Integrated Report 2019

NAGASE

Bringing it all together

NAGASE

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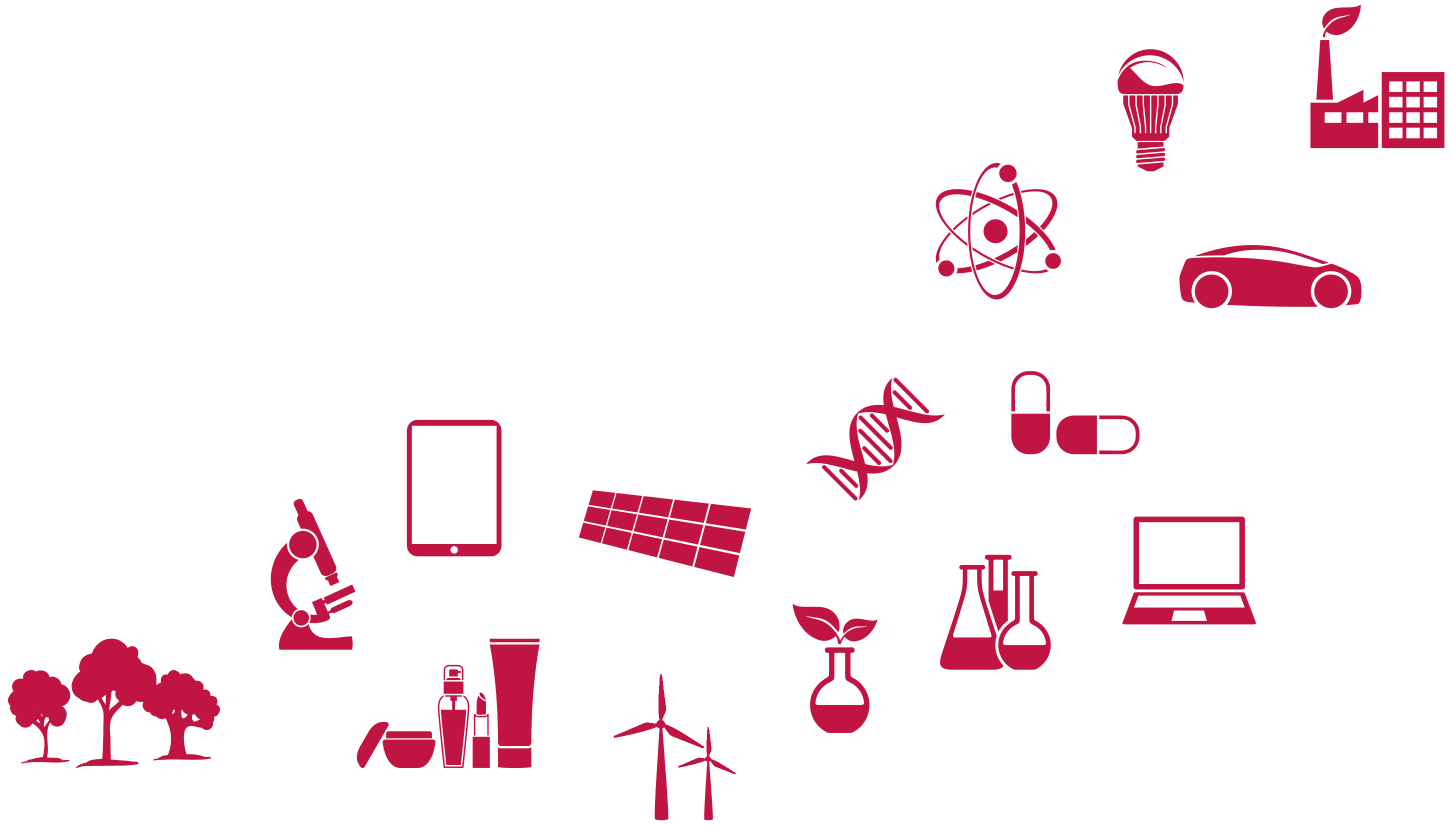
Bringing it all together



People, things, information, technology, ideas, world, and time.
The NAGASE Group Slogan embodies the idea of bringing infinite possibilities together.

About this Report

The NAGASE Group has created this integrated report to help our diverse stakeholders better understand the Group's wide-ranging business fields and business activities, as well as its unique value creation process. Going forward, we will continue to improve this report as a communication tool for conveying the Group's corporate value enhancement activities in an easy to understand manner.

Referenced Guidelines
In creating this report, we referred to the International Integrated Reporting Framework issued by the International Integrated Reporting Council.

Period Covered
April 2018–March 2019 (FY2018). Some information after March 2019 is also included.

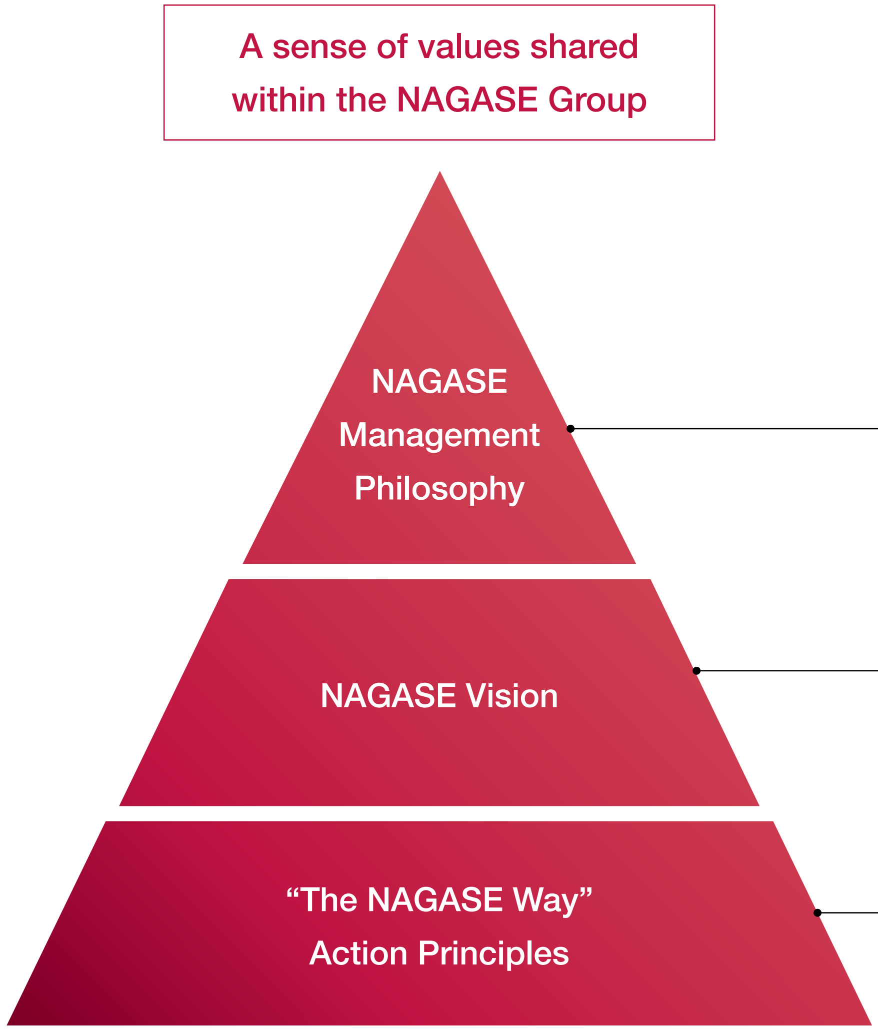
Organizations Covered
NAGASE & CO., LTD. and the NAGASE Group

Other Information
NAGASE's website: https://www.nagase.co.jp/english/

Forward-Looking Statements
Non-historic information contained in this integrated report related to NAGASE Group revenue and profit plans, strategies, assumptions, etc., are forward-looking statements that entail elements of risk and uncertainty. Actual earnings may differ significantly from forecasts due to changes in these elements. Accordingly, the reader is cautioned to refrain from placing undue reliance on such future forecasts contained in this document. Elements that could impact earnings results are not necessarily limited to those explicitly noted in this document.

Contents

Management Philosophy and the NAGASE Vision



The NAGASE Group works toward sustainable growth and improving corporate value with an eye toward 2032—its 200th anniversary—and beyond. In the 187 years since our founding, our business fields and operating regions have expanded, and the diversity of our employees has steadily grown. Amidst these changes, we have defined the NAGASE Management Philosophy, NAGASE Vision, and The NAGASE Way as a set of common values for all Group employees. By embodying these common values in our daily activities, each of us helps realize a sustainable world where people live with peace of mind.

NAGASE 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.

NAGASE 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.

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

- We **“Identify, Develop and Expand”** new businesses

1. Identify : We discover untapped business opportunities
2. Develop : We convert opportunities into customer value
3. Expand : We deliver solutions to multiple fields and regions

Vision for the Future

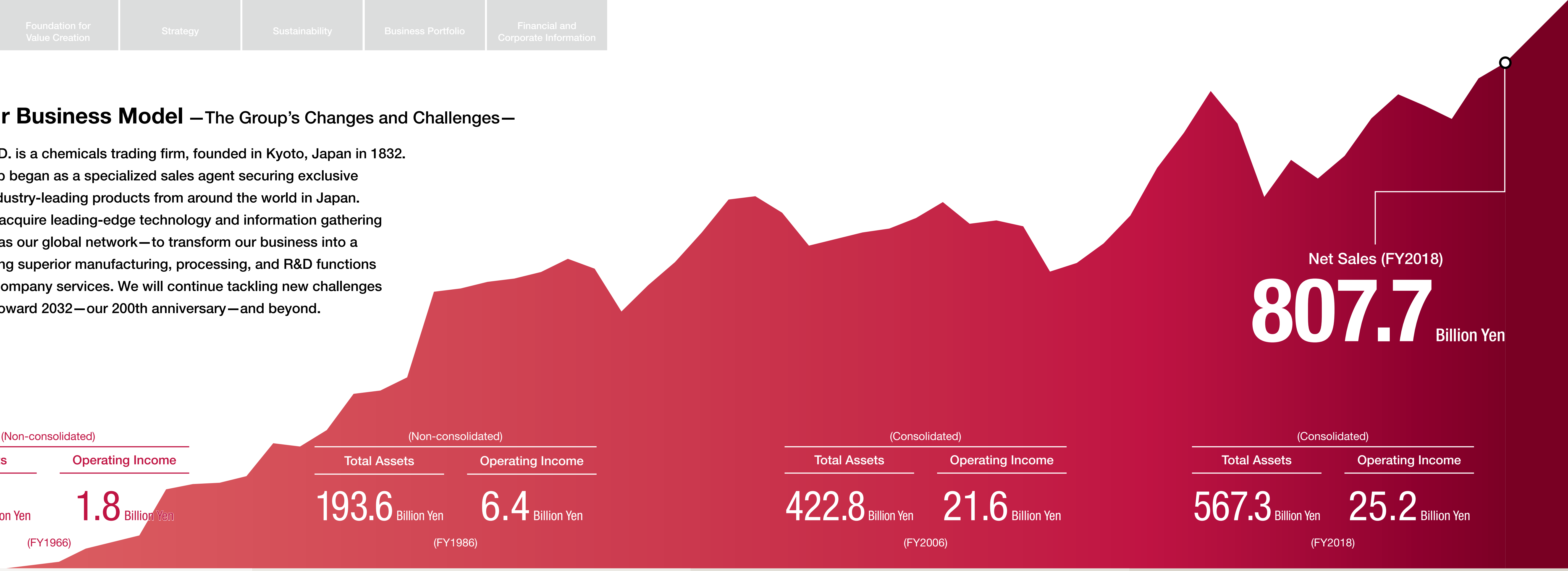
- We will contribute to a sustainable world where people live with peace of mind

“The NAGASE Way”

- Always be customer-oriented.
- Always be a creative challenger.
- Always use the power of the NAGASE Group.
- Always think globally and act locally.
- Always think systematically and act speedily.

Evolving Our Business Model —The Group's Changes and Challenges—

NAGASE & CO., LTD. is a chemicals trading firm, founded in Kyoto, Japan in 1832. The NAGASE Group began as a specialized sales agent securing exclusive contracts to sell industry-leading products from around the world in Japan. This enabled us to acquire leading-edge technology and information gathering expertise—as well as our global network—to transform our business into a hybrid model offering superior manufacturing, processing, and R&D functions as well as trading company services. We will continue tackling new challenges as we look ahead toward 2032—our 200th anniversary—and beyond.



