of business looking 5 to 10 years down the line through cross-sectional collaboration among business divisions. It leads the Group in coming up with strategies in the materials, semiconductor, IoT and healthcare domains revolving around the slogan, "Creating new value from big data."

#### Developments harnessing and linking together our expertise

- Developed SaaS services for materials informatics for multiple customers, centered on TABRASA®
  - Continued development with North American partners for applications for global 5G carriers
- Used rewritable semiconductors FPGA as a platform to develop a solution to accelerate the database search middleware Redis, which is widely used in large-scale cloud computing, and began promoting that among cloud computing engineers.

**Established: 2017**

## Manufacturing Capital

The NAGASE Group encompasses about 50 manufacturing subsidiaries, including Nagase ChemteX Corporation, Hayashibara Co., Ltd., and Prinova Group LLC. It combines its trading and manufacturing functions to offer a wide range of solutions to customers.

This manufacturing capital is an important management resource for the NAGASE Group. As part of revenue structure reform, **ACE 2.0** looks to strengthen existing businesses by expanding added value through

technological innovations and improvements in manufacturing productivity.

In addition, we newly established the Group Manufacturing Management Innovation Office in April 2022 to deepen the role of the Group Manufacturers' Collaboration Committee: MCC, which was launched in 2019 to bolster the foundation of manufacturing companies in the NAGASE Group.



### Nagase ChemteX Corporation

#### Building an Abundant Future with Chemistry

A core manufacturing subsidiary of the NAGASE Group that possesses creative technologies in a variety of areas including electronics and biotechnology. Nagase ChemteX Corporation uses its core technologies in synthesis, formulation, and biotechnology to develop materials that are completely new to the world and create products with No. 1 market share. As a value-creating manufacturing company capable of meeting the needs of customers around the world, it will continue to embrace the challenge of developing new technologies and products.

● **Topics: Aiming to Reduce Environmental Impact, Installed Highly Efficient Wastewater Treatment Facilities**



Highly efficient wastewater treatment facility (Photo: METAWATER Co., Ltd.)

Nagase ChemteX Corporation installed a highly efficient wastewater treatment facility, one of the largest in Japan for industrial wastewater treatment, to improve the company water purification rate of wastewater generated in the manufacturing process of special epoxy compounds, and the facility is scheduled to start operation some time from the autumn of 2022 onward. Improving the in-house water purification rate is estimated to reduce the industrial waste output by 10% (approximately 400 tons), and it aims to further reduce its impact on the environment.



**Functional Resins**  
Epoxy adhesives, encapsulants (sheets, liquids)



**Precision Process Materials**  
Photolithography materials, 3D printing materials, silver nano ink



**Functional Chemicals**  
Special epoxy resins, transparent conductive coating materials, low-endotoxin materials



**Biochemicals**  
Food enzymes, industrial enzymes, phospholipids

**Established: 1970**

**Location: Osaka City, Osaka Prefecture**

**Sales: About 29 billion yen**

**Number of employees: About 590 (Fiscal year ended March 31, 2022)**



### Hayashibara Co., Ltd.

#### Contributing through Business to the Realization of a Sustainable Society

This core business in the NAGASE Group's life sciences field develops ingredients for food, personal-care products, pharmaceuticals, and functional dyes. Hayashibara works together with stakeholders to provide materials that enrich peoples' lives and strengthen activities to reduce environmental impact, and strives for co-creation of new value.

● **Topics: Participating in an International Summit**



Hayashibara Co., Ltd. expressed its commitment to sustainable food systems at the UN Food Systems Summit 2021 in September 2021 and the Tokyo Nutrition for Growth Summit 2021 in December 2021. Leveraging strengths in enzyme utilization technology cultivated over a long time and naturally derived materials created through biotechnology, it supports the

health of people and the planet, and promotes the spread of safe and sustainable foods. See the Hayashibara website for details about various types of food systems initiatives.



**Food Ingredients**  
TREHA™, SUNMALT™, PULLULAN



**Health Food Ingredients**  
HAYASHIBARA HESPERIDIN S, Fibryxa™, Ascofresh™



**Personal Care Ingredients**  
AAZG™, MG-60, Alpha Glucosyl Hesperidin



**Pharmaceutical Ingredients**  
MALTOSE PH, PULLULAN, TREHALOSE SG



**Functional Dyes**  
Dyes for information recording, information displays, and diagnostic agents

**Established: 1932**

**Location: Okayama City, Okayama Prefecture**

**Sales: About 27 billion yen**

**Number of employees: About 680 (Fiscal year ended March 31, 2022)**



### Prinova Group LLC

#### Global Development of Food Ingredients

Sells food ingredients, manufactures premixes, and undertakes contract manufacturing of final products. It has an edge in terms of ingredient sourcing, blending and flavor-related R&D capabilities, sports nutrition experience, and its network. By expanding business in North America and enhancing manufacturing and processing functions, it aims to develop high-value-added services mainly in the North American, European and Southeast Asian markets.

● **Topics: Expanding Business through Proactive Investment**



The new plant in the U.S. state of Utah for contracted manufacture of sports nutrition products

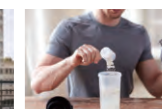
Prinova Group LLC expanded its business by welcoming The Ingredient House LLC, a sweetener distributor, in October 2021 and Lakeshore Technologies, LLC, which is involved in contracted flour milling and fine powder processing, in December 2021. In addition, it will newly open a contracted manufacturing plant from the summer of 2022 for sports nutrition products in the U.S. state of Utah. It aims to expand and enhance manufacturing functions.



**Ingredients**  
Distribution  
Over 2,000 ingredients



**Aromas**  
Distribution Aroma chemicals, essential oils



**Premixes & Solutions**  
Premixes, OEM, beverages, tablets, food applications



**Flavors**  
Manufacturing  
Beverages, functional food applications



**Armada**  
Nutritional food development, manufacturing solutions, sports nutrition

**Founded: 1978 Location: Illinois, USA**

**Sales: About 120 billion yen**

**Number of employees: About 1,200**

**(Fiscal year ended December 31, 2021)**

» See P26–27, "[Feature] The Food Ingredients Business Led by the Prinova Group," for details about the Prinova Group's initiatives.

### Group Manufacturing Management Innovation Office

#### Charged with Reinforcing the Domestic Manufacturing Foundation

The NAGASE Group is increasing the size and influence of our Group-wide manufacturing operations, which now account for a growing percentage of consolidated results, for creation of new value as a group manufacturing company. To that end, we newly established the Group Manufacturing Management Innovation Office in April 2022 to strengthen and expand the Group's manufacturing business by providing a comprehensive overview of each manufacturing company's manufacturing capabilities, production technology, R&D, quality control, engineering and investment evaluation from a management perspective.

The Office's predecessor, the Group Manufacturers' Collaboration Committee, was launched in 2019 with the purpose of strengthening collaboration from aspects such as safety, quality and the environment in the Group's manufacturing, and the Group Manufacturing Management

Innovation Office was launched to achieve further growth.

Currently, with the aim of creating new value as a group manufacturing company, we started with activities such as evaluating the value chain of the Group manufacturing from development to production and quality assurance activities, ascertaining common key manufacturing management indicators and understanding and standardizing diverse manufacturing processes.

● **Topics: Leading Discussions within the Group to Create Value**

The Group Manufacturing Management Innovation Office and Steering Committee take a central role in deepening understanding of the characteristics, functions and challenges of each company, and discuss how these can be linked to create new value. We have also started a half-year initiative to visit and survey each company's front lines under the theme of understanding and standardizing diverse manufacturing processes.

### Social Capital

Solid relationships of trust with diverse stakeholders are very important social capital for the NAGASE Group. The Group operates globally in a wide range of business domains. It has 114 business bases in 32 countries and

regions around the world, and roughly 18,000 business partners in total in Japan and overseas.

### Natural Capital

The NAGASE Group believes that a sustainable global environment is a prerequisite for continuing our business operations. To maintain and enrich such natural capital, the NAGASE Group helps realize a sustainable society by actively working to solve environmental problems. That includes striving

for a carbon-neutral and recycling-oriented society, preventing pollution, preserving biodiversity, and efficiently using water.

» See P40–43, "Creating Environmental Value"

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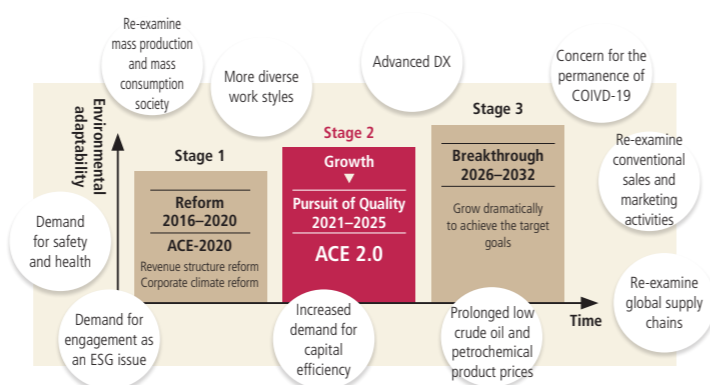
# NAGASE Group Growth Strategy

## Overview and Progress of the Medium-Term Management Plan

### Positioning of ACE 2.0

ACE 2.0 is a five-year medium-term management plan that started in FY2021, and was back cast from 2032 to envisage the "Ideal NAGASE" at that time (the 200th anniversary of foundation), and is positioned as a period to move ahead on the "Pursuit of Quality."

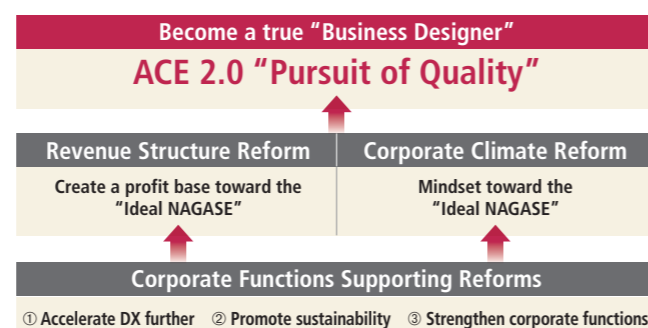
The ACE in ACE 2.0 stands for Accountability, Commitment, and Efficiency.



### ACE 2.0 Basic Policies

ACE 2.0 draws on the results and challenges from ACE-2020, the previous medium-term management plan, and NAGASE works to give concrete form (business, mechanisms, culture) to expectations from all of its stakeholders in a plan where it aims to be as a Business Designer that creates a sustainable future.

Specifically, we will work on the two reforms of revenue structure reform and corporate climate reform, and we will further accelerate DX, promote sustainability and strengthen corporate functions as functions to support both reforms.



### Quantitative Goals (KGIs, KPIs)

The key goal indicators (KGIs) for "Pursuit of Quality" in regard to enhancing the rate of capital efficiency are ROE of 8.0% or more and operating income of ¥35.0 billion for improvement of profitability. Key performance indicators (KPIs) have also been set for revenue structure reform, corporate climate reform and corporate functions supporting reforms and we rigorously manage these goals.

#### "Pursuit of Quality" KGIs (KGI: Key Goal Indicator)

Measures	Indicators	FY2021	FY2025*
Improvement in capital efficiency	ROE	7.7%	8.0% or more
Increased profitability	Operating income	35.2 billion yen	35.0 billion yen

\* FY2025 assumptions: 1 USD = 108.7 yen, 1 RMB = 15.6 yen

#### Key Performance Indicators (KPIs) for Achieving the "Pursuit of Quality" (KPI: Key Performance Indicator)

Reform / Function	Measures	Indicators	FY2021	FY2025*
Revenue structure reform	Company-wide asset replacement and reallocation of resources	Growth investments*1	—	150.0 billion yen*2
	Create "N-Sustainable businesses"	Secure 10% of company-wide invested capital and reinvest in focus and development areas	—	10% or more
		Operating income	—	5.0 billion yen or more*3
	Improve productivity of manufacturing and expand value added through technical innovation	Manufacturing business operating income*4	16.9 billion yen*5	20.0 billion yen or more
Corporate climate reform	Improve productivity of core operations	Ratio of general administrative expenses to gross profit*6	—	52.1%
	Deepen awareness of capital efficiency	Net DE ratio	0.33 times	0.5 times or less
Corporate functions supporting reforms	Accelerate DX further	Invested capital (including expenses)*7	—	10.0 billion*2

\*1 N-Sustainable investment, new business investment, DX-related investment, R&D expenses, working capital  
\*2 Five-year cumulative total  
\*3 Figure based on internal management  
\*4 Simple sum calculation  
\*5 Manufacturing classifications were reviewed, and Prinova Group was reclassified as a manufacturing business from FY2021  
\*6 Excludes R&D expenses, amortization of goodwill and other acquisition-related intangible assets, and profit and loss due to amortization of actuarial differences  
\*7 Five-year cumulative total of 10.0 billion yen in DX-related investments is included in growth investments of 150.0 billion yen

## Revenue Structure Reform

The key to revenue structure reform is to secure and redeploy management resources to maximize efficiency. Specifically, from the standpoint of efficiency and growth potential, we have classified businesses into four quadrants: Improve, Base, Develop and Focus, and are executing strategies according to each area.

Focus Areas	Development Areas	Base Areas
<b>Food-related businesses</b> <ul style="list-style-type: none"> <li>Acquired The Ingredient House LLC (by the Prinova Group), a distributor specializing in sweeteners, and strengthen and bolster manufacturing capacities in the contracted manufacturing business</li> <li>» See P26-27, "[Feature] The Food Ingredients Business Led by the Prinova Group"</li> </ul>	<ul style="list-style-type: none"> <li>Invest resources in areas expected to contribute to future earnings through investments in, and alliances with, startups that possess outstanding technologies and expertise that can be expected to create new businesses</li> </ul>	<ul style="list-style-type: none"> <li>Enhance efficiency by working to improve profitability</li> <li>Promote efficiency in marketing and sales activities by using digital technology. Expand value provided by using it as new points of contact with customers</li> </ul>
<b>Semiconductor-related businesses</b> <ul style="list-style-type: none"> <li>Share information and strengthen collaboration within the Group throughout the entire semiconductor supply chain</li> <li>Strengthen competitiveness in such as understanding technological reform and development trends</li> </ul>	<b>Bio-related businesses</b> <ul style="list-style-type: none"> <li>Newly established the NAGASE Biotech Office to accumulate knowledge and expertise related to biotechnologies (April 2021)</li> <li>Changed the name of the NAGASE R&amp;D Center to the Nagase Bio-Innovation Center and built a promotion structure for innovation creation for the entire Group's bio-related efforts (April 2022)</li> <li>» See P28-29, "[Feature] Holding the Key to Growth through NAGASE's Biotechnology"</li> </ul>	<b>Improvement Areas</b> <ul style="list-style-type: none"> <li>For businesses judged to need improvement, decide on an improvement policy, set KPIU and promote a rigorous PDCA cycle. In FY2021, withdrew from certain unprofitable businesses and secured capital by divesting a subsidiary</li> </ul>

## Corporate Climate Reform

The key point in the corporate climate reform is the pursuit of both points of economic value and social value.

- In addition to financial information, we have set KPIs in the following two areas to quantitatively evaluate and monitor non-financial information initiatives.

Theme	KPIs		
Enhance employee engagement*	Applicability	Group companies	Percentage conducting periodic employee engagement surveys: 100%
		NAGASE & Co. (non-consolidated)	Engagement survey total score: 60 or higher
Carbon neutrality	Applicability	Consolidated	Scope 1, 2 reduction rate: 37% or more (compared to 2013)
		NAGASE & Co. (non-consolidated)	Volume of reductions due to generation or purchases of renewable energies: 35,000 tons or more (cumulatively)
			Scope 2 zero emissions

\* Applies to consolidated subsidiaries, with the Prinova Group counted as a single company.  
\* FY2021: Percentage of Group companies implementing the program is 41% (24 companies (including cases implemented only once)).  
NAGASE & Co. (non-consolidated) engagement survey total score was 52.4.  
» See P42, "Carbon Neutral Declaration" and P46, "Employee Engagement Improvement Project"

- Enhance ROIC through business strategy and improve the ROIC spread through financial strategy. We are moving ahead on quantification and visualization of ROIC for each business, building a system that enables monitoring and have started periodic monitoring.

#### Improvements in efficiency

	FY2020	Change	FY2021	FY2025 Goal
ROE	5.9%	+1.8%	7.7%	8.0% or more
WACC	5.7%	-0.2%	5.5%	5.0% or less
ROIC	4.2%	+1.1%	5.3%	5.0-5.5%
Net DE ratio	0.23	+0.1	0.33	0.5 or less
Net assets (Billions of yen)	338.4	+16.6	355.0	
Interest-bearing debt (Billions of yen)	118.9	+47.5	166.5	

- We conducted an employee engagement survey to understand the current situation and formulate measures to improve it so that we can improve employee and organizational engagement for the sustainable growth and development of both parties.

» See P46-47, "Creating Social Value"

- To improve productivity in core business operations, Nagase Business Expert Co., Ltd., a shared services company, has been promoting business process reengineering (BPM) to improve operational efficiency. In addition, the efficiency of indirect operations and sales and marketing activities is promoted through the use of business intelligence (BI) tools and customer relationship management (CRM).

## Corporate Functions Supporting Reforms

We are strengthening DX, sustainability and corporate functions to realize revenue structure reform and corporate climate reform.

- We built a platform to strengthen and expand the customer base through digital marketing, and launched customer experience websites at the Prinova Group and other Group companies in the Americas (FY2021).

- To realize the "Ideal NAGASE," we changed the name of the Corporate Communications Dept. to the Corporate Sustainability Dept. in April 2022 to pursue economic value and social value. The organization reports directly to the representative director and president.

» See P32-33, "Our Sustainability Initiatives"

[Feature]

# The Food Ingredients Business Led by the Prinova Group

## Achieving Dramatic and Sustained Growth Driven by High-Value-Added Businesses

In 2019, the Prinova Group (“Prinova”), which is a U.S. based group of companies that sells and processes food ingredients and has a global sales network, joined the NAGASE Group. Prinova joining the NAGASE Group made the entire food ingredients business begin to make significant strides forward. Three years later, Prinova’s business results have exceeded initial expectations laid out at the time of the acquisition, with strengths in high-value-added businesses. At this time, Prinova has emerged as a major force in NAGASE’s food ingredients business.

### Prinova Continuing to Grow Rapidly, with Strengths in High-Value-Added Businesses

The food industry is currently facing headwinds such as large-scale supply chain issues, product shortages and inflation. Facing a turbulent external environment, the NAGASE Group has identified the food ingredients business as a focus area in ACE 2.0. By leveraging Prinova’s global supply chain expertise to fulfill customer demand, the Group has increased sales and profits in the food ingredients business.

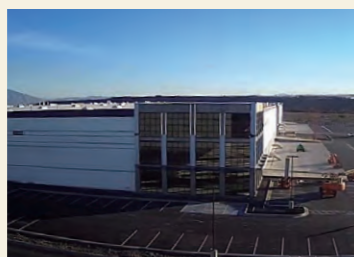
Founded in Illinois, U.S. in 1978, Prinova has continued to grow as the world’s largest distributor of a wide range of food ingredients, such as food vitamins, amino acids, sweeteners, and caffeine. It has also grown as one of the world’s largest importers of nutrition products. In the past few years, Prinova has been strategically developing businesses to address fast-changing demand in the food, beverage, nutrition and supplement sectors, with the aim of enhancing high-value-added businesses.

### Strengthening the Food Ingredients Business’ Earnings Base through M&As and by Expanding Manufacturing Sites

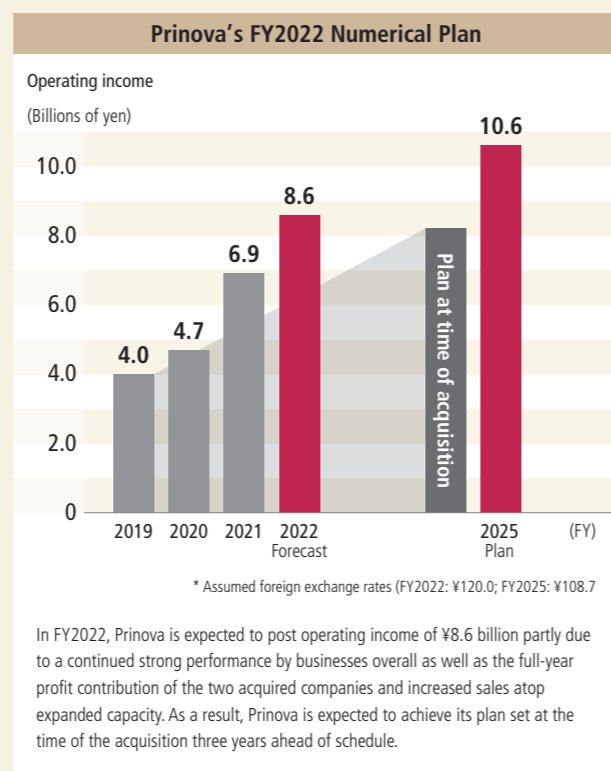
In October 2021, the NAGASE Group acquired The Ingredient House LLC (“TIH”), a distributor specializing in sweeteners, with the goal of expanding the items carried by Prinova and growing its business domains. TIH sells sweeteners in various categories to food and beverage manufacturers all over the world. Its main sweetener categories are sugar alcohols such as xylitol and high intensity sweeteners such as sucralose.

The acquisition of TIH as a subsidiary expanded the approximately 2,000 types of ingredients carried by Prinova such as vitamins and amino acids, and is expected to broaden the range of sales and contract manufacturing proposals it can offer to existing customers. Moreover, the addition of TIH’s customer network further strengthened Prinova’s global sales network.

Furthermore, in response to rising sports nutrition demand and increased demand for higher quality and safer products in the U.S., Armada Nutrition’s new plant has been built in the state of Utah in the U.S. to conduct Prinova’s contract manufacturing for sports nutrition. The plant has started operations in



A sports nutrition contract manufacturing plant was built in the U.S. state of Utah



stages since the summer of 2022. The new plant is capable of contract manufacturing on the largest scale in the U.S. sports nutrition sector, and it is expected to further strengthen the earnings base. In addition, the NAGASE Group has steadily enhanced its management base through such means as assigning the General Manager of the Food Ingredients Department to the U.S. The Group’s main goals are to expand sales of the food ingredients of Hayashibara Co., Ltd. using Prinova’s customer base, realize and strengthen synergies by combining the products carried by Prinova and NAGASE’s customer base centered on Asia, and increase discussions on the development of global strategies.

Food is the primary source of activities in daily life, and it is absolutely necessary for a sustainable world where people live with peace of mind. Going forward, the NAGASE Group will continue to fully leverage Prinova’s global network and portfolio to achieve sustainable growth of the food ingredients business.

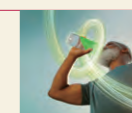
## Focus Businesses in the Food Ingredients Business

### Beverages



The global beverage industry is growing, especially the energy beverage category. Consumers are pivoting their preferences to drink options that feature better-for-you, healthier, cleaner label, and reduced sugar beverage offerings.

### Sports Nutrition



Sports nutrition is still growing at 9% per year in the U.S. and has enjoyed continued growth in Europe and around the world. This is the fastest growing category for Prinova and given our dominance in relevant functional ingredients, we are strongly positioned to meet customer demands.

### Gummies



The global gummy market size was valued at USD 16.28 billion in 2020 and is expected to grow at a CAGR of 12.6% from 2020 to 2028. While gummies now command almost 20% of the market for nutrition supplements, we at Prinova are selling into this market, and are looking at manufacturing gummies in our Utah plant to meet customer needs.

### Interview

## Working to Solve Problems in Global Supply Chains through “One Global Prinova”

**Donald K. Thorp**

Managing Executive Officer, NAGASE & CO., LTD. and President, Prinova Group LLC

#### What are the strengths of Prinova and its pillars for growth?

Prinova’s mission is “Customer First” and our vision is “One Global Prinova.” Prinova is well-known throughout the world for the safety of its supply chain, expertise and customer service concerning ingredients. By expanding our high-value-added services, we have evolved and grown. We are currently differentiating ourselves utilizing the full range of the Group’s portfolio, including ingredient sales, premix manufacturing, flavor manufacturing, powder product development and contract manufacturing, so that each of our customers can conduct business in accordance with their needs.

Prinova has three pillars of growth. The first is its specialized knowledge on supply chains and their safety. During the spread of COVID-19 and the ongoing logistics crisis, this pillar assisted us in strengthening customer service. The second pillar is to leverage our strengths as “One Global Prinova” through collaboration to bring out the capabilities of the companies we have acquired. We will generate new synergies and enhance our customer value propositions through these efforts. The third is our ability to build strong and optimal supplier relationships that meet customer needs regardless of the size of their business, through global business operation.

#### What issues does the NAGASE Group’s food ingredients business face and how is it addressing them?

The main issues in the food ingredients business in the ASEAN region, the Middle East and the rest of the world are enhancing the variety of ingredients and materials available to customers and developing the employee skills required to conduct sales to customers. Prinova holds weekly meetings for teams responsible for the Middle Eastern market and is considering the formation of a specialized purchasing department as well as training sessions and follow-up activities to improve product procurement and sales skills. In both the Middle Eastern and Japanese markets, competition is fierce. Time, training and effort are required to enter these markets.

#### Could you please describe your vision for ideal Prinova and what you are doing to realize that vision?

Prinova aspires to be the company that customers think of first when it comes distribution, high-value-added solutions and manufacturing in the food, beverage, and nutrition sectors, both now and in the future. Going forward, we will work with integrity as one group to solve the global supply chain problems that many U.S. companies are experiencing. We will make every effort to ensure that each department and employee can find solutions that meet the needs of customers.



[Feature]

# Holding the Key to Growth through NAGASE's Biotechnology

## Evolving Into "NAGASE, the Biotechnology Company"

### Based on the Keywords of Microorganisms, Enzymes, and Fermentation

Through unique biotechnology that goes beyond the boundaries of a trading company, the NAGASE Group aims to provide technology value that other companies cannot match. The Group is working to develop sustainable new materials that are needed in these times by bringing together the biotechnologies of each Group company.

In response to rising social demands for environmentally responsible manufacturing, interest is growing in biotechnologies, which enable environmentally friendly production processes by producing useful materials through natural living things such as plants and microorganisms. Biotechnology is a technology that uses the functions of living things in everyday life. Biotechnology-based products and services are being developed in a variety of fields, including health foods, cosmetics, pharmaceutical ingredients, and chemicals.

#### Striving for Efficient Production of Useful Materials by Bringing Together Each Group Company's Biotechnologies

In April 2021, the NAGASE Group established the NAGASE Biotech Office as an organization that spans the whole Group, bringing together biotechnologies. The NAGASE Biotech Office collaborates closely with the Nagase Bio-Innovation Center (formerly the Nagase R&D Center), which is responsible for research and development (R&D) functions at NAGASE & CO., LTD., and Group companies Hayashibara Co., Ltd. and Nagase ChemteX Corporation. The NAGASE Biotech Office is focusing on R&D for new materials that apply synthetic biology, which aims to produce rare, useful materials more efficiently. The NAGASE Group's strengths are its ability to approach customer needs from a variety of technical perspectives because it understands fermentation and enzyme technologies, which are essential to microorganism-based bioprocesses, as well as its ability to cover a broad range of areas, from R&D to manufacturing and sales.