(Non-consolidated)

Total Assets	Operating Income
27.5 Billion Yen	1.8 Billion Yen

(FY1966)

(Non-consolidated)

Total Assets	Operating Income
193.6 Billion Yen	6.4 Billion Yen

(FY1986)

(Consolidated)

Total Assets	Operating Income
422.8 Billion Yen	21.6 Billion Yen

(FY2006)

(Consolidated)

Total Assets	Operating Income
567.3 Billion Yen	25.2 Billion Yen

(FY2018)

Initiatives with Leading Overseas Manufacturers

In the 1900s, we signed sales representative agreements with Eastman Kodak and General Electric

1832 Founded in Kyoto as a dyestuffs trading concern
Sales of dyestuffs, starches and funori seaweed
1898 Head office moved to Osaka
1900 Established business ties with Basel Chemical Co. of Switzerland (now Ciba Specialty Chemicals Ltd.)
1901 Opened office in Lyon
1911 Established Tokyo branch office
1913 Opened offices in London and New York
1917 Established Nagase Shoten Company (from sole proprietor to corporation)
1923 Established business ties with Eastman Kodak Co. of the United States
1930 Concluded an exclusive distributorship agreement with Union Carbide and Carbon Corp. of the United States
1938 Established Teikoku Chemical Industries Co., Ltd.
1964 Listed Company shares on the Osaka Securities Exchange
1968 Concluded an exclusive distributorship agreement with General Electric Co. of the United States


Osaka head office at incorporation in December 1917


General Electric Co. of the United States

Overseas Network

We established branches and local entities in Japan and overseas, building the foundations of our business

1970 Established Nagase-CIBA Ltd. (now Nagase ChemteX Corporation) jointly with Ciba-Geigy Ltd.
Listed Company shares on the Tokyo Stock Exchange
1971 Established Nagase (Hong Kong) Ltd. and Nagase America Corporation
Established Engineering Plastics, Ltd. jointly with General Electric Co.
1972 Established Nagase Medicals Co., Ltd.
1975 Established Nagase Singapore (Pte) Ltd.
1977 Established Nagase Biochemicals, Ltd.
1980 Established Nagase Chemicals, Ltd.
Established Nagase (Europa) GmbH
1981 Established Nagase (Malaysia) Sdn. Bhd.
1985 Established Seoul branch office
1988 Established Nagase (Taiwan) Co., Ltd.
1989 Established Nagase (Thailand) Co., Ltd.
Established Nagase Science and Technology Foundation
Tokyo branch office became a head office; adoption of Osaka/Tokyo two head office system



Right: Nagase-CIBA Ltd. in 1971
Left: Newly completed Tokyo branch office building (October 1969)

Stronger Manufacturing, Processing, and R&D Functions

A chemicals trading company building a strong reputation in manufacturing, processing, and research and development

1990 Established Sofix Corporation, a U.S.-based color former production joint venture
Set up the Nagase R&D Center in Kobe
Established joint venture Nagase Wahlee Plastics Corporation (Taiwan)
1997 Established Nagase Philippines Corporation
Established Shanghai Nagase Trading Co., Ltd.
Established Nagase Engineering Service Korea Co., Ltd.
1998 Established PT. Nagase Impor-Ekspor Indonesia
Established Shanghai Hua Chang Trading Co., Ltd.
2000 Changed the name of Nagase-CIBA, Ltd. to Nagase ChemteX Corporation
2001 Nagase ChemteX, Nagase Chemicals, Teikoku Chemical Industries, and Nagase Biochemicals merged to Nagase ChemteX Corporation
Closed the Seoul branch office and established Nagase Korea Corporation
2002 Established Guangzhou Nagase Trading Ltd.
Established Nagase ChemteX (Wuxi) Corporation
2004 Established NWP International Trading (Shenzhen) Co., Ltd.
2005 Established Totaku Industries Suzhou Co., Ltd.
Established Nagase Electronics Technology Co., Ltd.
Established Nagase Philippines International Services Corporation
2006 Acquired stock of semiconductor manufacturing equipment maker Pac Tech-Packaging Technologies GmbH
Established Nagase India Private Ltd.
2007 Established Nagase Application Workshop
2008 Established Sakai Sales Office
Established Nagase Vietnam Co., Ltd.
2012 Acquired stock of Engineered Materials Systems, Inc., U.S.-based maker of formulated epoxy resins
Acquired stock of Hayashibara Co., Ltd. (Okayama, Japan)
Established local entity in Brazil
2014 Completion of NAGASE Global HR Development Center

Beyond the Traditional Trading Firm Framework

Beyond the trading firm business offering new value as a "Business Designer"

2015 Created NAGASE Long-Term Management Policy

2016 Start of Mid-Term Management Plan *ACE-2020*

2017 Established New Value Creation Office
Converted Inkron Oy into a subsidiary
Launch of Nagase Business Expert Co., Ltd.
Acquired stock of DAITAI KAKO CO., LTD.
Acquired stock of Fitz Chem LLC (USA)
2019 Established the regional headquarters of Nagase Holdings America Corporation and Nagase (China) Co., Ltd. in the United States and China, respectively

2032 200th Anniversary

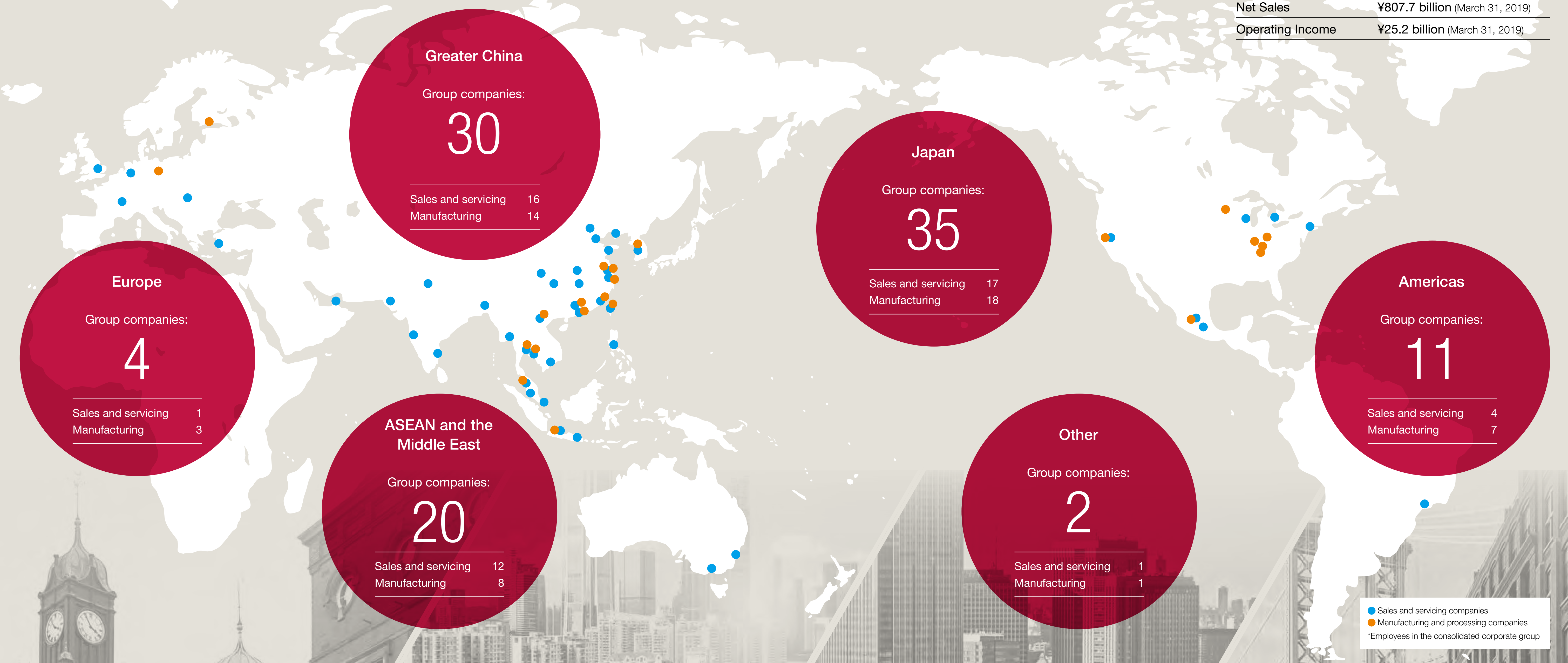

Osaka Head Office


Tokyo Head Office

Overview of the NAGASE Group

Built on a foundation of chemistry, the NAGASE Group handles merchandise that underpin a broad range of fields. With 102 Group companies in 27 countries and regions, we provide a diverse array of value in global markets, including dyes/pigments, coating materials/inks, plastic materials, electronic materials, automotive parts, functional food ingredients, and active pharmaceutical ingredients/intermediates.

Company Name	NAGASE & CO., LTD.
Founded	June 18, 1832
Establishment	December 9, 1917
Capital	¥9.6 billion
Employees	851 (Consolidated: 6,143)
Net Sales	¥807.7 billion (March 31, 2019)
Operating Income	¥25.2 billion (March 31, 2019)



Consolidated Net Sales	Overseas Sales to Net Sales	Number of Bases	Number of Manufacturing Companies	Number of Sales and Servicing Companies	Number of Employees (Consolidated)
807.7 billion yen	48.9%	27 Countries and Areas / 102 Companies	14 Countries and Areas / 51 Companies	25 Countries and Areas / 51 Companies	6,143
Overseas 395.1 billion yen					Overseas 2,313

At a Glance

	Net sales (Billions of yen)	Operating income (Billions of yen)	R&D expenses (Millions of yen)	Capital investment (Millions of yen)	Employees (Consolidated)	Net sales ratio
Functional Materials ▶P.46	179.6	5.4	472	314	646	Japan 67% / Overseas 33%
Advanced Materials & Processing ▶P.48	275.2	8.0	792	1,542	1,474	Japan 38% / Overseas 62%
Electronics ▶P.50	122.3	7.4	1,848	3,201	1,516	Japan 39% / Overseas 61%
Mobility & Energy ▶P.52	139.2	3.0	100	329	343	Japan 38% / Overseas 62%
Life & Healthcare ▶P.54	90.7	4.6	2,497	3,206	1,122	Japan 84% / Overseas 16%
Others	0.5	(3.4)	782	2,018	1,042	
Total	807.7	25.2	6,493	10,612	6,143	

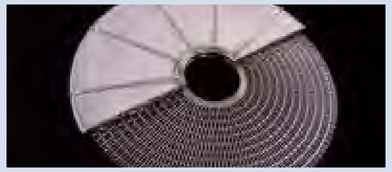
Note: Others includes eliminated inter-segment transactions and business not included in reportable segments.

Valuable Products and Services

Functional Materials

Coating Raw Materials
Coating raw materials sold by NAGASE are used in automobile bodies and other applications.

Urethane Materials
High adhesion and elasticity raw materials handled by Nagase are used in seating for automobiles and so on.



Denafilter™
Manufacture and sale of Denafilter™, a filtration system used in the manufacturing process of high-quality films for packaging and optical applications.

Advanced Materials & Processing

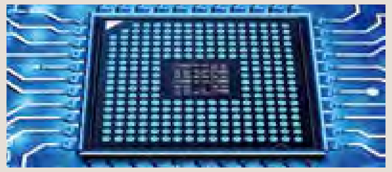
Engineering Plastics
Sales of functional resins used in office equipment, electric and electronic products, etc.

Color Formers
Manufacture and sale of functional dyes used in thermal paper applications, including cash register receipts, tickets, and labels.

Copolyester Resin (Tritan™)
A copolyester resin resistant to temperatures greater than 100°C. Free of phenol A, a suspected hormone disruptor, it is expected to find use as a substitute for glass (tableware, etc.) and medical applications.

Electronics

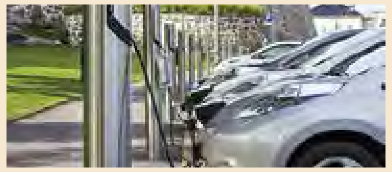
Epoxy Resins
Manufacture and sale of high-performance resins for use in electronic components, wind power generation, solar cells, aircraft, optical components, etc.



Semiconductor-Related Products
Sales of encapsulants for semiconductors, photolithography materials, manufacturing equipment, wafer bumping services.

LCD, Flexible Display, Organic EL Materials
Sale of high-heat-resistant polyimide film, OLED materials, sensor materials, optical functional materials, chemicals, and equipment for mobile devices, wearables, and TVs.

Mobility & Energy



Car Electronics
Solutions for new materials, components, and technologies for next-generation environmental applications.

Self-Driving Related
Technological support and sales of components and new materials required by car multimedia, sensors, and self-driving systems.

Home Energy Management System
In-house development and sale of eneEase™ compact home energy management system (HEMS) set.

Life & Healthcare

Food Ingredients
Manufacture and sale of functional saccharides, enzymes, and other food and health food materials.

Fragrance and Cosmetic Materials
Manufacture and sale of fragrances and cosmetics materials, products, and health foods.

Active Pharmaceutical Ingredients and Formulations
Manufacture and sale of active pharmaceutical ingredients and oncology drugs.