In addition, as biotechnologies and digital technologies have advanced in the last few years, next-generation bioproduction technology has attracted growing interest. Next-generation bioproduction technology uses smart cell technology (a biosynthesis technology that artificially maximizes the substance production capability of cells) to bring out previously unusable, potential functions of living cells. For example, ergothioneine (EGT), a rare natural amino acid found in organisms such as mushrooms, is thought to have excellent antioxidant properties and

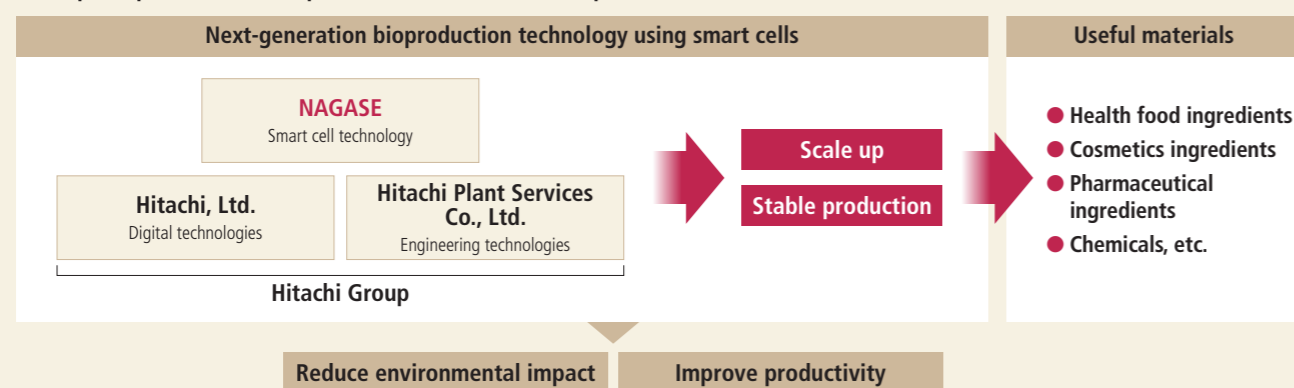
high anti-aging effectiveness. Potential applications are expected in a variety of fields including food products, cosmetics, and medicine. However, because EGT is only found in trace amounts in mushrooms, production has been difficult. Extraction methods for EGT from natural materials take time and effort and organic synthesis of EGT has a significant environmental impact. In 2015, NAGASE & CO., LTD. began developing an environmentally friendly bioproduction process that could provide a stable supply of EGT via fermentation using microorganisms. Due partly to these efforts, the Company succeeded in using smart cell technology to increase EGT productivity by a factor of approximately 1,000 when compared to conventional levels.

#### Start of Smart Cell-Based Joint Development with the Hitachi Group

Furthermore, in April 2022, NAGASE & CO., LTD. started joint development with Hitachi, Ltd. and Hitachi Plant Services Co., Ltd. on the commercialization of smart cell-based production processes for EGT and other useful materials. Hitachi, Ltd. has cell culture simulation technology and data analytics technology, while Hitachi Plant Services Co., Ltd. has engineering technologies for the design and construction of large-scale cell culture plants and the scaling up of production facilities. This joint development is expected to enable further scale-up and commercialization of production processes, which are essential to the industrialization of useful substances, by utilizing and integrating the experiences and expertise developed by the Hitachi Group to date.

The NAGASE Group will continue working to bring together biotechnologies within the Group and to solve social issues. Moreover, the Group will strengthen its presence as "NAGASE, the biotechnology company" both by reducing the environmental impact and increasing the efficiency of the production of useful materials. In doing so, the Group will contribute to the creation of a sustainable world where people live with peace of mind.

#### Concept Map of Joint Development with the Hitachi Group



## Nagase Bio-Innovation Center (formerly the Nagase R&D Center)

### Develop Research Themes That Can Contribute to Society from a Macro Perspective

The Nagase R&D Center was established in 1990 and has conducted fundamental research for the NAGASE Group, mainly in the fields of genetic engineering, enzyme engineering, and metabolic engineering. In April 2022, the Nagase R&D Center was renamed the Nagase Bio-Innovation Center to promote bio-innovation across the Group.

The Nagase Bio-Innovation Center's basic principle is "Unavailable Made Available & Sustainable Way." Through R&D in the biotechnology field, the center aims to create new value that leads to social contributions such as people's health issues and solving environmental problems. The center's mission is to achieve innovation using biotechnologies. For example, the center owns many unique technologies in materials

production that use actinomycetes as a host.

Furthermore, the center collaborates with around 150 researchers from various Group companies to promote the NAGASE Group's bio-related businesses from the research stage. It is working to develop new enzymes and biochemicals through the use of the center's technologies, as well as the marketing capabilities of each organization, and the product development capabilities and manufacturing functions of Hayashibara Co., Ltd. and Nagase ChemteX Corporation.



#### Interview

### Striving to Create New Businesses by Integrating Market Needs and R&D Seeds

Yuki Okaza and Ayana Oki,  
NAGASE Biotech Office

#### What are NAGASE's strengths in biotechnology?

**Okaza:** NAGASE's strengths include the ability to manufacture using three different technologies: microorganism, enzyme and fermentation. Many companies can manufacture using one of these technologies, but I believe NAGASE is highly unique in that it has three technology options for manufacturing. Another point that distinguishes NAGASE from other companies is that despite being a trading company, it has manufacturing and R&D sites.

**Oki:** Nagase Bio-Innovation Center has microorganism design technologies, Hayashibara Co., Ltd. has enzyme screening and functional carbohydrate production technology, Nagase ChemteX Corporation has industrial enzyme production technology, and our salesforce has proposal skills. I believe that NAGASE's strength in biotechnology is that by working as one Group, it can consistently follow through operations, from designing targeted materials so that they can be efficiently produced with microorganisms, to mass producing those materials, developing applications for them and selling them.

#### Which technologies are you focused on?

**Oki:** I'm focused particularly on microorganism design technologies. We are currently preparing to launch NAGASE's EGT in the market. This is one example where NAGASE was able to use its technology to improve productivity by a factor of around 1,000. The production of materials with microorganisms has also attracted growing interest in the past few years because of its environmentally friendliness.

**Okaza:** I'm focused on genetic engineering. I used genome editing technology to conduct research as a university student. With this background, I'm particularly interested in advances in gene manipulation technology. We created a metabolic map for EGT and manufactured it with microorganisms designed to reduce the number of cell

culture days and achieve high efficiency. As a result, I'm hopeful that we will be able to produce many more products like this in the future.

#### What is your outlook for the future?

**Oki:** The Group will make a concerted effort to provide the materials and value that the market requires, while leveraging NAGASE's foundational biotechnologies. Manufacturing methods with a high environmental impact, as well as the manufacturing of items such as petrochemical products, will be replaced in the future by bioprocesses. By doing so, we aim to establish ourselves as the "NAGASE Group that contributes to environmentally friendly manufacturing" and to realize "Green it!" which is this year's theme for the NAGASE Group.

**Okaza:** Based on the keywords of microorganisms, enzymes, and fermentation, I would like to work on developing new businesses by integrating market needs and R&D seeds. Going beyond the traditional boundaries of a chemicals trading firm, we will accelerate our activities in order to be known as "NAGASE, the biotechnology company" in 10 or 20 years.



Yuki Okaza,  
NAGASE  
Biotech Office

Ayana Oki,  
NAGASE  
Biotech Office



WHAT

HOW

WHERE

## The NAGASE Group's Ideal Future

Message from the General Manager of the Corporate Sustainability Dept.

### Surviving in a Business Environment That is Changing Rapidly with the Promotion of Sustainability

Koichi Sagawa

Executive Officer, GM, Sustainability Promotion Department



#### Turning a Pivot to a Recycling-Oriented Society into a Business Opportunity

We have positioned the NAGASE Group's Sustainability Basic Policy as a way of thinking shared throughout our value system, which comprises our management philosophy, vision, and the "Ideal NAGASE" for 2032.

Our corporate strategy now emphasizes strategies based on a long-term view that takes into consideration the natural environment and people in addition to the conventional perspectives of economic development and pursuit of profit. This is also evident in our medium-term management plan, **ACE 2.0**, which started in FY2021 and requires us to pursue "quality" in both economic and social value.

Back in around 2005, the Company had a department called the Eco-Materials Department, which handled various environmentally considerate materials, such as environmental products made by combining artificial wood and resin. Although our business partners showed some interest in these at the time, economic rationality was still the highest priority in those days, making it difficult to grow the business. Today, over 15 years later, one can sense that the world has clearly changed. Particularly in these past few years, there have been obvious changes in our business partners' social policies and purchasing policies, and demand has increased for materials and products with high environmental value. Looking ahead, I am certain that this trend is going to accelerate.

The NAGASE Group recognizes the following as important social issues: technological innovation, climate change and resource shortages, demographic changes, and industrial reorganization. We consider climate change and resource shortages in particular to be the most important of these, and we view it as both a risk and a significant opportunity. Assuming that the traditional pattern of mass production, mass consumption, and mass disposal is now coming to an end, then by changing from

a linear economic model of make, use, and discard to a cyclical model of make, use, and reuse, I feel that new business opportunities will open up for us in areas such as recyclable materials.

#### Two Major Themes: Decarbonization and Employee Engagement

The NAGASE Group established the Sustainability Committee in June 2020. The committee is chaired by the President and is currently composed of members including representatives of the Group's trading business, manufacturing business, R&D functions, and areas. I am also a member.

In its first year, the committee formulated the Sustainability Basic Policy, and in the second year, 2021, it established the Employee Engagement Improvement Project and the Carbon-Neutral Project. These two projects have been positioned as important issues to be addressed by the entire Group.

With regard to the Carbon-Neutral Project, in January 2022, the Group announced its Carbon Neutral Declaration. In addition to trading company functions, the NAGASE Group has manufacturing and processing functions that occupy a distinctively large position in the Group and are categorized into two axes and four quadrants of "trading/manufacturing" and "visualization/reduction."

Up until the fiscal year ended March 31, 2022, I was working as the person in charge of plastic-related business. Decarbonization initiatives are an urgent issue for this industry, and I have always been acutely aware of them personally in my activities. These days, demands on companies to reduce greenhouse gas (GHG) emissions and pressure to disclose them are increasing more and more. In fact, companies on the Prime Market are required to disclose Scope 3 information in accordance with the Task

Force for Climate-related Financial Disclosures (TCFD) recommendation. However, complying with Scope 3 is difficult to achieve with the efforts of the Company alone. Cooperation along the supply chain is becoming necessary, and in the current situation, standard method of calculating GHGs hasn't been determined. Since the Company is able to approach companies both upstream and downstream on the supply chain, it will use its strengths to bolster initiatives for supporting decarbonization among business partners.

As a specific initiative, the Company entered a business alliance with Zeroboard, Inc. in September 2021, aiming to develop a cloud service business for calculating and visualizing GHG emissions. Currently, we are rolling out this service for initiatives across all of our business divisions.

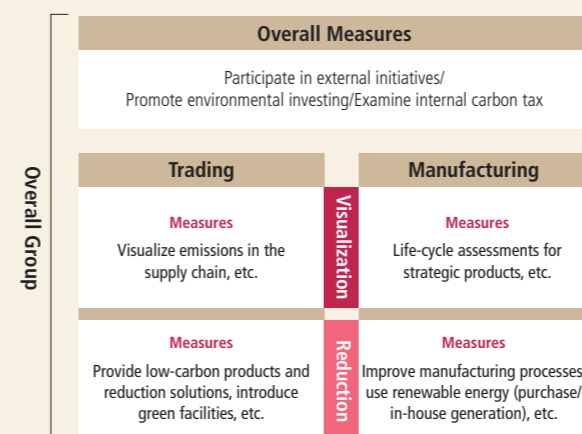
Through these activities, we are seeing an increase in opportunities to talk with people in the corporate divisions of our business partners, with whom we have had no interaction until now, and they are now also sharing their management issues with us. Therefore, in addition to calculating and visualizing GHG emissions, as a leading player in the chemical industry we consider it our mission and also our role as a partner to propose and lead solutions and facilitation to reduce emissions, and we are actively pursuing these initiatives.

Meanwhile, in the Employee Engagement Improvement Project, the President himself has taken the role of project owner and has positioned this issue as the highest priority. This demonstrates our thinking that employees are essential for realizing our philosophy, vision, and the "Ideal NAGASE." We will continue to promote open communication between the Company (organization) and employees with the objective of increasing understanding of employee engagement and promoting it internally.

#### Using My Own Experience to Instill a Sense of Crisis

In April 2022, the Corporate Communication Department was renamed the Corporate Sustainability Department, and launched as an organization under direct supervision of the President. I believe that the mission of this team is to prepare tools and create mechanisms for promoting sustainability activities across the entire NAGASE Group. On the other hand, there remain significant disparities in understanding and awareness of sustainability between the business divisions, Group companies, and areas of the NAGASE Group. I will share my sense of crisis that if we do not tackle this now, we will be left behind with people concerned, using my own experience on the sales front line to drive the NAGASE Group's sustainability forward.

#### Initiatives to Realize Carbon Neutrality by 2050



# Our Sustainability Initiatives

The NAGASE Group has identified priority issues (materiality) for sustainability based on providing value to stakeholders.

Through the establishment of the Sustainability Basic Policy as a way of thinking shared throughout our value system along with the pursuit of activities to “Identify, Develop, and Expand” espoused in the NAGASE Vision, we will contribute to the realization of a sustainable society.

## Sustainability Basic Policy

### 1. Integrity in Business Activities

- We shall conduct our corporate activities in compliance with all applicable national and regional laws and regulations, and in keeping with societal norms and common sense.
- We shall strive to prevent corruption of all kinds and maintain healthy and proper relations with our partners and government entities.
- We shall strive to provide safe, high-quality products and services, and seek to maintain and improve the value to our customers and partners.
- We shall safeguard the benefit to the consumer through maintaining and promoting fair and free competition.
- We shall strive toward rigorous management and protection of information about our customers and our company.

### 2. Positive Relations with Society

- We respect human rights and do not permit any sort of discriminatory conduct. We absolutely refuse to accept infringements of human rights such as forced labor or child labor.
- We respect the cultures and practices of national and regional societies, and maintain positive relations with society.
- We shall strive to ensure health, safety, and appropriate communication with our diverse stakeholders.
- We shall constantly pay detailed attention to sustainability among our suppliers, and shall work to make corrections should there be any doubt to their sustainability.
- We shall proactively disclose corporate information as appropriate.