13-Year Financial Highlights

NAGASE & CO., LTD. and Consolidated Subsidiaries (Years Ended March 31)

(Millions of yen)

	2007/3	2008/3	2009/3	2010/3	2011/3	2012/3	2013/3	2014/3	2015/3	2016/3	2017/3	2018/3	2019/3
Mid-Term Management Plan	WIT2008			"CHANGE"11			Change-S2014				ACE-2020		
	Investment Amount: ¥27.7 billion			Investment Amount: ¥107.4 billion			Investment Amount: ¥41.1 billion			Investment Amount: ¥13.7 billion	Investment Amount: ¥47.1 billion		
Performance (Accounting Fiscal Year)													
Net Sales	¥ 701,321	¥ 764,755	¥ 715,238	¥ 603,949	¥ 660,213	¥ 631,854	¥ 666,272	¥ 723,212	¥ 759,713	¥ 742,194	¥ 722,384	¥ 783,933	**¥ 807,755**
Segments: Functional Materials (formerly Chemicals)	247,094	267,836	248,461	237,124	253,290	177,126	167,017	169,973	168,238	157,149	153,546	174,922	**179,627**
Segments: Advanced Materials & Processing (formerly Plastics)	244,681	274,660	253,029	192,569	222,100	217,929	214,214	239,224	254,165	255,505	242,609	262,831	**275,203**
Segments: Electronics	150,796	163,833	153,255	117,591	133,640	110,495	125,014	137,026	149,947	127,926	127,722	129,324	**122,319**
Segments: Mobility & Energy (formerly Automotive & Energy)	—	—	—	—	—	76,113	83,068	99,441	109,851	115,351	112,956	129,708	**139,235**
Segments: Life & Healthcare (formerly Healthcare/Other)	53,556	56,489	58,905	55,542	50,247	49,170	76,116	76,810	76,609	85,571	84,904	86,517	**90,794**
Segments: Others	5,191	1,934	1,585	1,121	934	1,018	841	737	900	689	644	629	**574**
Region: Domestic	410,789	432,813	394,874	360,382	389,379	366,369	361,971	372,939	374,208	363,038	369,365	395,428	**412,617**
Region: Overseas	290,532	331,942	320,364	243,567	270,833	265,484	304,301	350,272	385,505	379,155	353,019	388,504	**395,137**
Gross Profit	73,639	80,506	71,527	65,415	73,008	71,628	82,583	88,936	91,991	91,663	91,503	102,675	**105,441**
Operating Income	21,669	23,063	12,522	13,128	18,732	13,427	15,578	15,789	18,153	18,024	15,030	24,118	**25,226**
Profit Attributable to Owners of the Parent	13,567	10,005	5,808	7,537	12,823	8,570	14,182	11,663	11,318	12,316	10,331	17,175	**20,136**
Financial Condition													
Total Assets	¥ 422,859	¥ 419,869	¥ 340,968	¥ 368,088	¥ 375,336	¥ 450,842	¥ 486,747	¥ 498,141	¥ 546,525	¥ 512,081	¥ 530,775	¥ 569,456	**¥ 567,346**
Equity Capital	205,083	200,554	184,599	195,344	201,516	204,706	228,505	246,723	281,398	273,963	290,217	303,636	**307,674**
Interest-Bearing Debt	20,491	33,342	31,340	21,886	27,125	88,710	98,425	92,828	98,493	87,560	82,046	86,173	**85,620**
(Yen)													
Per Share Data:													
Net Income (Basic)	¥ 105.84	¥ 77.86	¥ 45.17	¥ 58.64	¥ 99.76	¥ 66.69	¥ 111.31	¥ 91.86	¥ 89.10	¥ 96.96	¥ 81.65	¥ 136.34	**¥ 161.30**
Net Assets	1,597.27	1,559.97	1,435.88	1,519.61	1,568.04	1,592.87	1,803.31	1,942.20	2,215.18	2,156.67	2,301.10	2,424.97	**2,481.01**
Cash Dividends	18	17	16	16	22	24	26	28	30	32	33	40	**42**
Payout Ratio (%)	17.0	21.8	35.4	27.3	22.1	36.0	23.4	30.5	33.7	33.0	40.4	29.3	**26.0**
Shareholders' Equity Dividend Rate (%)	1.15	1.08	1.07	1.08	1.42	1.52	1.52	1.50	1.44	1.46	1.48	1.69	**1.71**
(%)													
Ratios:													
Overseas Sales to Net Sales	41.4	43.4	44.8	40.3	41.0	42.0	45.7	48.4	50.7	51.1	48.9	49.6	**48.9**
Manufacturing Ratio (Operating Income)	22.3	24.4	15.5	35.4	29.0	31.3	37.3	23.5	27.8	24.3	39.5	34.2	**33.5**
Operating Margin (Operating Income/Net Sales)	3.1	3.0	1.8	2.2	2.8	2.1	2.3	2.2	2.4	2.4	2.1	3.1	**3.1**
Return on Equity (ROE)	6.8	4.9	3.0	4.0	6.5	4.2	6.5	4.9	4.3	4.4	3.7	5.8	**6.6**
Net Worth Ratio	48.5	47.8	54.1	53.1	53.7	45.4	46.9	49.5	51.5	53.5	54.7	53.3	**54.2**
Debt Equity Ratio (Times)	0.10	0.17	0.17	0.11	0.13	0.43	0.43	0.38	0.35	0.32	0.28	0.28	**0.28**

(Note 1) At the beginning of fiscal 2009, the Company moved its information and functional materials businesses handling materials related to insulating materials and fluoroplastic-related materials from the Electronics segment to the Chemicals segment. Businesses handling surface detection machines for functional films and sheets have been moved under the Plastics segment.

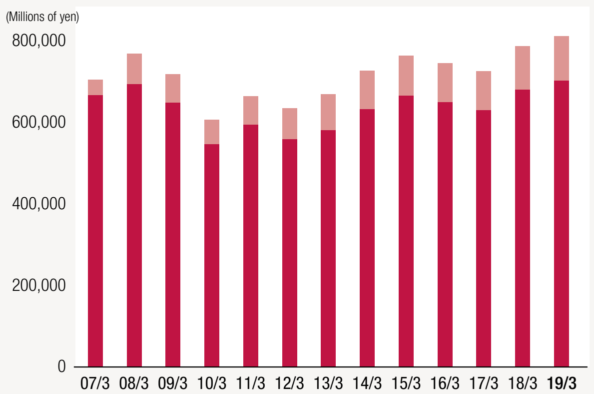
(Note 2) At the beginning of fiscal 2012, the NAGASE Group reorganized its four business segments into five business segments (Functional Materials, Advanced Materials & Processing, Electronics, Automotive & Energy, and Life & Healthcare) to more fully reflect the respective positions of each business in the value chain. For comparative purposes, fiscal 2011 figures have been calculated using the new business segments. The Colors & Imaging Department formerly under the Chemicals segment has been moved under the Advanced Materials & Processing segment. The Automotive & Energy segment was organized out of the Automotive Solutions Department (belonging to the Plastics segment) and the Energy Business Office, which was launched as an integrated entity from the Environment & Energy Office (under Other) and the Energy Device Office.

(Note 3) At the beginning of fiscal 2013, the Automotive & Energy segment was organized by combining the former Automotive Solutions Department (under the Plastics segment) and the former Energy Business Office, which was an integrated entity combining the Environment & Energy Office (under the Other segment) and the Energy Device Office.

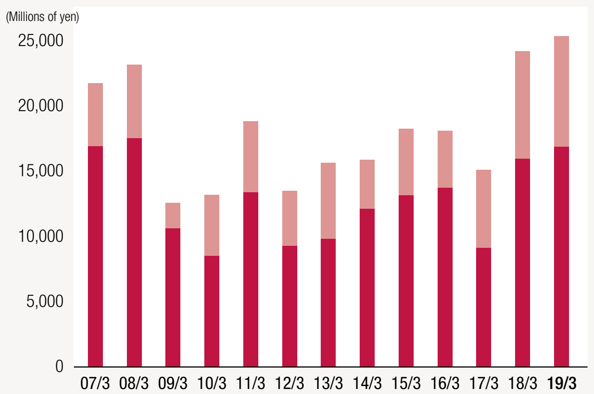
(Note 4) The Partial Amendments to Accounting Standard for Tax Effect Accounting (ASBJ Statement No. 28 issued February 16, 2018) are applied from April 1, 2019. Following this change, deferred tax assets are now presented under "Investments and other assets," and deferred tax liabilities are presented under "Long-term liabilities."

(Note 5) From April 1, 2019, the name of the Automotive & Energy segment has been changed to the Mobility & Energy segment.

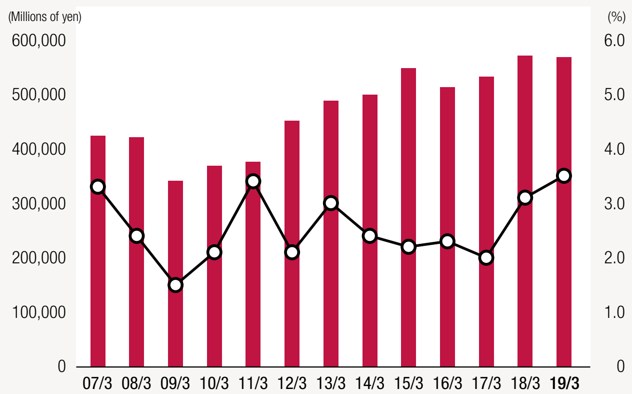
Net Sales



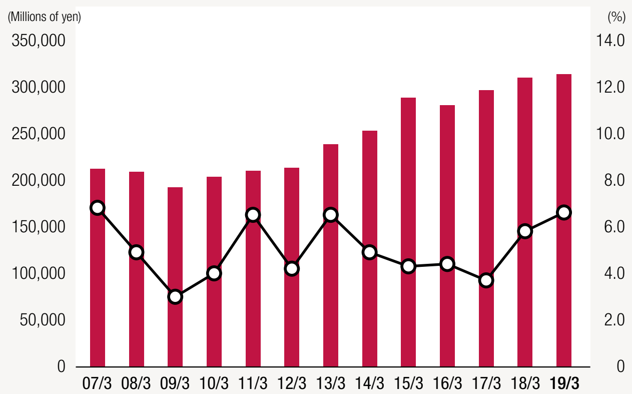
Operating Income



Total Assets/ROA



Net Assets/ROE



Our Value Creation Process and Long-Term Management Policy

Investment of Management Resources

Financial capital	Manufacturing capital	Human capital	Social and related capital	Intellectual capital
Growth Investment	Capital Investment	Employees	Group Companies	R&D Expenses
100 billion yen	32.2 billion yen	6,143	27 Countries and Areas	17.7 billion yen
Rating (R&I) [A]	(FY2016-2018)			(FY2016-2018)

NAGASE Vision

Identify
Find needs and seeds

Develop
Grow seeds into businesses

Expand
Ongoing business growth

Mid-Term Management Plan
ACE-2020

Invest-ment
R&D
Trading
Manufac-turing
Global Network
Logistics

[Six Functions]
Business Designer
▶P.14-15

Sustainability

NAGASE Group Strengths

- Strong Financial Foundation
- Networks of business information
- Global logistics
- Technological expertise
- Chemical management know-how
- Credibility backed by our history

Business Portfolio

- Functional Materials
- Advanced Materials & Processing
- Electronics
- Mobility & Energy
- Life & Healthcare

▶P.46-57

Suppliers
Business Partners

Foundation for Value Creation

Manufacturing and Processing
- Nagase ChemteX
- Hayashibara, 49 Other Companies

▶P.58-59

R&D
- New Value Creation Office
- Nagase R&D Center
- Nagase Application Workshop

▶P.61-63

Long-Term Management Policy

Summary of the Long-Term Management Policy

Challenges for Growth
- Increase investment
- Accelerate organic growth
- Expand overseas operations

Reinforce the Management Platform for Growth
- Restructure global governance
- Increase flexibility in HR management
- Enhance safety and assurance
- Consolidate communications infrastructure

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

Supporting industry through materials and finished products

Supporting beauty and health

Solving social problems through business

Stage 1
Reform
The stage where we reform our profit structure and our corporate culture

Expand overseas operations

Stage 2
Growth
The stage where two reforms have been permeated, accelerating growth

Enhance overseas operating structure

Stage 3
Jump
The stage where we grow rapidly toward the goal

Establish multinational management system
Normalization of the profit more than tripled of the fiscal year ended March 31, 2015

2015 | 2020 | 2025 | 2032 (FY)

Business Designer: 8 Case Studies

We use the term Business Designer to describe the type of company we want to become. While our main activities have been based in trading and chemicals, we have extended beyond those categories, integrating six functions on a higher level: Trading, R&D, Investment, Logistics, Global Network, Manufacturing. We are now designing businesses without boundaries.

8 Business Designer Cases

Target Market 5G, IoT, Semiconductors

Invested in 3D Glass Solutions, Inc.