### 3. Consideration for the Environment

- We shall comply with national and regional environmental regulations.
- We shall contribute to the maintenance of the global environment, including limiting climate change and preventing contamination, promoting reduction in the environmental footprint of our business activities through suppression of greenhouse gas emissions and energy consumption.
- We shall, through environmentally-conscious products and services, provide information to our customers about appropriate product usage, recycling, and disposal methods.
- We shall contribute broadly to society through environmental conservation activities in various countries and regions.
- We recognize the importance of biodiversity and shall strive to conserve ecosystems.

Note: Information about the NAGASE Group's sustainability is also available on our website. <https://www.nagase.co.jp/english/sustainability/>

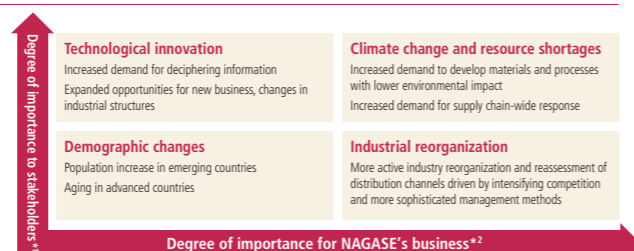
## Sustainability Committee

We have established the Sustainability Committee, chaired by the Representative Director and President with the aim of continuously increasing the NAGASE Group's corporate value by contributing solutions to social and environmental issues through our corporate activities. The committee is composed of a chair and at least two members, who are appointed by the president from the employees of the Company and its Group companies. The Corporate Sustainability Office conducts business execution (practical implementation) based on the sustainability promotion policy.



## The NAGASE Group's Materiality (Important Issues)

The NAGASE Group conducted an external environmental analysis during the formulation of its medium-term management plan ACE 2.0 and identified the most important issues to both NAGASE and its stakeholders. We also identified important issues (materiality) in sustainability based on the value we provide to our stakeholders. We use the process shown at the top of the right page to identify materiality, formulate KPIs, and manage them.



\*1 Assessed as important matters that produce great change to the respective needs of employees, business partners, local communities, consumers, and shareholders.  
\*2 Assessed as important matters that offer opportunities for new businesses, opportunities for existing businesses, threats to existing businesses, and threats to business continuation.

## Formulation and Monitoring of KPIs

FY2020	FY2021	FY2022	FY2025
<b>● Identification of Materiality</b> Conducted discussion in the NAGASE Group sustainability promotion project to elicit issues. Identified these as materiality in medium-term management plan ACE 2.0	<b>● Formulation of KPIs</b> Established the following two projects for the identified materiality 1) Employee Engagement Improvement Project: Using diverse human resources; offering a workplace environment and corporate culture 2) Carbon-Neutral Project: Solving social and environmental issues, and globalization	<b>● KPI Management and Materiality (Monitoring)</b> Set KPIs for “Carbon neutrality” and “Employee engagement enhancement.” Formulate FY2025 medium-term management plan target for carbon neutrality and an FY2025 target employee engagement enhancement. Start managing progress on materiality, mainly through KPIs, in the second year of the five-year medium-term management plan ACE 2.0.	<b>Achieve targets of medium-term management plan</b>

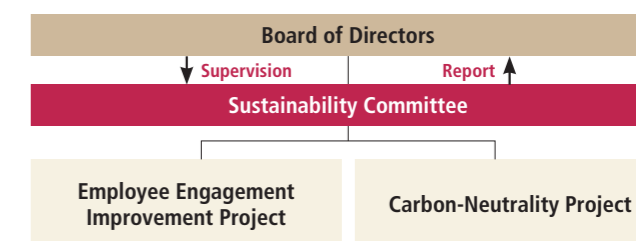
## Materiality and KPIs

The NAGASE Group has identified materiality for each group of stakeholders. In May 2022, KPIs were set for materiality for employees and society/consumers, and the Group will promote sustainability management while checking its progress on these.

Stakeholders	Materiality	Report on KPIs and Initiatives	Relevant SDGs
<b>Employees</b>	<b>Use diverse human resources; offer a workplace environment and corporate culture</b> <ul style="list-style-type: none"> <li>● Use advanced technologies to improve productivity and leverage diverse human resources.</li> <li>● Provide a workplace environment and foster a corporate culture as a Group where employees with diverse backgrounds have mutual respect and motivate each other.</li> </ul>	<b>KPI</b> Group companies ● Ratio periodically conducting engagement survey: 100% NAGASE & Co. (non-consolidated) ● Total score on engagement survey: 60 or above »See P46	 
<b>Business Partners</b>	<b>Use of state-of-the-art technology to create new value</b> <ul style="list-style-type: none"> <li>● Create new value leveraging advanced technologies and a network of business partners.</li> <li>● Provide a wide range of solutions based on understanding the true causes of the increasingly complex problems of business partners.</li> </ul>	<b>Report on initiatives</b> We have established the three N-Sustainable business fields: Environment and Energy, Next-generation Communications, and Life & Healthcare. By 2025, we aim to achieve operating income of ¥5.0 billion or more in these businesses (based on internal management).	 
<b>Society and Consumers</b>	<b>Solving social and environmental issues, and globalization</b> <ul style="list-style-type: none"> <li>● Solve problems that threaten safety and security, e.g., climate change and food and water shortage.</li> <li>● Contribute to securing and improving food safety by utilizing biotech, AI and other advanced technologies.</li> <li>● Fulfill health maintenance demands due to increasingly aging societies in advanced countries.</li> <li>● Contribute to the acceleration of globalization and solve social issues in each region.</li> </ul>	<b>KPI</b> Consolidated ● Reduction rate for Scopes 1 and 2: 37% or more (compared to 2013) ● Reduction amount due to generation/purchase of renewable energy: 35,000 tons or more (cumulative) NAGASE & Co. (non-consolidated) ● Scope 2 zero emissions »See P42	   
<b>Shareholders</b>	<b>Corporate governance</b> <ul style="list-style-type: none"> <li>● Establish a highly transparent corporate governance system.</li> <li>● Make sustainable improvement of enterprise value by balancing economic and social value.</li> </ul>	<b>Report on initiatives</b> We have been presenting a directors' skill matrix, and as a company listed on the Tokyo Stock Exchange Prime Market, we are also making progress on disclosing information in line with the TCFD recommendations.	

## Organizations Responsible for Implementing Materiality Initiatives

The Sustainability Committee is promoting two projects (described on the right) under the supervision of the Board of Directors. The committee makes regular reports to the Board of Directors regarding progress on KPIs for each materiality issue.



# Corporate Governance

## Basic Approach

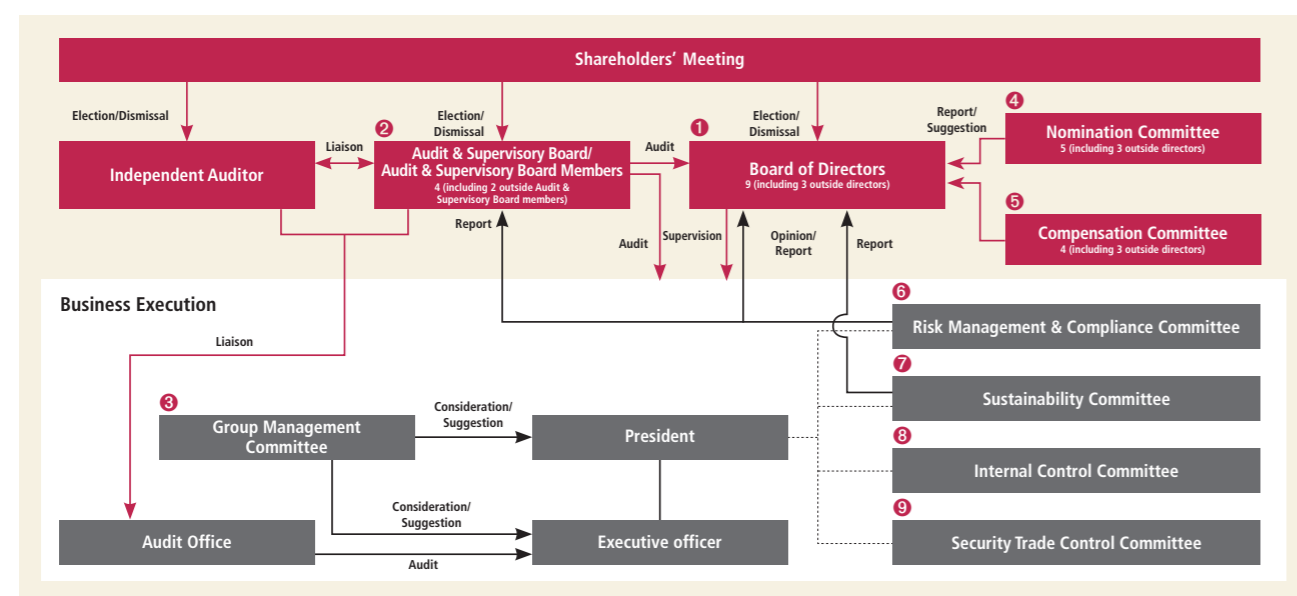
The NAGASE Management Philosophy recognizes its responsibility to society and offers beneficial products and services while maintaining the highest standards of integrity. Through our growth, we will contribute to society and enrich the lives of our employees. Based on this philosophy, NAGASE strives to increase corporate value over the medium to long term in line with the NAGASE Vision, its commitment to stakeholders. We are strengthening our corporate governance, because we believe that rapid decision-making and execution, and ensuring transparency are essential for us to accomplish these objectives.

Note: Our latest Corporate Governance Report is available on our website. <https://www.nagase.co.jp/english/assetfiles/tekijikajji/20220721.pdf>

## Governance Summary

<b>Institutional Format</b> Company with Audit & Supervisory Board	Effective functioning of neutral and objective audits by the Audit & Supervisory Board providing objective recommendations and advice from multiple independent outside directors with specialist knowledge.	<b>Number of Directors</b> 9	The number of directors has been reduced from 20 in 2000 to 9 in 2021, enabling faster decision-making.
<b>Separation of Management and Business Execution</b> Executive officer system	An executive officer system was introduced in 2001 to accelerate decision-making and enhance business execution.	<b>Outside Directors</b> 3	The first outside director was appointed in 2004. There are currently three outside directors, including one woman.
<b>Outside Audit &amp; Supervisory Board Members</b> 2	Outside Audit & Supervisory Board members have been appointed since 1994. There are currently two outside Audit & Supervisory Board members (two of the total four members).	<b>Director Compensation</b> Compensation Committee	Established in 2010, three of the four members are outside directors. The committee debates the fairness of compensation levels and systems.
<b>Board Member Appointment</b> Nomination Committee	Established in 2018, outside directors form the majority of the committee, which debates proposals for nominating directors and executive officers, and succession plans.	<b>Compliance/Risk Management</b> Risk Management & Compliance Committee	The Compliance Committee was formed in 2001 and converted to the Risk Management & Compliance Committee in 2008.
<b>Internal Control</b> Internal Control Committee	The Internal Controls Promotion Committee was renamed the Internal Control Committee in 2009.	<b>Sustainability</b> Sustainability Committee	Created in 2020, the Sustainability Committee is chaired by the President and its members are employees from the Company or Group companies.

## Corporate Governance System



### 1 Board of Directors

The Board of Directors is clearly positioned as the body in charge of making decisions on management policies and strategies, and supervises the execution of operations. It holds a regular monthly meeting to make important decisions, track business performance and formulate measures.

### 2 Audit & Supervisory Board/Audit & Supervisory Board Members

In accordance with the audit policy and audit plans set at Audit & Supervisory Board meetings, Audit & Supervisory Board members conduct audits of the execution of duties by directors by attending important meetings such as Board of Directors meetings and receiving reports solicited from subsidiaries on an as-needed basis.

### 3 Group Management Committee

The Group Management Committee comprises executive officers appointed by the Board of Directors, and in principle, meets regularly twice a month to discuss management strategies, investment projects, and other important matters to support business decision-making. This committee serves as an advisory body that discusses matters resolved by the Board of Directors.

### 4 Nomination Committee

The Nomination Committee has five members, the majority being outside directors. It deliberates on appointment proposals for directors and executive officers and succession plans for the Chief Executive Officer. It then provides reports and recommendations to the Board of Directors with the aim of ensuring objectivity and transparency in nominations of NAGASE's top management.

### 5 Compensation Committee

The Compensation Committee has four members, the majority being outside directors. It enhances the objectivity and transparency of the decision-making process regarding compensation of directors and executive officers by screening the appropriateness of every compensation level and the compensation system to report and make recommendations to the Board of Directors.

### 6 Risk Management & Compliance Committee

The Risk Management & Compliance Committee establishes and strengthens risk management and compliance systems that cover not only legal compliance with also corporate ethics.

### 7 Sustainability Committee

The Sustainability Committee is chaired by the President with employees of the Company or Group companies as members. This committee formulates policies for promoting sustainability throughout the Group, establishes and maintains the promotion system, monitors measures, and conducts educational activities within the Group.

### 8 Internal Control Committee

The Committee deliberates on basic policies for the internal control system, builds frameworks established by the internal control system, and monitors the management of the frameworks to ensure the appropriateness of business operations.

### 9 Security Trade Control Committee

The Security Trade Control Committee ensures compliance with export-related laws and regulations in relation to foreign currency exchange and foreign trade for the Company's trading of cargoes and technologies covered by such laws and regulations.

## Policy for Determining Level of Compensation

NAGASE & CO., LTD. has established a policy for determining overall board member compensation and methods for calculating the amounts of compensation. We have established the Compensation Committee, with outside directors representing the majority of members. The Committee deliberates on the validity of compensation standards and systems, reporting to, and advising the Board of Directors in the process of determining compensation. Our basic policy is to ensure

compensation is appropriate for the role and scope of responsibilities of each board member and motivates them toward sustainable improvement of corporate value. As a basic policy, the standards for percentage according to type of compensation are 50%–70% basic salary, 25%–40% performance-linked compensation, and 5%–10% non-monetary compensation (in cases where 100% of performance targets are achieved).