- 3D Glass Solutions is a startup designing and manufacturing high-frequency 5G devices.
- We promoted a joint development framework that utilizes the NAGASE Group's mass production technology and quality control system.

Target Market Food Ingredients

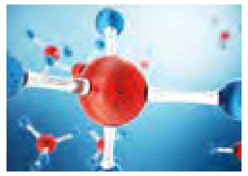
Hayashibara Co., Ltd. Concluded Long-Term Partnership Agreement with Lonza

- Hayashibara respond to the expanding demand for plant-based pullulan capsules.
- The company started to set up a new facility.

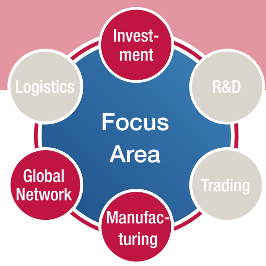
Target Market Markets in Need of New Materials

Promoted Joint Development in Materials Informatics

- We engaged in joint development with U.S.-based IBM, Inc.
- We began use of AI and latest data processing technologies.
- We reduced costs and shortened time needed to develop new (alternative) materials.



Target Market Region-Specific Markets Overseas



Established Regional Headquarters in the United States and China

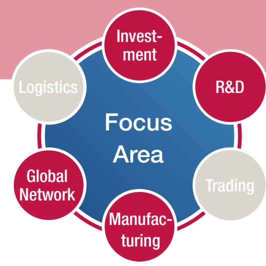
- The Americas region includes Mexico and Brazil, and the Greater China region includes Taiwan and Hong Kong.
- We accelerated creation of new region-leading businesses and strengthened governance in overseas businesses.

Target Market Mobility

Entered the Self-Driving Technology Field (LiDAR-Related)

- We began alliances with U.S.-based TriLumina and Canada-based LeddarTech.
- Laser and sensor technologies are indispensable to autonomous driving.
- We will help improve safety through long-distance and highly precise sensing technology.

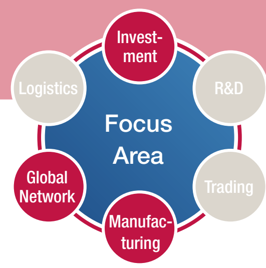
Target Market 3D Printers



Established Infinite Material Solutions, Inc.

- Infinite Material Solutions is a joint venture with U.S. based Interfacial Consultants LLC.
- We aim to commercialize water-soluble support material filaments for fused deposition modeling (FDM). (AquaSyS™ is the industry's first water-soluble support material compatible with super engineering plastics.)

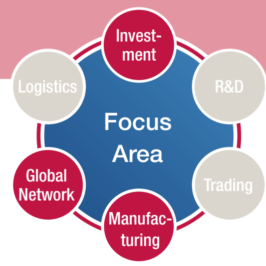
Target Market LCD and Semiconductors in China



Collaborated with Joint Ventures and Wuxi Chenghong Electronic Materials

- We aim to expand our chemicals business in the liquid crystal and semiconductor markets, which are expected to grow in China.
- We expanded our operating area by leveraging the strengths of our joint ventures with local Chinese companies.

Target Market Next-Generation Displays



Established a Joint Venture with TOYOBO CO., LTD.

- The joint venture manufactures and sells XENOMAX™, a heat-resistant polyimide film.
- We aim to quickly build a ¥10 billion business.

Message from the President

Representative Director and President

朝倉研二

Kenji Asakura

July 2019

Fiscal 2019 will be a decisive year for the NAGASE Group. I will steer management while striking a balance between the short term and the mid to long term.

My Vision and Management Policies

Transitioning to a New Business Model

NAGASE CO., LTD. was founded 187 years ago as a sole proprietor in the Nishijin area of Kyoto that dealt with functional products, such as safflower dye. By anticipating overarching and technological trends, the Group has worked to grow its business.

We have since built a network as a distributor for many global companies. This began in 1900 with imports of synthetic dyestuffs from a chemical company based in Basel, Switzerland currently known as BASF. Our network with these global companies remains NAGASE's major strength. It has enabled our dramatic growth as a trading company specializing in chemicals in the past, present and, assuredly, into the future.

Around 1900, this network allowed NAGASE to escape a domestic market essentially monopolized by foreign trading houses. Since then, we have been singularly committed to realizing direct trade. This led to a forward-looking move to establish an office in Lyon, France, then center of the silk industry. The purpose was to sharpen our expert judgment on technology. The driving force of commitment, backed by action, has been firmly passed down, animating the current spirit of the NAGASE Group.

However, there is a life cycle in the functions of trading houses too. Major trends are gaining speed, including the globalization of markets, diversification of people's values, digitization, and increasing value of data. The value that our stakeholders seek from us is always changing. My vision for the NAGASE Group going forward is to not only perform trading house functions but to also be a corporate group that provides value over the mid to long term as a business designer.

▶ See P.4, "Evolving Our Business Model"

As a Business Designer

I came up with the concept of a Business Designer after becoming president. We will align the six functions of the NAGASE Group (Trading, R&D, Investment, Logistics, Global Network, Manufacturing) and swiftly establish them as an integrated business. Although I fully comprehend the challenge of this task, I think this concept is quite important. This particular combination of functions leverages the unique aspects of our businesses to realize the value being sought from the NAGASE Group. We can provide value to various markets by Identifying, Developing, and Expanding the seeds of business, as stated in the NAGASE Group vision.

Technological capabilities are clearly another strength of the NAGASE Group and these underpin the business designer concept. Our technological capabilities include expert judgment and commercialization ability. In addition, one of our strengths is our proven ability to create business with our partners. As alluded to before, our domestic and overseas network is robust in its breadth and depth. NAGASE's technically competent human resources and R&D capabilities further enhance the value of this network.

For example, we are currently developing a materials informatics (MI) platform using AI and the latest data processing systems. We expect this platform to enhance collaboration with the NAGASE Group's R&D department and also strengthen collaboration with our business partners. We aim for the service to begin in fiscal 2020.

▶ See P.12, "Our Value Creation Process and Long-Term Management Policy"
▶ See P.14, "Business Designer: 8 Case Studies"
▶ See P.58–63, Manufacturing and Research Functions

Rolling Ahead with *ACE-2020*

The NAGASE Group is currently in the first of three stages in the long-term management policy, which will conclude in fiscal 2032. Under the medium-term management plan ***ACE-2020***, we are promoting business activities to reform both our profit structure and our corporate culture.

ACE-2020 is the first five-year medium-term management plan, and we decided in advance to roll it over for reassessment in the third year. Our intention is to raise the likelihood of achieving our targets by carefully assessing our analysis of the external environment and our measures for a new earnings model (hereinafter called inorganic).

Various inorganic themes have come up in each of the measures taken to reform our profit structure, but we are aware that it will take time before we have racked up some achievements. As we strive to spur such growth, we need to balance the human resources we invest in aggressive inorganic activities with each year's figures, with an eye toward fiscal 2020 and beyond.

As for reforming our corporate culture, I feel that we have carefully stuck to the numbers, and I mean that in a good way. In particular, we have made progress on independently operating manufacturing processes and ingraining independent management mindsets. I think this is connected to our numerical results. In addition, we took a survey of over 600 managers throughout the Group and were able to confirm that we have made progress on increasing their understanding of ***ACE-2020*** and the importance of taking qualitative measures.

However, as a result of the reassessment of the plan, we uncovered the following issues that we realized were of more importance. We are now moving ahead with measures to address them.

- **Supply issues arising from stricter environmental regulations around the world**
- **Global governance responding to a rise in overseas business opportunities**
- **Further strengthening of compliance systems in the manufacturing business**

Reviewing Fiscal 2018 and Looking Ahead

Changing Business Environment and Stable Business Portfolio

We have entered the fourth year since the start of ***ACE-2020***. Reflecting on this, what strikes me most is that the speed of all the external changes is now much faster than we originally assumed.

The dynamic trend toward strategic alliances around the world is proceeding rapidly, even if you only look at the chemicals industry. In upstream businesses, the position of the Middle East is changing with the growing presence of U.S. shale gas, and we are also paying close attention to trends involving Chinese companies. In addition, environmental and safety regulations are growing stricter in China, and some chemical plants have suspended operations due to accidents. The business environment surrounding the NAGASE Group has rapidly changed. This includes the wide-ranging impacts, confronting the entire industry, that stem from a shortage of basic and intermediate chemical feedstock.

Despite this situation, we were able to once again achieve record high earnings, with consolidated net sales of ¥807,755 million (up 3.0% year on year) and profit attributable to owners of the parent of ¥20,136 million (up 17.2% year on year). Unlike fiscal 2017, when every segment had firm results, fiscal 2018 brought more variation. Some segments had higher profit and others lower. As a result, the weak performance of one of our focus areas, electronics, was offset by the strength of other segments.

In regard to the stability of our business portfolio, I think we can confirm that the capability of the NAGASE Group to adapt to the external environment has indeed improved.

▶ See P.22, "Message from the Executive Officer in Charge of Corporate Administration and Affiliates"
▶ See P.26, "Mid-Term Management Plan *ACE-2020*"
▶ See P.46, "Business Portfolio"
▶ See P.64, "Management's Discussion and Analysis of Operations and Finances"

The NAGASE Group's Fiscal 2019 Materiality

We positioned fiscal 2019 as a decisive year for the Group. During this year, I think that the NAGASE Group's growth opportunities will arise from the emergence of 5G and AI technologies that will cause a paradigm shift. Over the next few years, the technology platform of the next era will likely be established. During this pivotal transformation, designing business will be of the utmost importance to ensure the next level of growth for the NAGASE Group.

The fiscal 2019 slogan, "Do It!" captures that sense of urgency and was chosen to help raise awareness. The slogan conveys our intent: "First we must act!" I and the other top management will actively "Do" things. To continue fostering an environment where everyone will unhesitatingly be able to attempt new things, we will also evaluate the responsibility individuals take by "Doing" things. The strong drive and initiative shown in the early period after our founding was steadily passed down to the current NAGASE Group. I want 2019 to be a year where we fully demonstrate that initiative.

For fiscal 2019, we forecast* consolidated net sales of ¥850.0 billion (+5.2% year on year) and profit attributable to owners of the parent of ¥20.5 billion (+1.8% year on year).

*Assuming an exchange rate of ¥110 per U.S. dollar

Sustainability Management

Positioning ESG at the Core of Management

The NAGASE Group vision states that we realize a sustainable world where people live with peace of mind.

As a trading company specializing in chemicals, we are aware that one of the ways we provide value is by ensuring that our business partners, local and international communities, governments and other stakeholders feel safe and secure, with thoroughgoing compliance in our business activities that extends from procurement and purchasing through to sales and disposal.

To cement an environmental, social and governance (ESG) mindset into the core of the Group's management, we set fiscal 2018 as the new phase of ESG. We held internal study sessions, worked to familiarize employees with basic terminology, and conducted an overall assessment of ESG-related activities. We also gradually began to take measures aimed at achieving the United Nations Sustainable Development Goals (SDGs). These include mitigating water-related risks, addressing climate change, and protecting biodiversity.

In fiscal 2019, to better define the outline of the entire NAGASE Group, we will analyze long-term risks and opportunities in the external environment. Then I would like to move ahead with establishing materiality while holding deeper discussions on what kind of corporate group we should be, what kind of value we should provide, and to whom we should provide it.

▶ See P.40, "Environment"
▶ See P.42, "Society"

Aiming to Enhance the Effectiveness of the Board of Directors

Although we have not deliberated on the separation of management and execution, we are aware of the immense importance of that separation. That is part of the reason we reduced the number of directors from ten to seven. The three former members were internal directors so this reduction will effectively amplify the voices of the two outside directors. In addition, we established a new Nomination Committee to ensure greater transparency. We think this will further enhance the effectiveness of the Board of Directors and, in turn, improve corporate value.

▶ See P.28, "Our Board"
▶ See P.30, "Corporate Governance Initiatives"
▶ See P.34, "Interview with the Outside Directors"

Global Governance

Since ***ACE-2020*** began, the NAGASE Group has entered the markets of Izmir, Turkey; Lyon, France; Da Nang, Vietnam; and Karachi, Pakistan. The competition among overseas companies is heating up while customer and market needs in each region are diversifying. Moreover, headquarters' management and decision making are also changing.

Amid this situation, we will build a system to promote highly responsive management that can rapidly create new businesses and reach investment decisions. We will do this by establishing local management companies as bases to operate and manage regional businesses. Global governance is an important issue for the NAGASE Group, and we are taking various measures to address it, especially through our director in charge of corporate administration and affiliates.

▶ See P.22, "Message from the Executive Officer in Charge of Corporate Administration and Affiliates"

Returning Profits to Shareholders / Closing Message

"Through the enhancement of its earning power and entrepreneurial structure, NAGASE adheres to an ongoing basic policy of making continuous and secured dividend payouts linked to its consolidated performance, and thus it aims to keep increasing the per-share dividend with due consideration given to the payout ratio and the ratio of dividends to net assets on a consolidated basis. We intend to use the retained funds effectively to support future business activities and to strengthen its management foundation." This is NAGASE's dividend policy.

For fiscal 2018 we paid out a total of ¥42 per share. This includes an interim dividend of ¥18 and the year-end dividend of ¥24. With regard to profits, while carefully balancing the need for investment and sustainable business expansion, we strive to enhance comprehensive returns to shareholders including through dividends, share repurchases, and the disposal of treasury stock. Regarding the latter two methods, we will continue to make determinations in light of trends in capital markets and business performance.

Under ***ACE-2020***, the NAGASE Group stated its goal of achieving a new normal, with operating income of ¥30 billion as our new standard. In the focus areas of Life & Healthcare and Electronics, we aim to steadily carry out our slogan of "Do It!" over the remaining two years even as the level of difficult rises due to a worsening business environment in some current markets.

We thank all our shareholders and investors for their continued understanding and support of the NAGASE Group over the long run.

Message from the Executive Officer in Charge of Corporate Administration and Affiliates

Masaya Ikemoto
Director

We will strongly support the next stage of growth by improving capital efficiency and comprehensively managing risks

Capital Efficiency for Achieving *ACE-2020*

Measures to Improve Capital Efficiency and Related Issues

Under the mid-term management plan ***ACE-2020***, we are working to improve capital efficiency, and, as a result, we have made ROE one of our quantitative targets. ROE improvement can be separated into the pre-tax profit ratio and invested capital turnover ratio, and we are strengthening their correlation with each of the plan's measures.

In the fiscal year ended March 31, 2019, ROE was 6.6% (+2.2%), pre-tax profit ratio was 3.5% (+1.4%), and invested capital turnover ratio was 2.1 times (+0.1 times). (Comparison with the fiscal year ended March 31, 2016)

The quantitative target for ROE in ***ACE-2020*** is more than momentarily exceeding 6.0%; it is to swiftly make that percentage our new normal. We therefore believe our current performance demonstrates the serious progress being made toward achieving that new normal. In addition, the five-year duration of the mid-term management plan corresponds with a transformational period in our long-term management policy. Again, I'd like to reiterate that the NAGASE Group is not simply aiming to achieve a 6.0% level for capital efficiency.

We have made big decisions during the duration of ***ACE-2020***, which includes improving the profitability of our manufacturing business, establishing shared service companies, and exiting unprofitable businesses. On the other hand, to improve capital efficiency, there are issues related to the invested capital turnover ratio, and we will continue working to improve that.

Numerical Targets under *ACE-2020*

ROE = Post-tax Profit ÷ Equity

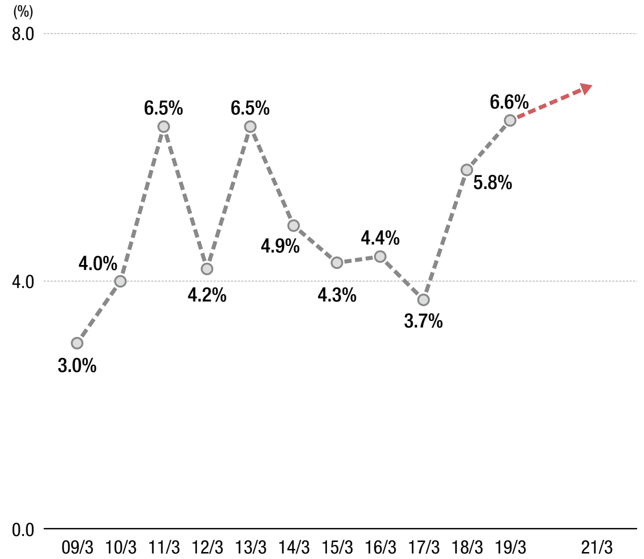
Pre-tax ROIC = Pre-tax profit ÷ (Equity + Interest-bearing debt

$$\text{ROIC} = \frac{\text{Pre-tax profit}}{\text{Sales amount}} \times \frac{\text{Sales amount}}{\text{Equity + Interest-bearing debt}}$$

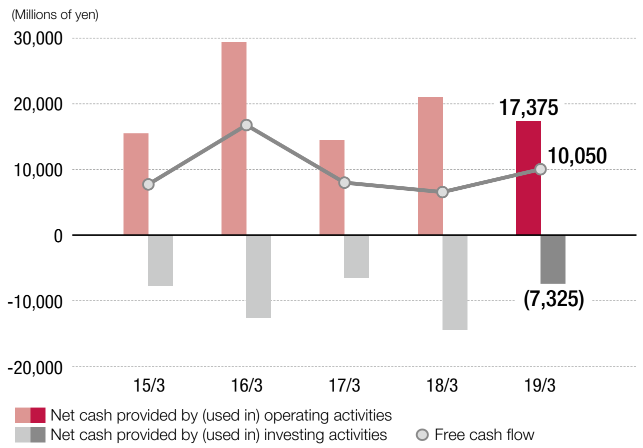
Pre-tax Profit Ratio	Invested Capital Turn Over Ratio
All measures that efficiently increase profit by reduced cost	All measures that efficiently increase sales with limited assets
Sales of new and added-value products	Increase growth investment
Logistics efficiency	M&A
Utilize shared service	Reduce slow-moving, long-term inventory
Withdraw from unprofitable business	Utilize group cash management system
Rationalization	Idle assets liquidation

ROE

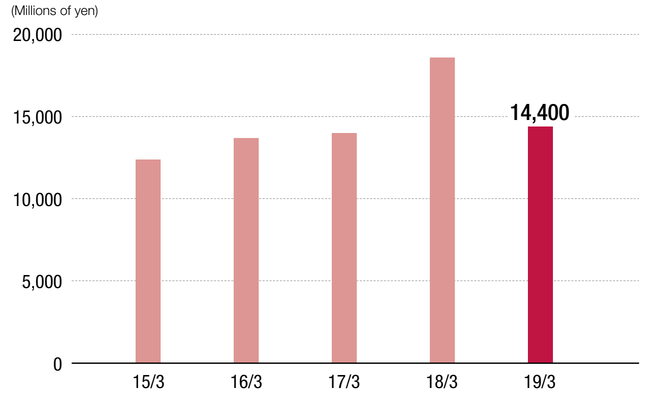
Normalization of 6% or higher



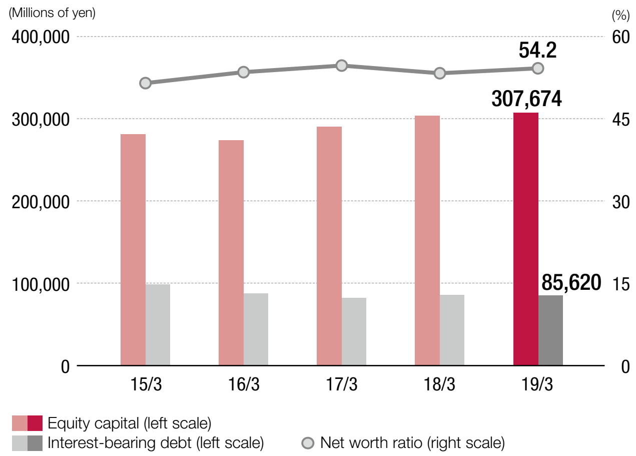
Cash Flows



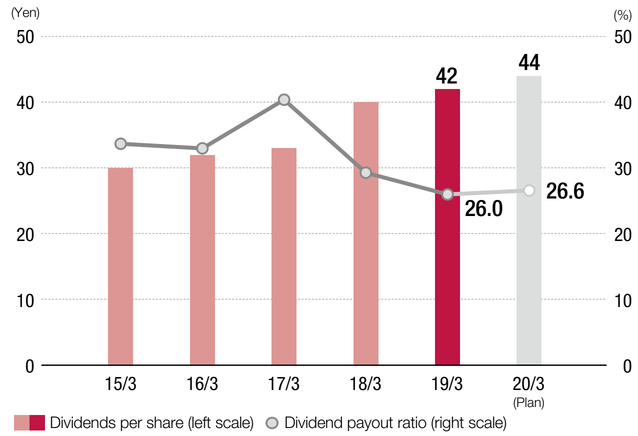
Investment



Equity Capital/Interest-Bearing Debt/Net Worth Ratio



Dividends



*Includes special dividend of ¥5 for the fiscal year ended March 31, 2018.

Policy on Optimizing Our Portfolio

Under ***ACE-2020***, we are constantly taking inorganic growth measures. Many cases involve new business models where it is difficult to use the NAGASE Group's existing experience to chart how we can create a track record of success or how long that might take. We are investing management resources in focus and growth areas while analyzing major trends in the external environment, including 5G, IoT, self-driving technology, and materials informatics, but these efforts might not contribute to results until after the plan concludes. I am aware that one of the important roles of the corporate administrative director is to vigilantly monitor from when and to what degree each measure contributes to results.

In addition, while inorganic growth is certainly important, organic growth is also important in our long-term management policy and to achieve the goals of ***ACE-2020***. It might seem mundane to consider how to ensure the basic businesses remain efficient and generate cash over the long term, but we must carefully monitor the situation to optimize our overall business portfolio. For example, Fitz Chem LLC, which is a distributor of specialty chemicals and personal care products in the U.S. Midwest, serves to complement the NAGASE Group's businesses on the East and West coasts, forming a foundation for distributing various products across the entire United States.

Investment Activities under *ACE-2020*

Investment activities accompany optimization of our business portfolio. After reflecting on past experiences, we revised our monitoring methods, and also revised our investment guidelines under ***ACE-2020***. According to the revised standards, we will emphasize numerical results more than ever before and also use these in ranking and managing each project. The decision to exit an unprofitable business is made by the NAGASE Group after duly considering the decision criteria of the guidelines and the potential impact of an exit on our business partners and society as a whole. Since the plan commenced, we have formed and severed relationships with around 20 affiliate companies. The decision to replace assets is challenging, so we are constantly revising our guidelines and operations.

Regional Management to Achieve Our Long-Term Management Policy

Restructuring Global Governance: Region-Based Management

The goals laid out in the NAGASE Group's long-term management policy (fiscal 2032) are to achieve a level of profit consistently three times higher than the fiscal year ended March 31, 2015, as well as to expand overseas operations and restructure global governance with the dual pillars of overcoming challenges for growth and reinforcing the management platform for growth.

Long-Term Management Policy

In the lead up to 2032, the NAGASE Group's 200th anniversary, we formulated a long-term management policy to achieve accelerated growth at a pace that had previously been unachievable with the systems in place. Under this policy, the Group is moving ahead with its transformation with the full participation of everyone.

Challenges for Growth
- Increase growth investment
- Accelerate organic growth
- Expand overseas operations

Reinforce the Management Platform for Growth
- Restructure global governance
- Increase flexibility in HR management
- Enhance safety and assurance
- Consolidate communications infrastructure

The NAGASE Group has 51 overseas manufacturing bases in 14 countries around the world as of March 31, 2019. To further expand the scale of business, we are considering consolidating governance authority based on the idea of moving from local subsidiaries to region-based management.

As one measure toward that end, we established a regional headquarters in China in January 2019 and another in the United States this April. For example, in the case of China, although each of our multiple local subsidiaries are giving their best, each subsidiary varies in size and the potential business creation can be limited by the business scale of each company. By instead scaling governance up to a regional basis, we can expect a more diverse range of potential acquisitions and other growth investments determined on a regional basis, which would be more suitable for each region.

In addition, a regional platform would also strengthen compliance, checks-and-balances, and other defensive functions. We will construct a regional system that complements and reinforces the management-related specialists spread across each company. This will contribute to our training and auditing systems, as well as the management of investments and risks.

Ultimately, we will accelerate the appointment of local staff into key positions and thoroughly ingrain our newly constructed governance system into the local culture to achieve a new level of growth during this period of transformation.

▶ See P.6, "Overview of the NAGASE Group"
▶ See P.12, "Our Value Creation Process and Long-Term Management Policy"
▶ See P.56, "Global Network"

Constructing a Platform of Our Manufacturing

The NAGASE Group's manufacturing business accounts for over 40% of operating income, and its presence is growing. We are making steady progress toward our goal of improving profitability and autonomous management in the manufacturing business, which is also one of the measures of ***ACE-2020***. In our effort to create region-based management for the next stage of growth, we held the Group Manufacturing Managers Meeting, which serves as a basic platform for the NAGASE Group's domestic manufacturing companies.

Currently, each company is using its own standards for occupational safety and hygiene, product design, quality assurance and management, cost of sales management, human resources training, and so on. Regarding these standards, we will visualize the level of improvement and management achieved by harmonizing these as a Group and we will continue strengthening the monitoring system. Moreover, in regard to the SDGs, including addressing water-related risks and climate change, we will coordinate our efforts as the Group manufacturing business.