## Board of Directors Effectiveness Evaluation

### ● Evaluating the Effectiveness of the Board of Directors

The Company analyzes and evaluates the effectiveness of the Board of Directors every year, believing in the importance of improving board effectiveness. It conducts an anonymous survey of all directors and Audit & Supervisory Board members in order to generate more proactive and honest opinions. The Company also eliminates bias by utilizing third-party organizations to collect, tally and analyze the survey results, thereby ensuring transparency in its evaluation methods.

### ● Overview of Effectiveness Evaluation Results

Based on the results, the Company confirmed that its Board of Directors functions effectively, conducting appropriate and timely deliberations and decision-making. The status of items recognized as issues in the previous fiscal year is as follows. To optimize information delivery for prior deliberation of agenda items, the Company made thorough notifications about document quality and distribution in advance through its administrative office, and made improvements. On the other hand, new issues such as the reevaluation of document composition were recognized, and the

Company continues to make improvements. The Company addressed the expansion of feedback and follow-up by reporting to the Board of Directors in cases where follow-up is considered necessary depending on the content of an agenda or project item, and made improvements. On the subject of further discussions to ensure diversity in the composition of the Board of Directors in the longer term, it made improvements by newly appointing one director with specialized knowledge of manufacturing and R&D and by formulating and disclosing a skill matrix. Meanwhile, from the perspective of establishing the Board of Directors meeting as an opportunity for more enhanced consideration and discussion, the Company fully discussed its Group strategy and future vision during the formulation of the medium-term management plan ACE 2.0, but confirmed that there was a need to additionally secure opportunities to discuss its overall direction even after formulating the plan. The Company intends to continue initiatives to improve the effectiveness of the Board of Directors.

## Status of Audit by Audit & Supervisory Board Members

The Audit & Supervisory Board comprises three full-time members (one of whom is an outside member) and one part-time member (who is an outside

member). The Audit & Supervisory Board meets once a month in principle and as necessary to discuss matters. In FY2021, it held 16 meetings.

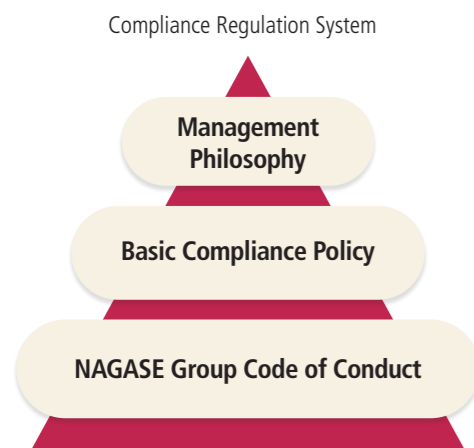
\*Details are available on our website. [https://www.nagase.co.jp/english/sustainability/governance/corporate\\_governance/](https://www.nagase.co.jp/english/sustainability/governance/corporate_governance/)

# Compliance

## Basic Approach

The NAGASE Group values employee education and business activities that follow socially accepted norms and ethics as well as observing laws and regulations, which are becoming more complex and stringent in an increasingly borderless world. Thus, we are committed to compliance that keeps pace with the changing times. To this end, we have established a Risk Management & Compliance Committee to oversee risk management and compliance, and defined its functions and authority. The Risk Management & Compliance Committee operates as a structure with clearly defined roles and responsibilities.

## Components of the Basic Policy and Code of Conduct



### ● Compliance Regulation System and Operation

Increasing the effectiveness of compliance requires clarification of our compliance philosophy, a functional system to implement that philosophy, and the demonstration of concrete action guidelines. The NAGASE Group has established a Basic Compliance Policy based on its core Management Philosophy, and has formulated and implemented the NAGASE Group Code of Conduct, which incorporates the Management Philosophy into more concrete actions, as important rules that all Group executives and employees must uphold.

### Components of the Basic Compliance Policy and Code of Conduct

- 1 Comply with applicable laws and regulations; conform to internal rules
- 2 Eliminate anti-social elements
- 3 Provide useful products and service
- 4 Respect employee's personality and individuality
- 5 Disclose information
- 6 Protect the global environment
- 7 Responsibilities of top management

Our Basic Policy and Code of Conduct are available on the Sustainability section of our website. <https://www.nagase.co.jp/english/sustainability/governance/compliance/>

## Establishing a Compliance System

The NAGASE Group has established consultation and reporting hotlines as well as compliance rules for each Group company and region, and established a system which makes it possible to detect compliance issues that have occurred within the Group in a timely manner and improve and resolve them quickly. It checks to make sure that the system for handling consultations and reports of harassment within the Group is properly functioning, and continually promotes compliance activities that involve taking proactive measures, such as education focused on management and those in administrative positions who lead organizations.

## Fair Business Practice Initiatives

In regard to the Antimonopoly Act, the NAGASE Group actively runs education programs, mainly for our manufacturing companies, to ensure that they are not involved in unfair trade. We are also providing bribery education to Group companies in Japan and overseas in the context of strengthening our approach to the prevention of bribery of foreign public officials under Japan's Unfair Competition Prevention Act and extraterrestrial application of the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act.

Number of participants in compliance training: **2,750**

FY2021

## Response to Security Trade Controls

Trade is the foundation of the NAGASE Group's activities. To conduct appropriate trade in line with laws and regulations as a member of the international society, the Security Trade Control Committee works to understand the export control situation, follows the latest revisions to the Foreign Exchange and Foreign Trade Control Law, and ascertains a detailed picture of export controls across the entire Group, while formulating related Group policies. The Item Compliance Management Council is in charge of directing and educating each business division and Group company in matters and statute updates determined by the Security Trade Control Committee. It is the responsibility of the Item Compliance Management Council to protect the company and affiliates against the risk of illegal acts.

### ● Efforts to Promote Personnel Development

The practical business of security trade controls changes every year. To keep pace with developments, the NAGASE Group encourages its employees—primarily those involved in export operations—to become Security Trade Control Associates by taking the exam offered by the Center for Information on Security Trade Controls (CISTEC).

Qualified Security Trade Control Associates (cumulative): **1,089**

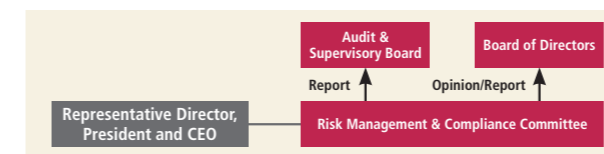
FY2021

# Risk Management

## Basic Policy

The NAGASE Group runs a global and diversified operation, being exposed to various risks associated with the nature of its businesses. We therefore endeavor to gain an accurate assessment of risks related to business activities within and outside the company, take appropriate action, and make improvements so that we can achieve sustainable growth while minimizing harm from emerging risks.

## Risk Management & Compliance System



### ● Managing Corporate Risk

The Risk Management & Compliance Committee analyzes and manages risks in 17 categories consisting of compliance risks and business risks by sharing a Report on the Status of Risk Management Item Control at regularly scheduled committee meetings.

Category	Name of risk	
Compliance risk	Labor dispute	Laws and regulations related to products
	Violation of the Act against Delay in Payment of Subcontract Proceeds, etc. to Subcontractors	Bribery
	Violation of Act Concerning Prohibition of Private Monopolization and Maintenance of Fair Trade	Other compliance issues
Business risk	Product quality	IT
	Vendor	Information security
	Occupational safety and health of Group manufacturing companies	Dealings with antisocial forces
	Natural disasters and pandemics	Food product and cosmetic business
	Overseas safety	Rumors
		Falsifying quality

## Internal Control

The NAGASE Group established an internal control system to build a stable and sustainable corporate foundation for the Group with the aim of enhancing corporate value through corporate activities. The Internal Control Committee, the main entity for advancing internal controls, discusses the basic policy of the internal control system, monitors the construction and operation of frameworks defined under the internal control system, and ensures the propriety of operations.

## Crisis Prevention and Business Continuity Planning (BCP)

Each NAGASE Group company has taken steps to mitigate such risks as those related to natural disasters that could have an impact on the continuity of business activities as well as the safety and lives of employees, and implements countermeasures through the dual wheels of crisis prevention activities and BCP activities. As for crisis prevention activities, we annually conduct one drill that coordinates our major domestic bases of Tokyo, Nagoya, and Osaka, checking the first responses during times of crisis. As for BCPs, each department has formulated a recovery plan to assure delivery to major business partners.

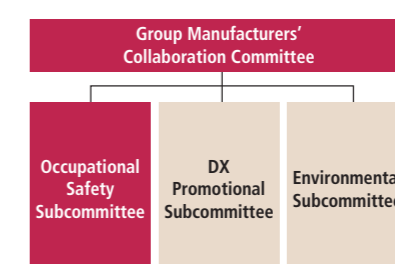
## Product Safety and Quality Control

The NAGASE Group considers product safety and quality control a major social responsibility to provide customers with safe products and build a safe and secure society. According to the NAGASE Group Product Safety Principles, we strive to ensure the safety of products through Group-wide

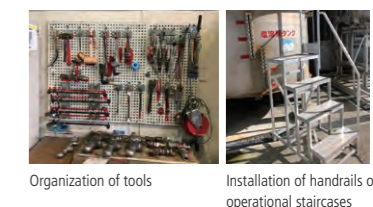
rules and education. In addition, the Legal and Compliance Department provides management of vendors and manufacturing contractors, and Group Manufacturers' Collaboration Committee provides support to Group manufacturing companies and internal education.

## Occupational Safety and Health Management by Group Manufacturers' Collaboration Committee

With regard to the occupational safety and health of Group manufacturing companies, the Group supports improvements to occupational safety and health activities undertaken by each company at the Occupational Safety Subcommittee within Group Manufacturers' Collaboration Committee. It also supports solid implementation of activities and conducts occupational safety evaluations and follow-ups on priority target companies to achieve KPIs.



### Examples of occupational safety evaluation by an industrial safety consultant (Nagase ChemteX Corporation)



Organization of tools

Installation of handrails on operational staircases

# Interview with the Outside Directors

Since June 2022, Mr. Noriaki Horikiri has been appointed as an outside director.

In this interview, Mr. Takahiko Ijichi, Ms. Ritsuko Nonomiya, and Mr. Horikiri were asked about the issues the NAGASE Group must address to realize sustained growth.

### Mr. Horikiri, could you please tell us about your goals as a newly appointed outside director?

**Horikiri** Outside directors, as the name implies, are expected to monitor the governance of a company from an outsider's perspective and apply their experience and knowledge to the company. For many years, I worked in food manufacturing at Kikkoman Corporation. Kikkoman has anchored its brewing and fermentation technologies in biotechnologies. The NAGASE Group has been accumulating technologies in the biotechnology field, so I would like to use my experience to help the NAGASE Group grow.

### Mr. Ijichi and Ms. Nonomiya, what kind of issue awareness do you maintain while attending Board of Directors meetings? Could you talk about the points you think are positive in the last year and the ones you think are continuing challenges in the same time frame?

**Ijichi** Since I was appointed as an outside director two years ago, I've worked to understand the values that the current management emphasizes and their problem awareness in the face of current conditions. I sometimes make forthright comments to get a sense of how serious they feel about issues and their determination. I feel that management is attentive to these types of comments too. I develop a full understanding of the background and discussions that occur before each agenda item is presented to the Board of Directors and I determine whether those measures are really sustainable from an accounting and personnel standpoint. I discuss matters to ensure that "what the numbers really say" is not overlooked.

**Nonomiya** Following the dramatic changes in the business environment due to the COVID-19 pandemic, the agenda items for Board of Directors meetings now cover a lot more ground than they used to. While I may not be familiar with all of the agenda items, I make it a point to do my best to understand each one so that I don't approve a proposal I don't understand or reject one simply because I don't understand it. The NAGASE Group provides outside directors with advance briefings on agenda items, and the content of those briefings is also reported to President Asakura and reflected in the Board of Directors' discussions. I believe that the discussions in advance briefings lead to deeper discussions in the official Board of Directors



Noriaki Horikiri

"I have the impression that the key to sustained growth will be to grow by repeatedly choosing good businesses and rejecting bad ones."

meetings and help to enhance the directors' effectiveness.

**Ijichi** Under President Asakura's leadership, the NAGASE Group Board of Directors is able to hold free and open-minded, in-depth and interactive discussions. Young employees who brief the Board members on projects properly express their own opinions, and the chairman and vice chairman pay attention to those briefings as well. Since the announcement of the medium-term management plan **ACE 2.0** in 2021, I've felt that top management is strongly determined to shed the clothes of the old NAGASE & CO., LTD., so to speak, and transform the company at any cost. Over the past year, I've also noticed that their determination has permeated the whole company as a result of discussions in Board of Directors meetings. If I had to raise a concern, it would be horizontal coordination within the organization. Because the NAGASE Group values business division autonomy, the vertical dimension is well-coordinated. However, in order to successfully advance global business expansion in the future, it will be critical to strengthen the functional dimension in the horizontal direction even further. For example, on the corporate level, functions like human resources, accounting, quality, and safety should be reinforced. Doing so is difficult because it involves corporate culture, but I believe it is a core issue.

**Nonomiya** The NAGASE Group has an excellent corporate culture and DNA, and I'm particularly impressed that this culture and DNA have been passed down to younger generations of employees. Furthermore, I believe the company is forthright and honest about the need for transformation. That said, while it is important to share each other's values, it can be problematic because if you see things from the same perspective, you can only express the same opinion. The appointment of outside directors, as well as promoting the success of women and diversity in the workplace, are crucial. However, I believe that a key consideration in accelerating growth is

how many people with opposing viewpoints can be brought together and whether they can discuss their differences.

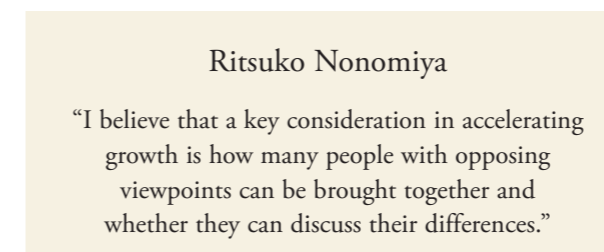
**Horikiri** Similarly to Kikkoman, which has a 300-year history, the NAGASE Group is a family-run company with a nearly 200-year history. The greatest risk to the governance of family-run companies is succession planning, and how to interact with the founding family. In terms of appointing a person in charge of management who is appropriate for the times, I believe that the NAGASE Group is addressing this challenge under President Asakura's leadership by distinguishing between what should and should not be changed. With mounting calls to strengthen governance in recent years, outside directors have assumed increased roles and responsibilities. However, governance must not succumb to empty formalism. We should consider more than just the number of outside directors, but also the positioning of outside directors in a substantive manner.