Furthermore, as a member of the NAGASE Group, which has a trading business and a manufacturing business, we anticipate an independent and proactive discussion to emerge on what the manufacturing business can do to achieve drastic growth. And then, beyond that, we aim to foster shared values that help us answer the questions of how we can optimally unite the NAGASE Group's manufacturing.

▶ See P.34, "Interview with the Outside Directors"

Mid-Term Management Plan *ACE-2020*

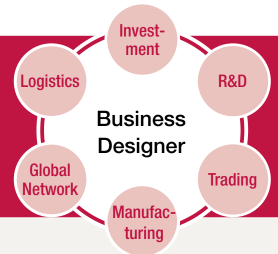
Positioning of *ACE-2020*

The long-term management policy spans some 17 years (2015 to 2032), which we divided into three stages. Stage 1 began with our ***ACE-2020*** mid-term management plan. In fiscal 2019, the fourth year of ***ACE-2020***, we will continue pushing ahead with transformation aimed at spectacular growth.

ACE-2020 Basic Policy

NAGASE Transforms from "Shosha/Trading" to "Business Designer."

NAGASE strings all the groups together to create and provide new value to the world through 6 key functions.



Leverage Group functions to achieve the quantitative and qualitative targets.

Reform Profit Structure		Reform Corporate Culture	
Portfolio Optimization	**Expand and Strengthen Revenue Base**	**Mindset**	**Strengthen Management Platform**
• Categorize business and execute strategies suitable for each category • Asset replacement and re-allocation • Acceleration in investment that creates core business of group	• Accelerate globalization "G6000" • Improve manufacturing profitability	• Build accountability, responsibility and risk awareness • Share management's message • Thorough monitoring and PDCA	• Pursue efficiency • HR development

KGI (Key Goal Indicator)

KGI	FY2016	FY2017	FY2018	FY20219 (planned)	FY2020
Consolidated Net Sales	722.3 Billion Yen	783.9 Billion Yen	807.7 Billion Yen	850.0 Billion Yen	**1.0 Trillion Yen or more**
Consolidated Operating Income	15.0 Billion Yen	24.1 Billion Yen	25.2 Billion Yen	26.0 Billion Yen	**30.0 Billion Yen or more**
ROE	3.7%	5.8%	6.6%	6.0% or more	**6.0% or more**

KPI (Key Performance Indicator) Factor index to achieve KGI

Reform/Strategy	Measures	KPI (Index)	FY2016	FY2017	FY2018	FY2019 (planned)	FY2020
Profit Structure Reform Indicator	Increase Focused Business (Portfolio Optimization)	Operating Income in Focus Area*	11.9 B Yen	13.1 B Yen	12.6 B Yen	13.1 B Yen	16.9 B Yen
		Growing Investment Distribution Ratio in Focus Area	46%	52%	82%	46%	35% or more
	Accelerate Globalization (Expand and Strengthen Profit Structure)	Overseas Group Sales*	350.2 B Yen	389.0 B Yen	405.3 B Yen	420.5 B Yen	600.0 B Yen
		Sales Growth Rate in the Americas	90%	103%	118%	125%	170%
	Increase Manufacturing Profitability (Expand and Strengthen Profit Structure)	Operating Income from Manufacturing*	9.0 B Yen	11.4 B Yen	11.6 B Yen	12.0 B Yen	14.4 B Yen
		Break-Even Point Sales Ratio*	76%	76%	76%	76%	73%
Corporate Culture Reform Indicator	Pursue Efficiency (Strengthen Management Platform)	Consolidated Selling, General and Administrative Ratio	10.6%	10.0%	9.9%	10.0%	9.4%
Financial Strategy Indicator	Investment	Growth Investment	8.2 B Yen	23.5 B Yen**	32.4 B Yen	52.9 B Yen	100.0 B Yen**
	Financial Structure	Rating (R&I)	[A]	[A]	[A]	[A] or more	[A] or more

*The figures in this chart are all simple management accounting data, which is different from the figures disclosed on the consolidated financial statements.
**Total over five years

Portfolio Optimization

Categorize businesses into four areas (Growth, Focus, Base, Improvement) to drive growth and maximize resource efficiencies

Focus Areas

	FY2016	FY2017	FY2018
Life & Healthcare	• Expanded production facilities for TREHA™ • Entered the nucleic acids business and concluded a general distributor agreement with Shikoku Nucleic Acids Chemistry Co., Ltd.	• Established new branch in Lyon, France to expand cosmetics business in Europe • Invested in PeptiStar, Inc. and developed next-generation pharmaceuticals	• Hayashibara Co., Ltd. concluded a long-term partnership agreement with Lonza, and construction began on a new pullulan and enzyme plant
Electronics	• Expanded our scope, mainly in chemical businesses and Chinese joint-venture Wuxi Chenghong Electronic Chemicals • Decided to strengthen display and wearable businesses and make Inkron Oy a subsidiary	• Established a joint venture with Toyobo Co., Ltd. for the manufacture and sales of polyimide film • Invested in Kyulux, Inc., an OLED venture • Wuxi Chenghong Electronic Chemicals established a subsidiary in Mianyang, Sichuan Province	• Invested in 3D Glass Solutions, Inc., broadening our lineup of 5G products and expanding the semiconductor business

Growth/Emerging Areas

- Invested venture capital, especially in Silicon Valley in the United States
- Established Huizhou Sanli Three Synergy Precision Co., Ltd., a car electronics joint venture company in China
- Provided additional funding for Minda Kyoraku, an automotive parts manufacturer in India
- Began joint development in materials informatics (MI)
- Entered the self-driving technology field (LiDAR-related)
- Established Infinite Material Solutions, aiming to commercialize water-soluble support materials for 3D printers
- Worked on development of Axonerve™ (an FPGA solution for associative memory in the era of 5G and IoT)

Base Areas

- Acquired U.S. speciality chemical distributor Fitz Chem LLC
- Acquired DAITAI KAKO CO., LTD.

Improvement Areas

- Integrated the functions of the Beauty Care Products Department and its subsidiaries
- Withdrew from the plastic hose manufacturing business in China

Expand and Strengthen Revenue Base

– Accelerate global expansion to grow sales overseas
– Improve manufacturing company profitability, develop new businesses

Mindset

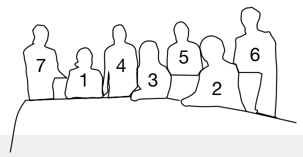
– Build accountability, responsibility, and risk awareness
– Share messages from management, engage in consistent monitoring and PDCA

Strengthen Management Platform

– Pursue efficiencies, human resource development

ACE-2020 Aims	FY2016–2018	FY2019
Mindset • Build accountability, responsibility, and risk awareness and raise awareness of the mid-term management plan • Engage in consistent monitoring and PDCA and improve the quality of investments • Share messages from management and create better communication infrastructure	Delegate authority and revise the Company-wide organization	
	Strengthen our monitoring system, create a dashboard, and revise our meeting structures	
	ACE-2020: Rolled over the plan, conducted a Company-wide survey, uncovered new issues and responded to them	
		Strengthen governance of our overseas manufacturing businesses
	Introduce new investment guidelines and launch projects to promote M&A	
	Promote branding activities (Top Management Tours), upload videos of the president, and engage in community dialogue	
Strengthen Management Platform • Eliminate excess/duplication and increase efficiency of the organization/function • Develop human resource	Began considering disclosure policies for ESG activities	Establish sustainability management policies and materiality
	Launched a project to make back-office operations more efficient	Consolidate operations and raise efficiency of Nagase Business Expert Co., Ltd.
	Begin operating new HR programs	
		Develop new technologies through cross-company organizational collaboration

Our Board (As of June 21, 2019)



Directors

1. Representative Director and Chairman
Hiroshi Nagase

2. Director and Vice Chairman
Reiji Nagase

3. Representative Director, President and CEO
Kenji Asakura

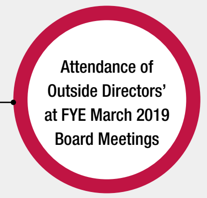
4. Representative Director and Managing Executive Officer
Ichiro Wakabayashi
Sales & Marketing

5. Director and Executive Officer
Masaya Ikemoto
Corporate Administration
Group Companies

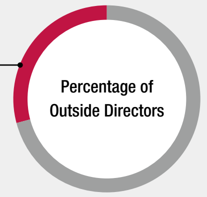
6. Outside Director
Hidenori Nishi
1975 Joined Kagome Co., Ltd.
2000 Director, Kagome Co., Ltd.
2003 Director and Executive Officer, Kagome Co., Ltd.
2005 Director and Managing Executive Officer, Kagome Co., Ltd.
2008 Director and Senior Managing Executive Officer, Kagome Co., Ltd.
2009 Representative Director and President, Kagome Co., Ltd.
2014 Representative Director and Chairman, Kagome Co., Ltd.
Director, NAGASE & CO., LTD.
2016 Chairman of the Board, Kagome Co., Ltd.
2018 Retired from Kagome Co., Ltd.

7. Outside Director
Nobumasa Kemori
1980 Joined Sumitomo Metal Mining Co., Ltd.
2006 Managing Executive Officer and Director, Sumitomo Metal Mining Co., Ltd.
2007 Representative Director and President, Sumitomo Metal Mining Co., Ltd.
2013 Representative Director and Chairman, Sumitomo Metal Mining Co., Ltd.
2016 Director and Chairman, Sumitomo Metal Mining Co., Ltd.
Director, NAGASE & CO., LTD.
2017 Executive Adviser, Sumitomo Metal Mining Co., Ltd.

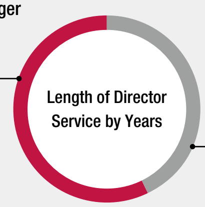
100%



29%



Five years or longer
57%



Less than five years
43%

Institutional Format	Corporation with Board of Directors and Audit & Supervisory Board / Executive Officer System Adopted
Total Number of Directors	7
Number of Outside Directors	2
Number of Board of Directors Meetings	16 (100% attendance rate by outside directors)
Director Term of Service	One Year (same for outside directors)
Number of Compensation Committee Members	3 (2 outside directors)
Number of Independent Directors	4 (all outside directors)
Independent Auditor	Ernst & Young ShinNihon LLC
Total Number of Audit & Supervisory Board Members	4
Number of Outside Audit & Supervisory Board Members	2
Number of Audit & Supervisory Board Meetings	16

Audit & Supervisory Board Members

Audit & Supervisory Board Member
Masanori Furukawa

Outside Audit & Supervisory Board Member
Nobuyuki Shirafuji
1984 Joined the Sumitomo Bank, Ltd. (currently Sumitomo Mitsui Banking Corporation)
2003 General Head of the London Group of Global Corporate Investment Dept. of Sumitomo Mitsui Banking Corporation and Sumitomo Mitsui Banking Corporation Europe Limited
2006 General Manager of Credit Dept., Europe, Middle East and Africa Division (London) of Sumitomo Mitsui Banking Corporation and Sumitomo Mitsui Banking Corporation Europe Limited
2013 General Manager of Credit Review Dept. of Sumitomo Mitsui Banking Corporation
2016 Retired from Sumitomo Mitsui Banking Corporation
Audit & Supervisory Board Member, NAGASE & CO., LTD.

Audit & Supervisory Board Member
Mitsuru Kanno

Outside Audit & Supervisory Board Member
Gan Matsui
1980 Prosecutor, Tokyo District Public Prosecutors Office
1990 Prosecutor, Tokyo District Public Prosecutors Office (Special Investigative Squad)
2005 Director, Special Trial Department, Tokyo District Public Prosecutors Office
2010 Assistant Public Prosecutor, Osaka High Public Prosecutors Office
2012 Chief, Criminal Investigations, Supreme Public Prosecutors Office
2014 Chief Prosecutor, Yokohama District Public Prosecutors Office
2015 Superintending Prosecutor, Fukuoka High Public Prosecutors Office
2016 Japan Federation of Bar Associations (Member, Tokyo Bar Association)
Yaesu Sogo Law Office
2018 Audit & Supervisory Board Member, NAGASE & CO., LTD.

Executive Officers

Naoki Yasuba
Managing Executive Officer
Hayashibara Co., Ltd.
Nagase R&D Center

Takanori Yamauchi
Managing Executive Officer
Nagase Business Expert Co., Ltd.

Satoru Fujii
Managing Executive Officer
Nagase ChemteX Corporation

Masatoshi Kamada
Executive Officer
CEO, Greater China
CEO & COO, Nagase (China) Co., Ltd.