**Ijichi** The NAGASE Group has stood apart from the social trend of emphasizing the SDGs and ESG. I believe that the Group decides what it should do on a case-by-case basis and acts accordingly. I'm impressed by the Group's stance of considering what is truly in the company's best interests and making decisions based on that, rather than getting caught up in fads in society.

**Nonomiya** People will demand that companies maintain a sense of balance as they strengthen their governance in the future. The good thing about the NAGASE Group's governance, in my opinion, is that it is not preoccupied with formalities.

### Could you please discuss the main points the NAGASE Group needs to address to support its growth?

**Nonomiya** In order to accelerate growth, it is necessary to correctly understand which factors pose risks. Outside directors play a role in providing monitoring. To help the company grow positively, they should ideally be able to support the company as it ambitiously works toward the next stage of growth, while also understanding the risks that the company faces. They shouldn't just tell it to not to do this or that. I read the interim report on digital transformation (DX) and gave it high marks. In addition to early investments and the



Ritsuko Nonomiya

"I believe that a key consideration in accelerating growth is how many people with opposing viewpoints can be brought together and whether they can discuss their differences."



Takahiko Ijichi

"By considering DX to be a functional dimension, I believe that the NAGASE Group can transform itself into an organization capable of integrating operations across divisions."

CEO's commitment, the company has incorporated the advice of external experts and is implementing a global roll-out. From the standpoint of an outside director, these factors demonstrate that the company is making a very good effort. In terms of M&A, I'm pleased that the company has achieved additional growth by making a significant investment in the Prinova Group LLC. With that said, I believe that portfolio management is a critical issue that management must address continuously.

**Ijichi** The first point is that the company has set clear targets in **ACE 2.0**, so all that remains is to execute what needs to be done thoughtfully in accordance with its specific roadmap while implementing PDCA cycles. If the company is unable to complete this task, the vision we have outlined will not be realized, but I think the NAGASE Group can execute measures properly. The second point is that I would like the NAGASE Group to consider DX to be a functional dimension. President Asakura has made a top-down decision to appoint talented human resources in each division as DX leaders. As a result, I believe that the NAGASE Group can transform itself into an organization capable of integrating operations across divisions. In order to transform the NAGASE Group's culture and business model in earnest, I would like the company to see DX as more than just a technology and develop it into a cross-organizational capability with a functional dimension.

**Horikiri** I believe that determining how it can horizontally integrate individual businesses and turn them into growth drivers is a key priority for the NAGASE Group, which has many business fields. As Ms. Nonomiya mentioned, portfolio management will also be crucial. I have the impression that the key to sustained growth will be to grow by constantly repeating the process of choosing good businesses and rejecting bad ones.

**Ijichi** The brand power of the NAGASE name, in my opinion, is highly significant. When considering the next 100 years, branding strategy will be critical, and I hope that the company will use the NAGASE name skillfully.

#### Profile

##### Takahiko Ichiji

After a long career in accounting, finance and human resources with Toyota Motor Corporation, Takahiko Ichiji has served as an outside director of NAGASE since 2020.

##### Ritsuko Nonomiya

An M&A advisory specialist whose career has mainly been in the U.S. Ritsuko Nonomiya has been an outside director of NAGASE since 2020.

##### Noriaki Horikiri

Noriaki Horikiri served as a director of Kikkoman Corporation and has extensive expertise in corporate management, becoming an outside director of NAGASE in 2022.

# Creating Environmental Value

## Basic Approach

Currently, changes in the global environment are pressuring companies and individuals around the world to make big decisions. The NAGASE Group helps realize a sustainable society by actively working to solve environmental problems, including by promoting a carbon-neutral society, realizing a recycling society, preventing pollution, preserving biodiversity, and efficiently using water.

## NAGASE Group Environmental Policy

### 1 Comply with all environmental laws, regulations and other rules

We will observe all environmental laws, municipal bylaws, environmental regulations and other rules as we conduct our business activities.

### 2 Develop businesses that give full consideration to environmental issues

In pursuing business activities, we will conduct activities that give consideration to the conservation of the natural ecosystem, local environment and global environment to the greatest extent technically and economically possible.

### 3 Fulfill our responsibilities as a good corporate citizen

As a good corporate citizen, we will work together with public institutions, industries, and local communities to promote environmental conservation measures that are suitable for the NAGASE Group.

### 4 Establishment of environmental management systems and continuous improvement

The NAGASE Group has set environmental targets to achieve our environmental policies. Further, we have established and operate an environmental management system, striving for continuous improvement.

### 5 Disclose and make the relevant parties fully aware of our Environmental Policy

We will disclose our Environmental Policy to the public and make all who work for the NAGASE Group fully aware of its contents.

## Environmental Management and Internal Projects

### ● ISO/Environmental Management Structure

The Risk Management & Compliance Committee (Environmental ISO Management General Secretariat) provides advice and support for acquiring certification for ISO 14001, an international standard for environmental management systems. Today, NAGASE & CO., LTD. operates an environmental ISO organization that includes six other Group companies, which will continue activities to improve environmental management systems going forward.

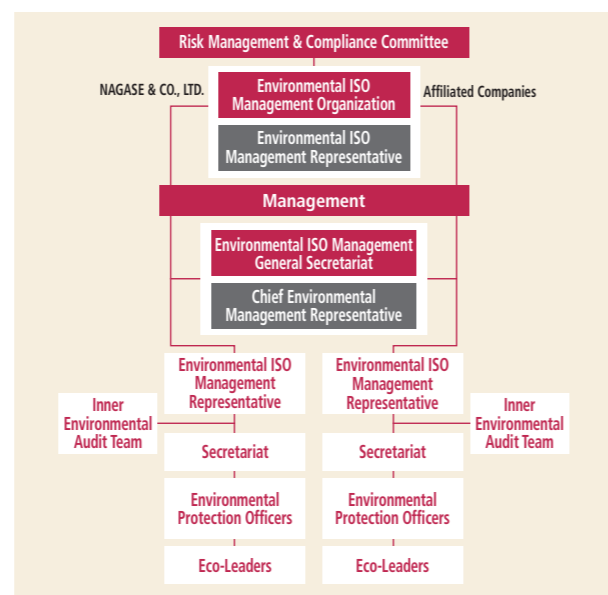
Note: Information on Group companies that have obtained ISO 14001 certification is published on our website.  
<https://www.nagase.co.jp/english/sustainability/environment/environmental-management/>

### ● Carbon-Neutral Project

The Carbon-Neutral Project was established as a project within the Sustainability Committee in July 2021. The project held discussions centered on expressing support for TCFD and setting and disclosing long-term climate change targets. The analysis of risks and opportunities that emerged from these discussions were reported to employees in a climate change briefing held in November 2021, and a climate change workshop led by representatives from business departments was held in December 2021. Participants in the workshop shared and discussed issues that should be addressed on a Group-wide basis, with a focus on opportunities related to climate change.

### ● Group Manufacturers' Collaboration Committee (Environmental Subcommittee)

In the Environmental Subcommittee established within the Group Manufacturers' Collaboration Committee, discussions are held on visualizing and setting KPIs for various environmental items (including Scope 1, 2, and 3).



Project Name	FY2021 Activities
Carbon-Neutral Project	<p><b>Purpose</b> Develop medium- and long-term policy proposals (for 2050, 2030 and 2025) on carbon neutrality (targets and measures, etc.)</p> <p><b>Progress</b> Expressed support for TCFD (January 2022) Developed long-term targets and KPIs</p>
Group Manufacturers' Collaboration Committee (Environmental Subcommittee)	<p><b>Purpose</b> Support environmental measures undertaken by each company, such as exchanging information and setting targets</p> <p><b>Progress</b> Conducted GHG reduction simulation and prepared scenarios Shared the results of questionnaires on environmental items</p>

## Sustainability Data at a Glance

About data boundaries Group: NAGASE & CO., LTD., Nagase ChemteX Corporation, Hayashibara Co., Ltd. (Coverage: 41%) Non-consolidated: NAGASE & CO., LTD. (Coverage: 62%)

Disclosed in July 2022  
Revised January 2023

### [Group] Greenhouse gas emissions in our business activities

Item (t-CO <sub>2</sub> )		FY2019	FY2020	FY2021	
<b>Direct greenhouse gas emissions (Scope 1)</b>		<b>32,831</b>	<b>30,538</b>	<b>33,132</b>	
<b>Indirect greenhouse gas emissions (Scope 2)</b>	Location reference	32,057	30,334	30,814	
	Market reference	35,976	33,105	27,057	
	Total	<b>3,064,973</b>	<b>2,808,895</b>	<b>3,418,695</b>	
<b>Greenhouse gas emissions in the supply chain (Scope 3)</b>	Breakdown	Purchased products and services	2,978,809	2,715,238	3,328,785
		Capital goods	22,762	30,492	17,489
		Activities related to fuel and energy not included in Scopes 1 and 2	12,242	11,513	13,766
		Transportation/distribution (upstream)	39,903	42,928	46,606
		Business waste	5,250	3,474	3,953
		Business travel	676	577	257
		Commuting of employees	1,096	716	722
		Leased assets (upstream)	—	—	0
		Transportation/distribution (downstream)	4,070	3,803	6,980
		Processing of sold products	—	—	0
		Use of sold products	—	—	0
		Disposal of sold products	67	61	75
		Leased assets (downstream)	98	93	62
		Franchise	—	—	0
Investment	—	—	0		

### [Group] Use of water resources

Item	Classification	FY2019	FY2020	FY2021
Total water intake (ML)	Water supply and industrial water	1,338	1,223	1,199
	Well water	2,179	2,412	2,418
	Total	3,516	3,635	3,616
Total water discharge (ML)	River	3,136	3,215	3,299
	Sea	0	0	0
	Sewage	232	273	189
	Other	0	0	0
Total		3,368	3,488	3,488
Total consumption (ML)	Total	149	147	129

### [Non-consolidated] Amount of raw material consumption

Item	FY2019	FY2020	FY2021
Amount of copy paper used (sheets)	4,382,500	1,526,750	1,382,250
<b>[Group] Amount of general industrial waste</b>			
Amount of general industrial waste (t)	13,802	8,561	9,017
<b>[Group] Amount of special controlled industrial waste</b>			
Amount of special controlled industrial waste (t)	4,452	4,597	3,950
<b>[Non-consolidated] Waste and recycling rate (for offices)</b>			
Amount of waste (t)	175	118	109.7
Amount of recycled waste (t)	142	97	92.9
Recycling rate (%)	81.4	82.4	84.7

\* The Scope 1, 2, 3 data we disclose is third-party guaranteed by SOCOTEC Certification Japan to enhance the reliability of the information.

## Disclosure on Sustainability Website

The data listed below is disclosed on the company's website. For details on the data, please visit the company's website.

<https://www.nagase.co.jp/english/sustainability/environment/>

### Data Disclosed on Website

<b>Climate Change</b>	[Group] Greenhouse gas emissions in our business activities [Group] Breakdown of greenhouse gas emissions by type (Scope 1)	[Group] Energy usage [Group] Electricity Consumption [Group] Renewable Energy Generation [Group manufacturing companies] Basic unit for production (t-CO <sub>2</sub> /Converted production volume t)
<b>Biodiversity</b>	[Non-consolidated] Sustainable palm oil procurement performance data	
<b>Prevention of Pollution and Resource Circulation</b>	[Non-consolidated] Amount of raw material consumption [Group] Amount of general industrial waste [Group] Amount of special controlled industrial waste [Non-consolidated] Waste and recycling rate (for offices)	[Group manufacturing companies] Amount of raw materials consumption [Group manufacturing companies] VOC (air pollutant) emissions [Group] Environment-related fines and penalties
<b>Chemicals Management</b>	[Group] Reported quantity of PRTR substances	
<b>Water Resources</b>	[Group] Use of water resources [Group manufacturing companies] Basic unit of water used in food production (basic unit of clean water for main products (m <sup>3</sup> /t))	

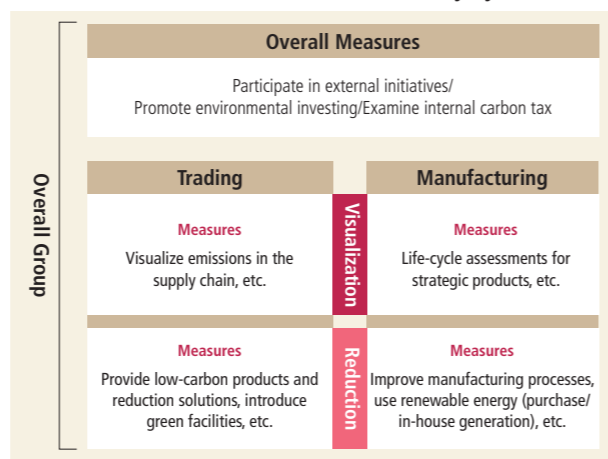
## Carbon Neutral Declaration

### ● NAGASE Group Carbon Neutral Declaration

The NAGASE Group, as a global enterprise, recognizes that addressing climate change is an important issue that the entire Group should deal with. In January 2022, the company established its policy on realizing carbon neutrality by 2050 in the NAGASE Group Carbon Neutral Declaration. The NAGASE Group possesses trading functions as well as manufacturing and processing functions. Accordingly, the Group has classified its activities into four quadrants based on the two dimensions of trading business and manufacturing business and visualization and reduction (see chart to the right), and is working to achieve the following targets.

<b>By 2050</b> Achieve carbon neutrality with net zero GHG emissions (Scope 1 and 2)	<b>By 2030</b> Reduce Scope 1 and 2 emissions by 46% (compared to 2013) Reduce Scope 3 emissions by 12.3% or more (compared to 2020)
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### Initiatives to Realize Carbon Neutrality by 2050



## KPIs Related to Carbon Neutrality in ACE 2.0

Theme	KPI		
Carbon neutrality	Scope	Consolidated	Scope 1 and 2 reduction rate of 37% or more (compared to 2013)
		NAGASE & CO., LTD. (non-consolidated)	Reduce emissions through the generation or purchase of renewable energy of 35,000 tons or more (cumulative total)
			Scope 2 zero emissions

## Specific Measures for the Carbon Neutral Declaration

In the Carbon-Neutral Project, the Group is working to realize its carbon neutrality through overall measures and four specific measures.

Measures	Specific Activities
<b>Overall Measures</b> Participation in external initiatives Promote environmental investing, examine internal carbon tax	Expressed support for TCFD (January 2022) and issued Sustainability Linked Bonds (June 2022)
<b>Measures</b> Visualize emissions in the supply chain, etc.	Promote widespread adoption of zeroboard, a calculation and visualization tool for greenhouse gas emissions and endorse the GX League Basic Concept
<b>Measures</b> Calculate life cycle assessments for strategic products, etc.	Begin to calculate life cycle assessments for semiconductor-related products
<b>Measures</b> Provide low carbon products and reduction solutions, introduce green facilities, etc.	Endorse the GX League Basic Concept and conduct demonstration trials of joint logistics services for chemicals
<b>Measures</b> Improve manufacturing processes, use renewable energy (Purchase/in-house generation), etc.	Share examples of activities in the Group Manufacturers' Collaboration Committee and invest in solar power generation facilities at Group manufacturing sites (around ¥0.5 to ¥1.0 billion)

### ● Calculating and Visualizing Greenhouse Gas Emissions in the Supply Chain Using zeroboard

Zeroboard Inc. and NAGASE & CO., LTD. have agreed on a business alliance for sales and expansion of zeroboard, a cloud service developed by Zeroboard Inc. for calculating and visualizing greenhouse gas emissions to support the decarbonization of companies. NAGASE sells the service mainly to the chemical industry, collects information on customer needs, and develops and provides GHG emissions reduction solutions.

For details, see "[Feature] Contributions Toward Decarbonization in the Supply Chain" on pages 44 and 45.

### ● FTSE Blossom Japan Sector Relative Index

NAGASE & CO., LTD. was selected as a component of the FTSE Blossom Japan Sector Relative Index, in recognition of factors including its initiatives related to climate governance and climate change.



**FTSE Blossom Japan Sector Relative Index**

### ● Issuance of Sustainability Linked Bonds

In June 2022, NAGASE & CO., LTD. issued Sustainability Linked Bonds, which are bonds linked to progress made toward achieving the NAGASE Group Carbon Neutral Declaration.

## TCFD Information Disclosure

In January 2022, the NAGASE Group expressed its support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), which was created by the Financial Stability Board. The Group discloses information through its integrated report and

sustainability website in accordance with disclosure recommendations by the TCFD in the thematic areas of governance, strategy, risk management and metrics and targets.



## Governance

### ● The board's oversight of climate-related risks and opportunities

The NAGASE Group recognizes climate change as one of its important management issues. Under the oversight of the Board of Directors, the Group has established the Sustainability Committee and the Risk Management & Compliance Committee, in which it considers and discusses policies, issues and other matters. The NAGASE Group Carbon Neutral Declaration and the Group's expression of support for TCFD

were approved by the Board of Directors in fiscal 2021. The activity policy based on this declaration was laid out in the form of non-financial targets in ACE 2.0, and single-year results are disclosed. In this manner, the Group has put in place a structure in which the Board of Directors provides regular and direct oversight of the Group's efforts to address climate change.

## Strategy

### ● Risks and opportunities

In fiscal 2021, a materiality assessment of risks and opportunities was performed as part of the NAGASE Group's climate change measures and strategy. The following material risks and opportunities for the NAGASE Group have been identified from among a wide range of climate change-related risks and opportunities.

#### Transition Risks

Classification	Description	Degree of Impact
Policy and Legal	<ul style="list-style-type: none"> <li>Regulations for carbon pricing, emissions trading, etc. (materials manufacturers with large GHG emissions may pass their costs onto prices, and this impact is being considered)</li> <li>Costs to address relevant laws and regulations (Act on Promotion of Global Warming Countermeasures, Act on Promotion of Resource Circulation for Plastic Materials, stricter regulations on petrochemical products, etc.)</li> </ul>	Large
Market and Technology	<ul style="list-style-type: none"> <li>Consumer preferences for petrochemical products decline, resulting in lower market demand and sales</li> <li>Delays in addressing the transition to environmentally friendly products as the era of mass production, mass consumption and mass disposal ends</li> </ul>	Large
Reputation	<ul style="list-style-type: none"> <li>Declining trust from stakeholders and external evaluations as a result of a lack of activities and information disclosure</li> </ul>	Small

#### Physical Risks

Classification	Description	Degree of Impact
Acute	<ul style="list-style-type: none"> <li>Supply chain interruptions and stagnation in sales and production activities due to major natural disasters</li> <li>Water outages caused by floods or droughts</li> <li>Increasing energy for temperature control caused by climate warming or cooling</li> </ul>	Large
Chronic	<ul style="list-style-type: none"> <li>Serious impacts on business sites and surroundings in coastal areas due to rising sea levels (measures to address the risk of flooding or tsunamis)</li> <li>Rising market prices in commodity procurement</li> <li>Additional measures and reduced labor productivity to protect the lives and safety of employees</li> </ul>	Large

#### Opportunities

Classification	Description	Degree of Impact
Products and Services	<ul style="list-style-type: none"> <li>Provide alternative materials that help to improve energy efficiency (lighter weight, thermal insulation and heat dissipation, etc.)</li> <li>Develop resource circulation-oriented materials (low carbon, biomaterial or biodegradable, recyclable)</li> <li>Provide products with high environmental value, such as disclosure of life cycle assessments (visualize emissions for each product)</li> <li>Provide energy reduction solutions for electricity, gas, etc.</li> <li>Provide emissions visualization and reduction solutions in the supply chain</li> <li>Provide new food manufacturing technologies and materials that help to reduce global environmental impact, such as plant-based proteins and insect foods</li> </ul>	Large
Markets	<ul style="list-style-type: none"> <li>Materials markets that require emissions reductions for raw materials (B-to-B overall)</li> <li>Product markets that require emissions reductions for end products (mobility, office appliances, etc.)</li> <li>Consumer markets in which rising temperatures are expected to create demand (skincare, daily necessities, home electric appliances, etc.)</li> <li>Emerging markets to be generated by changes in the behavior of consumers with new values (meat substitutes, circular products, products with emissions disclosures)</li> </ul>	Large

## Risk Management

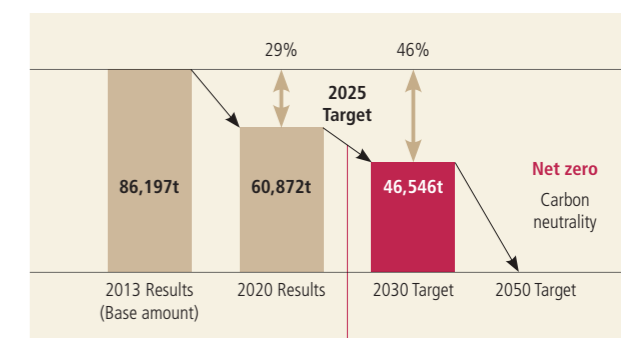
### ● Risk Management

Under the Risk Management & Compliance Committee, we operate an environmental ISO management organization and conduct continuous ISO14001 environmental management system activities. The Sustainability Committee shares business risks and opportunities arising from climate change and measures to address those risks and opportunities, along with managing progress.

## Metrics and Targets

The NAGASE Group seeks to achieve carbon neutrality with net zero greenhouse gas emissions by 2050 (Scope 1 and 2). By 2030, the Group aims to reduce Scope 1 and 2 emissions by 46% by 2030 (compared to 2013) and Scope 3 emissions by 12.3% or more (compared to 2020).

Going forward, the Group will consider updating its Scope 3 target based on dialogue with stakeholders in its supply chain.



Non-Financial Targets of the Medium-Term Management Plan ACE 2.0	
Consolidated	<ul style="list-style-type: none"> <li>Scope 1 and 2 reduction rate of 37% or more (compared to 2013)</li> <li>Reduce emissions through the generation or purchase of renewable energy of 35,000 tons or more (cumulative total)</li> </ul>
NAGASE & CO., LTD. (non-consolidated)	<ul style="list-style-type: none"> <li>Scope 2 zero emissions</li> </ul>

[Feature]

# Contributions Toward Decarbonization in the Supply Chain

## Supporting Companies' GHG Emissions Calculations and Industry-wide Decarbonization

The NAGASE Group is working in collaboration with Zeroboard Inc. to achieve decarbonization throughout the supply chain by leveraging the network it has established in the chemical industry, including the development of a package to support GHG emissions calculations.

### Quantifying GHG Emissions in the Entire Supply Chain Poses a Challenge to Decarbonization

As carbon neutral initiatives are picking up steam worldwide, companies can no longer delay the transition to decarbonized business operations. Companies are expected not only to disclose and reduce their own direct GHG emission volumes and reduction targets, but also data on the entire supply chain related to their business activities.

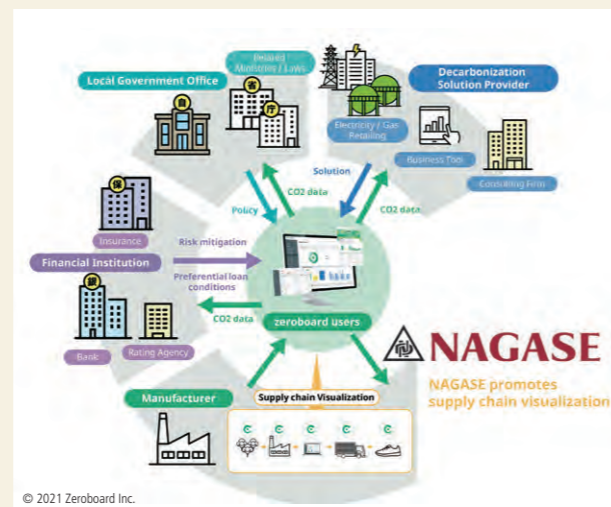
Companies are faced with issues related to their own GHG emissions (Scope 1), such as the labor burden of collecting data from multiple locations and the cost of implementing specialized solutions. Companies also have difficulty acquiring primary data (Basic unit of emissions for each of the suppliers' products and services) on emissions throughout the supply chain (Scope 3). In addition, supply chains in the chemical industry are extremely long and span across the globe, making Scope 3 emissions even more difficult to track.

### Supporting GHG Emissions Calculation and Visualization in Collaboration with Zeroboard Inc.

In order to solve these issues, NAGASE & CO., LTD. has formed a business partnership with Zeroboard Inc. from September 2021. Together they have launched an initiative to support the decarbonization of companies primarily in the chemical industry through sales of zeroboard, a cloud service that calculates and visualizes GHG emissions.

The first step to establishing GHG reduction measures is to know the volume of GHG the company emits. The NAGASE Group supports the shift to corporate decarbonization by helping companies that have

adopted zeroboard to visualize their GHG emissions, working together to consider reduction measures, and using on-site feedback to develop and provide concrete solutions for reducing emissions. In this way the NAGASE Group's unique strengths are put to use, including the expertise it has cultivated in the chemical industry since its founding and the strong relationships with each of its business partners from upstream to downstream of the supply chain.



The NAGASE Group's Collaboration with Zeroboard Inc.

## The NAGASE Group's Carbon Neutrality

In January 2022, the NAGASE Group announced its Group-wide commitment to carbon neutrality and set the following targets.

### Targets for 2030

- Reduce Scope 1 and 2 by 46% (compared to 2013)
- Reduce Scope 3 by 12.3% or more (compared to 2020)

Specific numerical targets up to Scope 3 are highly difficult to achieve. In working with customers to reduce GHG emissions along the supply chain, we will first set high targets for our own GHG emissions calculations, with the aim of becoming a role model for decarbonization in the chemical industry.

## zeroboard: A Cloud Service that Calculates and Visualizes GHG Emissions

In addition to streamlining the calculation of companies' GHG emissions, zeroboard also calculates and visualizes GHG emissions stemming from corporate activities and their supply chains based on the categories of the GHG Protocol, which are international standards. In addition to linking and sharing GHG emissions data among user companies along the supply chain, zeroboard also helps with labor burden and cost issues by providing an easy-to-use interface and offering low-cost plans, making it simple for SMEs to adopt the service.



### Interview

## Speedy Sharing of Business Partners' Opinions



Shoichi Furukawa

Environmental Solutions Section, Specialty Chemicals Department

### How do you support business partners' GHG emissions calculation and visualization?

Calculating GHG emissions along the supply chain is a challenge for many companies because the data collection and calculation process is extremely complex and difficult for one company to undertake alone. The NAGASE Group has a network and expertise in the chemical industry that allows it to engage in dialogue with many companies from upstream to downstream in the supply chain. It harnesses these strengths to help business partners visualize their GHG emissions. Our internal sales team is a cross-departmental team composed mainly of young employees, and we have built a system that enables us to quickly share honest opinions from our business partners in various industries and supply chains, which serves as a driving force both inside and outside the Company.

### How did your business partners react to zeroboard?

zeroboard is not limited to calculating GHG emissions in the supply chain. In the future, it will enable companies along the supply chain to work together and facilitate Scope 3 reduction efforts by linking

data between user companies. The product version of zeroboard was launched in January 2022 and has already been adopted by many companies. We have received comments from companies in a wide range of industries, including fragrances/cosmetics, paints, automotive parts, and chemical materials, saying that they were able to visualize their GHG emissions smoothly. Companies also voiced their expectations for the NAGASE Group to continue demonstrating its strengths and help them reduce their GHG emissions.