Yasuhiro Mihara
Executive Officer
GM, Corporate Planning Department

Takahiro Okumura
Executive Officer
Energy Business Office
New Value Creation Office

Kusuo Ota
Executive Officer
GM, Colors & Advanced Processing Department
Nagase Application Workshop

Hiroyuki Ueshima
Executive Officer
GM, Mobility Solutions Department
Nagoya Branch

Koichi Sagawa
Executive Officer
GM, Polymer Global Account Department

Akira Takami
Executive Officer
GM, Finance Division
GM, Accounting Division

Takayuki Masuda
Executive Officer
CEO, ASEAN and India
Leader, Regional Operating Centre

Yasumitsu Orii
Executive Officer
GM, New Value Creation Office

Ryuichi Uchida
Executive Officer
CEO, Americas
CEO, Europe
CEO, Nagase Holdings America Corporation

Takeshi Takada
Executive Officer
GM, Electronics Department

Noriaki Arashima
Executive Officer
GM, Speciality Chemicals Department

Noriyoshi Yamaoka
Executive Officer
GM, Human Resources & General Affairs Division
GM, BPR & Administration Division

Corporate Governance

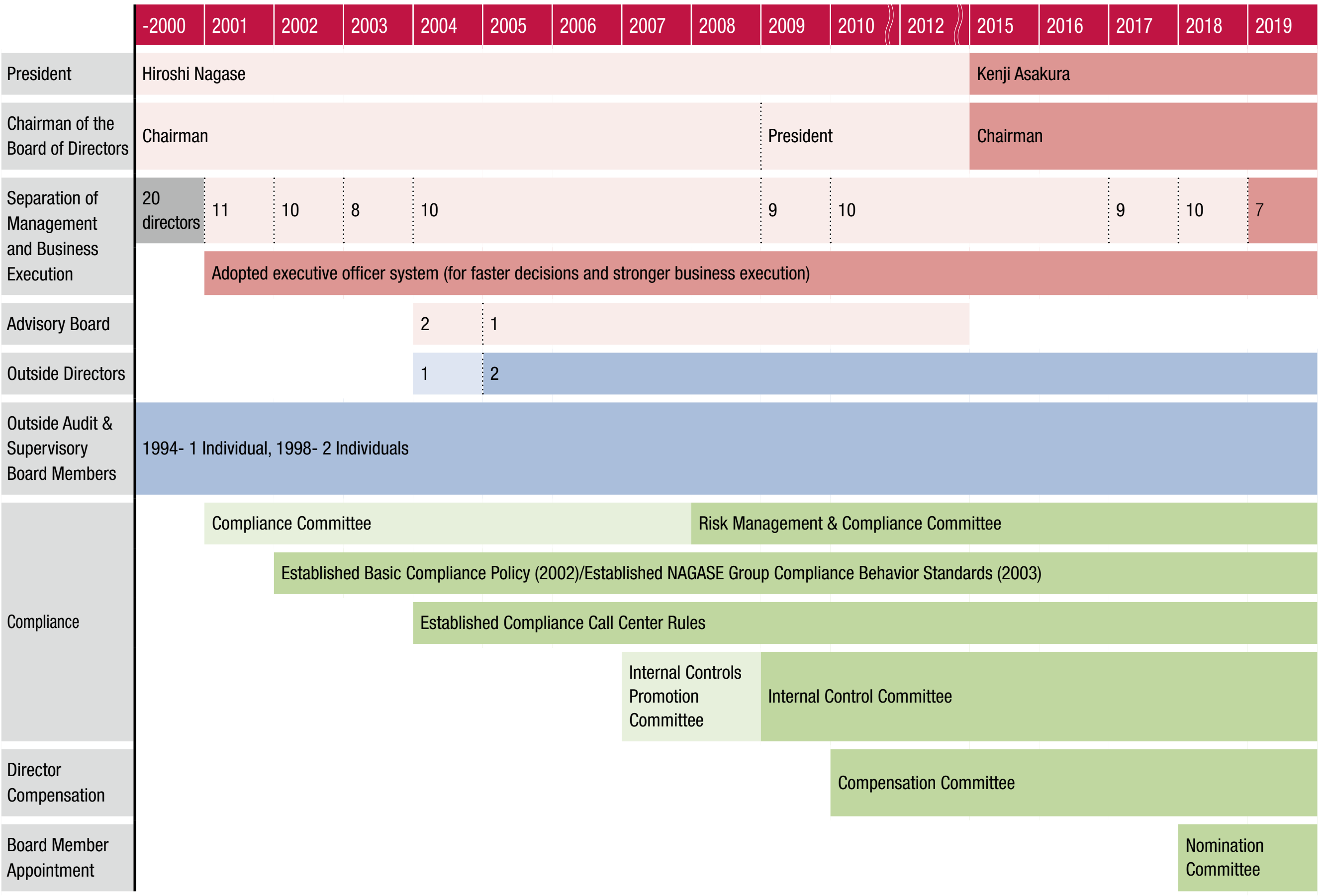
Basic Approach

In line with the NAGASE Management Philosophy and to keep the promise made to stakeholders in the NAGASE Vision, we established a framework for sustainable growth in any external environment. This framework of our long-term management policy includes Challenges for Growth and Reinforce the Management Platform for Growth. We are improving our corporate value over the medium and long term guided by this framework.

We believe that rapid decision-making and execution, as well as transparency are essential for us to accomplish these initiatives as we engage in strengthening our corporate governance.

Note: Our latest Corporate Governance Report is available on our website. https://www.nagase.co.jp/english/assetfiles/tekijikaiji/20190722.pdf

Initiatives to Strengthen Corporate Governance



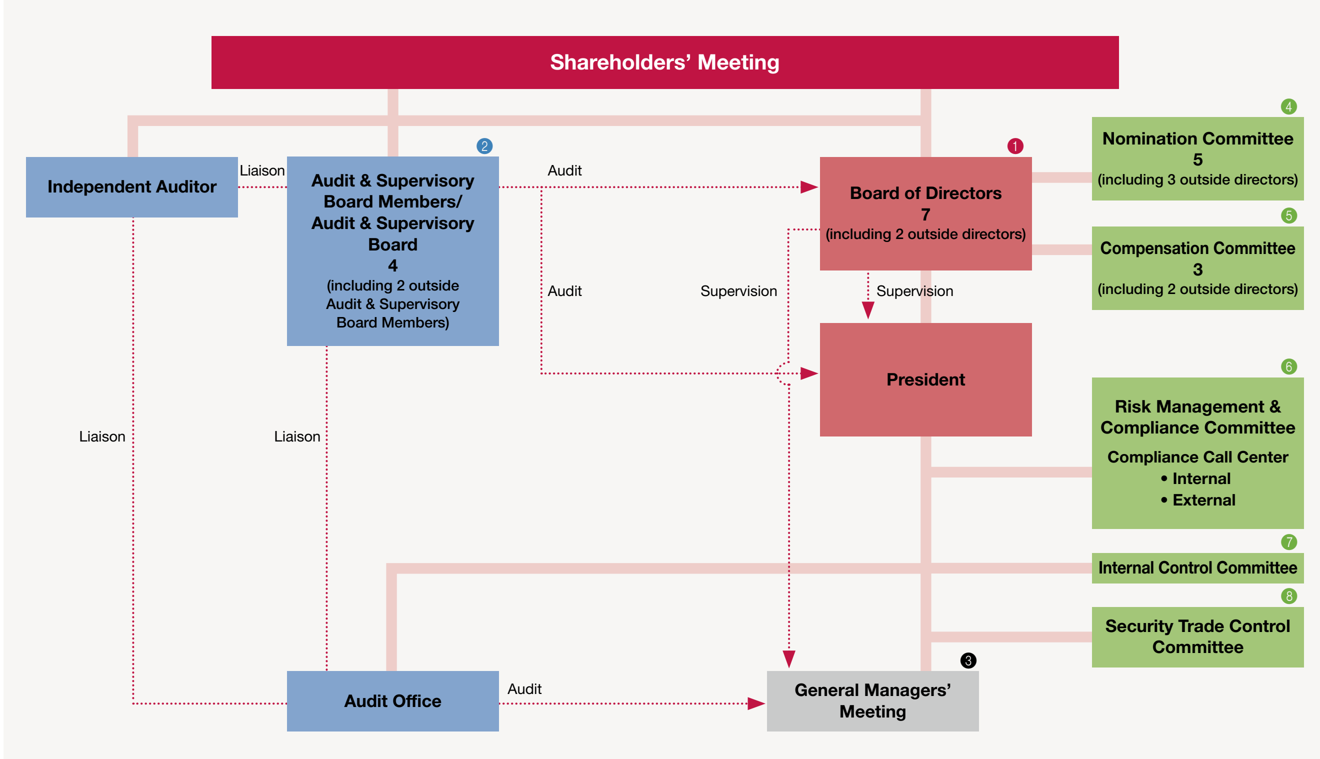
Compliance with the Corporate Governance Code

(As of July 1, 2019)

In the fiscal year ended March 31, 2019, NAGASE CO.,LTD. established the Nomination Committee to ensure objectivity and transparency in the nominations put forward for directors and executive officers, as well as strengthen succession planning for these positions. The majority of the Committee is comprised of independent outside directors and Audit & Supervisory Members. In addition, we reduced the number of internal directors by three, reducing the total number of directors from ten to seven, with the aim of enhancing the effectiveness and vitality of the Board of Directors.

Following internal discussions and dialogue with shareholders, it was decided that the anti-takeover defense measures instituted in 2007 would not be renewed at the general meeting of shareholders held on June 21, 2019. To sustainably provide value to all stakeholders, NAGASE CO.,LTD. will continue to strengthen, manage, and monitor its governance system.

NAGASE's Corporate Governance System



❶ Board of Directors	❷ Audit & Supervisory Board/ Audit & Supervisory Board Members	❸ General Managers' Meeting	❹ Nomination Committee
The Board of Directors is clearly positioned as the body in charge of making decisions on management policies and strategies, and it supervises the execution of operations. Holding a regular monthly meeting, the Board of Directors makes important decisions, tracks business performance and formulates measures.	In accordance with audit policy and audit plans set at Audit & Supervisory Board meetings, Audit & Supervisory Board Members attend important meetings, such as Board of Directors meetings, and conduct audits of the execution of duties of directors based on reports solicited from subsidiaries on an as-needed basis.	Executive officers attend General Managers' Meetings, where each department provides a status report. Meeting attendees discuss and formulate specific measures.	A majority of the members are outside directors and Audit & Supervisory Board Members. The committee deliberates on appointment proposals for directors and executive officers, and succession plans for the Chief Executive Officer. 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.
❺ Compensation Committee	**❻ Risk Management & Compliance Committee**	**❼ Internal Control Committee**	**❽ Security Trade Control Committee**
With the majority of its members made up of outside directors, the Compensation Committee ensures 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.	The Risk Management & Compliance Committee establishes and strengthens risk management and compliance systems that cover not only legal compliance but also corporate ethics. The committee also maintains ISO environmental management standards and promotes energy conservation initiatives.	The committee deliberates on the 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.	The Security Trade Control Committee thoroughly complies with export related laws and regulations in relation to foreign currency exchange and foreign trade for its trading of cargoes and technologies covered by such laws and regulations.

Compensation Committee Members

Chair	Kenji Asakura (Representative Director and President)
Member	Hidenori Nishi (Outside Director)
Member	Nobumasa Kemori (Outside Director)

Nomination Committee Members

Chair	Kenji Asakura (Representative Director and President)
Member	Hiroshi Nagase (Representative Director and Chairman)
Member	Hidenori Nishi (Outside Director)
Member	Nobumasa Kemori (Outside Director)
Member	Gan Matsui (Outside Audit & Supervisory Board Member)

Compensation

NAGASE CO., LTD. has established a policy for determining overall board member compensation and methods for calculating the actual amounts. Our basic policy is to ensure compensation is appropriate for the role and scope of responsibilities for each board member and motivates them to sustainably enhance corporate value. In line with this policy, board member compensation (excluding outside directors and Audit & Supervisory Board Members) consists of a fixed basic salary commensurate with the position and performance incentives (bonuses). Performance incentives (bonuses) reflect individual performance based on the Goal Management System after a basic payment amount is decided, based on Company earnings for the period in question. Compensation for outside directors and Audit & Supervisory Board Members consists only of a fixed basic salary calculated to reflect their work duties. In addition, NAGASE CO., LTD. established the Compensation Committee, a majority of whom are outside directors. This committee deliberates on the validity of compensation standards and systems, reporting to and advising the Board of Directors. This ensures improved objectivity and transparency in the compensation decision-making process.

Breakdown of Compensation and Total Amounts

Title	Total Compensation (Millions of yen)	Total Compensation by Type (Millions of yen)				Number of Eligible Directors
		Basic Compensation	Stock Options	Bonus	Retirement Benefits	
Directors (excluding Outside Directors)	402	232	—	170	—	9
Audit & Supervisory Board Members (excluding Outside Audit & Supervisory Board Members)	46	46	—	—	—	2
Outside Directors and Audit & Supervisory Board Members	52	52	—	—	—	5

Important Matters regarding Employee Bonuses for Employees Also Serving as Directors

Total Compensation (Millions of yen)	Number of Eligible Directors	Comments
40	4	Paid in an amount equivalent to employee bonus.