### What is your outlook for the future?

Our business partners face many diverse challenges in the visualization of GHG emissions. We will continue to propose appropriate solutions to the issues faced by our business partners, both within the Group and in collaboration with Zeroboard Inc. In this rapidly changing world, NAGASE will not only support the visualization and reduction of GHG emissions, but will also promote environmental responses to biodiversity and the water environment. We will deliver value that only NAGASE can provide as a "guide runner" alongside our business partners, finding solutions to all their problems.



NAGASE's zeroboard promotion team members

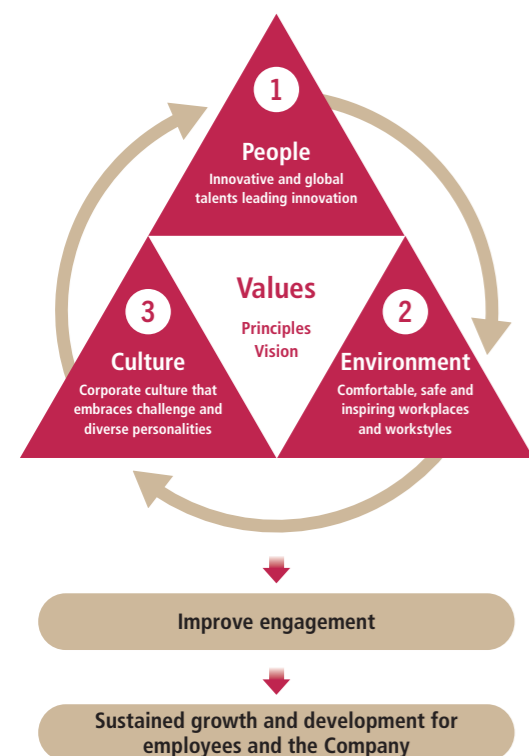


# Creating Social Value

## Basic Policy

The NAGASE Group solves various social issues through innovation to help realize a sustainable society. Diversity is vital for developing human resources that drive innovation and provide an agile response to changes in the environment. It is one of our key corporate strategies. We are also implementing cross-departmental initiatives to develop new businesses and advance activities that lead to solutions for social issues and innovation.

## Human Resource Development to Drive Innovation



1. People	
<b>Talent Management</b> Acquire and develop talents and place them in the right roles <ul style="list-style-type: none"> <li>Visualize global personnel portfolio</li> <li>Acquire and strengthen talents in conjunction with business strategy</li> </ul>	<b>Health and Productivity Management</b> Ensure that employees are in good physical and mental health <ul style="list-style-type: none"> <li>Visualize and strengthen analysis of employees' health condition and execute new measures</li> </ul>
2. Environment	
<b>Work Style Innovation</b>	
<b>Offices where employees can exercise their creativity</b> <ul style="list-style-type: none"> <li>Establish a new workplace vision where strong individuals work together with a sense of unity</li> </ul>	<b>Work styles independent of time or place</b> <ul style="list-style-type: none"> <li>Introduce effective and efficient work styles such as working from home and staggered shifts</li> </ul>
3. Culture	
<b>Diversity &amp; Inclusion</b> Diversification of personnel <ul style="list-style-type: none"> <li>Improve ratio of women, non-Japanese, and highly specialized personnel in Japan</li> </ul>	<b>Human Resources Policy</b> Management decisions focused on both improving capital efficiency and challenging new businesses <ul style="list-style-type: none"> <li>Revision of the executive compensation system</li> </ul>

## Employee Engagement Improvement Project

The NAGASE Group defines employee engagement as a relationship between company (organization) and employee built on mutual respect and mutual motivation and considers it essential for the Group's sustainable growth. In September 2021, the first year of our medium-term management plan ACE 2.0, NAGASE & CO., LTD. conducted an employee survey across 16 categories related to the Company, supervisors and the workplace. The survey was designed to identify and improve the state of employee engagement.

Whole Company	1 Company Base	Supervisor	1 Explanations
	2 Philosophy		2 Awareness
	3 Field		3 Decisions
	4 Job		4 Support
	5 Organization	Team	1 Customer
	6 People		2 Integration
	7 Facilities		3 Innovation
	8 Conditions		4 Sharing

Source: Link and Motivation Inc.

## Key Performance Indicators (KPIs) Related to Improving Employee Engagement in ACE 2.0

Category	KPIs
Improve employee engagement*	Target
	Group companies: Percentage of companies conducting regular engagement surveys: 100%
	NAGASE (Non-Consolidated): Total score on engagement survey: 60 or above

\* Calculated for consolidated subsidiaries, treating the Prinova Group as a single company. FY2021: 41% of Group companies conducted a survey (24 companies). NAGASE (Non-Consolidated) engagement survey score: 52.4

## NAGASE by the Numbers Creating Social Value with Human Resources as the Focal Point

Number of Group employees and promoting the advancement of women

Number of Group employees

**7,113**

The NAGASE Group has 7,113 employees on a consolidated basis, with a diversity of employees with different genders, nationalities, ages, senses of values and lifestyles. Of these employees, 805 work for NAGASE & CO., LTD., of whom 37.14% are women, and the percentage of woman in management is 4.56%. The NAGASE Group regards the empowerment of women as an important initiative to promote diversity. We will continue to hire women as career-track employees, promote them to management and strive to expand their opportunities to advance, while also moving forward on fostering a corporate climate where women can continue to work through the likes of systems for childbirth and childcare.

Creating organizations where diverse human resources can advance

Mid-career recruitment ratio (2021)

**54%**

In recent years, the number of national staff at overseas Group companies grew from 2,441 in 2017 to 3,021 in 2021, and the NAGASE Group aims to promote ideal human resource strategies by visualizing its global human resource portfolio. We are also proactively engaged in mid-career recruitment, with 54% of those hired by NAGASE & CO., LTD. in 2021 in mid-career. In addition to attracting outstanding human resources, we are also strengthening onboarding (a system supporting the process of hired employees adjusting to the organization and department and demonstrating their abilities as early as possible) to support the empowerment of diverse human resources.

Building an efficient, creative and healthy work environment

Adopting Activity-Based Working (ABW) Since August 2022

PROJECT BRIDGE is to update offices and work styles in conjunction with the reconstruction of the Tokyo Head Office of NAGASE & Co., Ltd. While the office is being rebuilt, temporary facilities are in place, and Activity-Based Working (ABW) was adopted from August 2022, enabling employees to choose where to work depending on that day's duties and circumstances. In January 2022, we also adopted a free-dress code (where employees can choose all year-round to wear their ideal clothes to match that day's duties). The project confirms the importance of the physical and mental health of employees and their families, who are NAGASE's assets, and promotes discussions and initiatives to build a comfortable work environment for diverse employees.

Occupational health and safety in Group manufacturing companies

Frequency rate	Frequency of work-related accidents
<b>1.26%</b>	<b>1.35</b>

Occupational health and safety initiatives are a crucial issue. The Group Manufacturers' Collaboration Committee (MCC) has set up an occupational health and safety subcommittee that supports occupational health and safety initiatives at each company. The subcommittee engages in such activities as occupational safety diagnoses by experts, follow-up diagnoses and seminars to raise awareness and knowledge that will lead to improved on-site capabilities. Group manufacturing company occupational health and safety data showed an accident frequency rate of 1.26% and frequency of work-related accidents of 1.35 for FY2021.

NAGASE Technical Vitality Program (NTV)

Total number of NTV participants

**94**

The NAGASE Group launched the NAGASE Technical Vitality Program (NTV) to strengthen in-house collaboration in R&D activities and to develop human resources with a long-term perspective. In its second phase from 2020-2021, the program undertook activities under cutting edge technology themes including AI, IoT, healthcare, and biomimetics in five working groups. The third phase started in August 2021 with the aim to create the seed of a next-generation business like the SaaS-based materials informatics service TABRASA™, which has already launched on the market. In total, 94 Group employees have developed new technologies or new products, or disseminated technological information to create new business.

## Disclosure on the Sustainability Site

NAGASE discloses the following data on our corporate website. See the NAGASE website for details on the data.

<https://www.nagase.co.jp/english/sustainability/social/>

### Data Being Disclosed

Data Category	Disclosed Data
Data on Labor Practices	[Consolidated] Employees by segment [Non-consolidated] Gender, age structure and attributes of employees [Non-consolidated] Number of new graduates and mid-career hires [Non-consolidated] Announcement of mid-career hiring ratio based on the Act on Comprehensively Advancing Labor Measures [Non-consolidated] Retention rate after three years of hiring new graduates [Non-consolidated] Voluntary turnover of full-time employees [Non-consolidated] Average years of service [Non-consolidated] Average annual salary [Non-consolidated] Total annual working hours [Non-consolidated] Annual paid leave [Non-consolidated] Employment of persons with disabilities [Non-consolidated] Childbirth and childcare support system
Human Resource Development	[Non-consolidated] Participants in human resource development training
Occupational Health and Safety	[Non-consolidated] Occupational Health and Safety (frequency rate, frequency of work-related accidents, etc.) [Group manufacturing companies] Occupational Health and Safety (frequency rate, frequency of work-related accidents, etc.) [Group] Training on safety and health
Respect for Human Rights and Community	[Group] Total amount of community support

[Feature]

# NAGASE's Organizations to Promote DX

## Promote Placing Talents in the Right Roles Globally and Build Workplaces That Empower Diverse Human Resources

One of the basic policies of the NAGASE Group's medium-term management plan **ACE 2.0** is "corporate functions supporting reforms." To "accelerate DX further," one of the measures under the policy, we established the Global Marketing Division Philadelphia (GMD-P) in Philadelphia in the U.S. where human resources in the digital and marketing fields are abundant, and are deploying highly specialized human resources globally.

GMD-P was established in 2020 with the purpose of promoting DX in the NAGASE Group. GMD-P recruited experienced DX people in the U.S. and started as a 7-member organization that now has about 35 members. Including the members of an organization in Japan, it creates a marketing department of about 40 people who work in collaboration with the Marketing Promotion Department based in Tokyo, takes charge of building NAGASE's platform. GMD-P, which aims to place highly specialized talents in the right roles, is implementing the **ACE 2.0** goal to "create a foundation for empowering diverse personnel," and is an organization

taking the lead in strengthening human resources, which is the key to the NAGASE Group's growth going forward.



### Interview

**Timothy Williams**

Manager of Global Marketing,  
Marketing Promotion Department

GMD-P is a transformational organization with the mission to use digital technology as a tool to further bolster the NAGASE Group's strengths. The Global Marketing Division that I oversee comprises two organization that collaborate organically with the Philadelphia office based in Philadelphia in the U.S., and the Tokyo office (Asia Management Section) based in Tokyo.

GMD-P members specialize in areas such as marketing, technology, partner management and branding, but when we're hiring, in addition to these specialized skills, we also recruit human resources based on whether they have attributes such as an ability to think critically, willingness to change, ability to plan strategies, technical expertise, creativity and analytical perspective.

Accelerating DX while understanding the NAGASE Group's complex business domains and corporate functions such as a trading company, manufacturer and researcher is a mission with a high degree of difficulty. We need to brainstorm over these various ideas from diverse perspectives to be able to move these

innovations forward. Consequently, GMD-P has been a team rich in individuality since its initial establishment. Members are comprised from all sorts of cultural backgrounds, ages and living areas, but these differences are only ever secondary matters, and the diversity we need is diverse sets of values. In our team, we respect each other's unique way of thinking, evolving them, creating a climate of acceptance and sharing all ideas as being feasible.

By enhancing the presence of the NAGASE Group globally, we can secure even greater diversity in human resources, and I believe this will lead to accelerating innovation.



### Topics: Building the Prinova marketing website

In 2021, we updated the Prinova Group's website together with the Prinova Group LLC. In addition to enabling online quotes and requests for samples, customers in some countries can now create accounts to view real-time prices and make purchases through the website.



# Social Contribution Activities

## Basic Approach

The NAGASE Management Philosophy reminds us that we are a member of society and that, through our growth, we will contribute to society and enrich the lives of our employees. We engage in a variety of social contribution activities under this banner.

## Supporting and Training Technologists

### ● Nagase Science and Technology Foundation

To help advance science and technology in Japan, we established the Nagase Science and Technology Foundation in 1989 and made it a public interest foundation in 2011. The foundation strives to advance science and technology by supporting research and development in the fields of organic chemistry and biochemistry with the aim of contributing to socioeconomic progress.

In 2022, a total of 25 research grant winners were selected from 322 applicants in the fields of organic chemistry and biochemistry, and each received a grant of ¥2.5 million and the Nagase Foundation Award.

### ● Chemistry Experiment Study for Elementary School Students

Since 2019, Nagase ChemteX Corporation has been holding an event to invite the Tatsuno Kodomo Eco Club, an environmental learning group for elementary school students run by the city of Tatsuno in Hyogo Prefecture, to the Harima Plant.

Participants enjoy learning through simple experiments using the Company's environmentally friendly products and explanations of how factory wastewater is purified, and the participants have received the program well.



Hands-on events for children

## Nurturing Local Culture

### ● Hayashibara Museum of Art

The Hayashibara Museum of Art is operated and supported by NAGASE Group company Hayashibara Co., Ltd. The museum houses a collection of Japanese and other East Asian paintings, crafts, and other items. The museum also exhibits furnishings inherited from the estate of the feudal Ikeda clan of the Okayama Domain. The goal of the museum is to contribute to research of cultural assets and improve the culture of the region and of Japan. It does this by preserving works of art, conducting research on them, and allowing the general public to enjoy them through unique exhibitions and other events.



## Contributing Broadly to Society

### ● Supporting Para-Sports

The NAGASE Group supports para-sports. Shinya Wada and his guide runner Takumi Hasebe (both Nagase employees) won silver medals in the 1500m (T11) and bronze in the 5000m (T11) at the Tokyo 2020 Paralympic Games in August 2021. They also broke the marathon T11 world record at the 70th Memorial Beppu-Oita Mainichi Marathon in February 2022.

In addition, NAGASE sponsored the WPA Approved NAGASE Cup Para Athletics Competition, hosted by the Japan Para Athletics federation in July 2022. NAGASE Group employees supported the event as volunteers.



The NAGASE Cup