Compensation by Type

Compensation Type	Compensation Content	Fixed/ Variable	Payment Method
Basic salary	• A fixed salary is paid commensurate with each director's position	Fixed	Cash
Performance incentives (bonuses)	• A basic payment amount is decided in line with performance for the period. • Incentives reflect individual evaluations based on the Goal Management System.	Variable (by fiscal year)	Cash

Audit System

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). Each Audit & Supervisory Board Member conducts auditing activities and reports audit results to the other members. The Audit & Supervisory Board exchanges a wide range of opinions and information.

Full-time members conduct auditing activities throughout the year in line with the Audit & Supervisory Board's audit policies and plans. They attend Board of Directors meeting and other important meetings, review important accounting documents, and audit the performance of directors' duties through hearings from directors, executive officers, and operational departments, including the Audit Office. In addition, full-time members also serve as Corporate Auditors of major subsidiaries and monitor the status of internal control systems in corporate groups. This is done through on-site audits of domestic and overseas subsidiaries and information exchanges with Corporate Auditors of affiliates.

While independent auditors perform on-site audits of subsidiaries and on-site asset inspections, Audit & Supervisory members monitor and verify whether independent auditors maintain an independent position and appropriate audits are being performed. In addition, after the end of a fiscal year, the Audit & Supervisory Board conducts an annual auditing activity review in regard to the Audit & Supervisory Board's audit policies and plans. The results of the review are reflected in audit plans in the following fiscal years to enhance the effectiveness of the Audit & Supervisory Board.

Status of Audit by Internal Auditors

The Audit Office is in charge of internal audits, including audits to assess the appropriateness and efficiency of the Company's business activities, including those of subsidiaries, based on internal auditing rules. The Audit Office is staffed by nine employees, including certified internal auditors (CIA), qualified internal auditors (QIA), and other individuals who possess specialized knowledge in internal audits. In addition, in line with the Internal Control Over Financial Reporting system, the Audit Office evaluates internal controls as an independent internal auditor and provides reports regarding the status of internal controls to directors, the Audit & Supervisory Board, and independent auditors, as appropriate.

Status of Audit by Independent Auditor

Independent audits are performed in a fair and impartial manner by the following specified limited liability partners.

Certified Public Accountants		Auditing Firm
Specified limited liability partners Managing partners	Hiroyuki Koichi	Ernst & Young ShinNihon LLC
	Hideo Yamamoto	
	Yasuhiro Takada	

None of the certified public accountants, who have executed the aforementioned duties, have performed audits continuously for more than seven years.

Policies Related to Information Disclosure

Pursuant to the NAGASE Group Compliance Behavior Standards, we engage in ongoing communications with society and our stakeholders through timely disclosure of truly important information over appropriate channels. We are mindful that all corporate activities remain within the bounds of socially accepted norms.

This basic philosophy guides us as we conduct timely, appropriate, and fair disclosure of information through investor relations activities, public relations programs, and websites for our shareholders and investors to improve management transparency and accountability.

Major Investor Relations Activities during Fiscal 2018

Activity	No. of Events	Comments
Conferences/briefings for institutional investors and analysts	2	Financial results disclosure, forecasts, special topics (year-end, interim)
Individual meetings for domestic and overseas institutional investors	About 100	Meetings held separately for institutional investors
Individual investor conferences/ meetings	9	Conducted at branches of securities companies
Overseas roadshows	1	President and CFO traveled overseas to meet directly, have discussions with institutional investors

Reason for Appointment of Outside Directors and Attendance Rates

Category	Name	Reason for Appointment	Attendance at FY2018 Board Meetings	Concurrent Titles/Responsibilities
Outside Directors	Hidenori Nishi	Hidenori Nishi has been involved in the management of Kagome Co., Ltd. for many years and possesses advanced knowledge and extensive experience regarding corporate management. He will use this knowledge and experience to make proposals concerning the Company's overall management from a perspective of familiarity with industry and is expected to enhance the Company's corporate governance.	16/16	Outside Director, Fuji Oil Holdings Inc.
	Nobumasa Kemori	Nobumasa Kemori has been involved in the management of Sumitomo Metal Mining Co., Ltd. for many years and possesses advanced knowledge and extensive experience regarding corporate management. He will use this knowledge and experience to make proposals concerning the Company's overall management from a perspective of familiarity with industry and is expected to enhance the Company's corporate governance.	16/16	Executive Adviser, Sumitomo Metal Mining Co., Ltd. Outside Director, JFE Holdings, Inc. Outside Director, Sumitomo Realty & Development Co., Ltd.
Outside Audit & Supervisory Board Members	Nobuyuki Shirafuji	Nobuyuki Shirafuji possesses a wide range of knowledge based on his many years of overseas experience in financial institutions. He also has many years of experience in audits and audit departments, possessing considerable knowledge regarding finance and accounting. Accordingly, we believe he will properly perform his duties as an outside Audit & Supervisory Board Member.	16/16	N/A
	Gan Matsui	Gan Matsui has a wealth of experience in legal circles and considerable knowledge of compliance and governance. Accordingly, we believe he will properly perform his duties as an outside Audit & Supervisory Board Member.	12/12 *Mr. Matsui was elected at the ordinary shareholders' meeting on June 22, 2018.	Attorney, Yaesu Sogo Law Office Outside Audit & Supervisory Board Member, Orient Corporation Outside Audit & Supervisory Board Member, Totetsu Kogyo Co., Ltd. Outside Director, Audit and Supervisory Committee Member, GLOBERIDE, Inc.

Note: Policies and standards for independence regarding outside directors are disclosed in NAGASE's securities reports.

Board of Directors Effectiveness Evaluation

To evaluate the effectiveness of the Board of Directors, we conduct a survey of all directors and Audit & Supervisory Board Members pertaining mainly to the composition, operation, and deliberations of the Board of Directors. The results of the survey are used to evaluate effectiveness at the Board of Directors meetings. The Board of Directors in the fiscal year ended March 31, 2019, was confirmed to have functioned effectively because it deliberated and made decisions appropriately and in a timely manner.

In addition, one issue raised in the previous fiscal year's Board of Directors evaluation was the need to enhance the reporting from each committee in order to strengthen governance. We confirmed that this issue improved as evidenced in part by the annual report from the Risk Management & Compliance Committee. We confirmed two issues this year: 1. the need to enhance deliberations regarding management strategies and important matters and 2. the need to realize a diverse and appropriately sized Board of Directors from a mid- to long-term perspective.

Dialogue
for Value Creation

Hidenori Nishi
Outside Director
Former Chairman of the Board, Kagome Co., Ltd.

Nobumasa Kemori
Outside Director
Executive Adviser, Sumitomo Metal Mining Co., Ltd.

Interview with the Outside Directors

Enhancing Board Effectiveness to Ensure Medium- to Long-Term Growth

The Role of Outside Directors

Nishi: Throughout the entire NAGASE Group, everyone is working together to create value by leveraging six functions to realize new synergies. Although the manufacturing function is not quite where it should be in terms of engraining important manufacturing concepts, this is steadily improving through various exchanges and discussions within the Group. I have also been tapping into my management experience at Kagome Co., Ltd. to monitor operations and provide advice related to manufacturing management.

Kemori: Outside directors bring different experiences than their counterparts from inside the company. I have experience as a Director at Sumitomo Metal Mining Co., Ltd. Fundamentally, however, I don't think there is that much difference between the two companies. Accordingly, regarding the same management point, I try to facilitate thorough discussion at the Board of Directors meetings while providing a different point of view. As for monitoring, I act as a check on management and am vigilant not to undervalue the more procedural aspects of the job, such as those pertaining to basic formalities.

Corporate Governance of the NAGASE Group

Nishi: I think disciplined autonomy is pivotal. Unless this is established, governance cannot fundamentally improve, regardless of the form of governance or how many outside directors are appointed. Autonomy means each individual fully understands the standards and willingly follows them. Based on that, it is important to regularly consider systems that complement autonomy with third-party oversight to keep up with the changing times. To do that, the key is to identify stakeholders in a real sense, similar to Kagome's strategies including potential users aligninig with its shareholders.

Kemori: There have been several cases of Japanese companies that were unable to rein in out-of-control managers. That kind of situation currently seems inconceivable at the NAGASE Group, but it is still important to plan for environmental factors similar to those cases. In addition, at Kagome and Sumitomo Metal Mining, respectively, Mr. Nishi and I have experienced a wide range of successes and failures. There is rarely an occasion when a discussion lacks reality because of NAGASE's inexperience. Therefore, I think what is clearly vital is that we enrich discussion by sharing the lessons and perspectives gained from our experiences.

The Strengths and Future Potential of the NAGASE Group

Nishi: One of the Group's clear strengths is the fact that it infuses R&D and manufacturing functions into the regions and networks it has cultivated as a trading house. Looking at it from the perspective of resource allocation, you could also call this dispersion. This approach could become a weakness, but at present, the NAGASE Group allocates resources while keeping an eye on the big picture. Because the Group is currently lining up individual elements, it needs to unite these going forward to create a large wave, with an awareness of the increasing importance of the Board of Directors.

Kemori: I concur with Mr. Nishi although I might use different words. The NAGASE Group has a strong network as a trading house as well as manufacturing subsidiaries with global potential, namely Nagase ChemteX Corporation and Hayashibara Co., Ltd. I believe that if the Group can develop these three important strategic resources under a big picture, there will be new growth trajectories. On the other hand, because growth trajectories lead to bigger risks, the Board of Directors needs to engage in thorough discussion of these matters.

The NAGASE Group's Corporate Culture and Medium- to Long-Term Growth

Nishi: I see many good people in the NAGASE Group. Looking at it another way, however, you could also say that there isn't much pointing out. In my experience, that can mean things are great when the sailing is smooth. When you try to effect a change, however, there's always the possibility that it could end up failing. You should keep what works and point out what doesn't work in order to foster a culture where everyone strives to raise the bar. I hope everyone is excited about what's to come for the NAGASE Group in the next few years as it gains a new business model and management skill set.

Kemori: One of the reasons I accepted the role of outside director was the NAGASE Group's Management Philosophy to maintain the highest standard of integrity. Many companies with long histories, including Sumitomo Metal Mining, are basically earnest and hard working. You could say that the NAGASE Group, in actuality, is a group of sincere, dedicated individuals. In addition, as Mr. Nishi said, I have a strong impression of the good people in the Group. However, that is completely separate from my assessment of their work. I pointedly ask about work-related achievements and clarify the factors behind poor performance so it becomes a valuable asset and facilitates future accomplishments. The NAGASE Group is in the middle of a major growth phase. I hope everyone enthusiastically supports this growth over a medium- to long-term perspective.

Risk Management

Basic Approach

The NAGASE Group has both trading house and manufacturing functions and operates multifaceted global businesses, exposing itself to various risks associated with the unique features of its businesses. We therefore need to realize sustainable growth while minimizing harm from emerging risks. Each relevant department has accurately assessed the internal and external risks related to business activities and enacted countermeasures to improve the situation.

Note: Specifically, we established the Risk Management & Compliance Committee to monitor risk management and compliance. We have defined its functions and authority, and it operates under a framework with clear roles and responsibilities.

Main Risk Countermeasures

Specific Risks	Product Safety and Quality Control	Security Trade Controls	Regulatory Compliance in Products
Enterprise Risks	Internal controls (including financial reporting)		
	Compliance		
	Data security		
	BCPs/Business crisis management		

Addressing Company-wide Risks

Internal Controls

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. In line with the Management Philosophy of maintaining highest integrity, the internal controls of the NAGASE Group monitor the construction and operation of frameworks defined under the internal control system and ensures the propriety of operations.

Basic Policy of Internal Controls (Index)

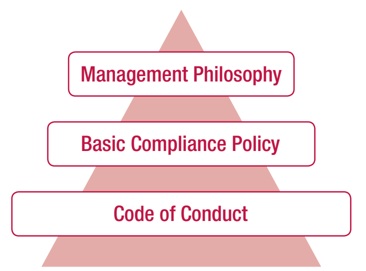
1. Framework to ensure that duties executed by directors and employees comply with laws, regulations, and the Articles of Incorporation
2. Framework related to preserving and managing data regarding the execution of duties by directors
3. Rules and other frameworks related to management of loss risks
4. Framework to ensure that directors are efficiently executing their duties
5. Framework to ensure the propriety of operations throughout the Group comprising the Company and its subsidiaries
6. Matters related to employees Audit & Supervisory Board Members need to support their work
7. Matters related to ensuring the effectiveness of Audit & Supervisory Board Member directions and the independence of the abovementioned employees from directors
8. Framework for directors and employees to report to Audit & Supervisory Board Members and framework related to other reports to Audit & Supervisory Board Members
9. Framework to ensure that other audits by Audit & Supervisory Board Members are being conducted effectively

Note: The basic policy related to internal controls is available on our website. https://www.nagase.co.jp/english/csr/governance/

Compliance

The Risk Management & Compliance Committee formulates the NAGASE Group Basic Compliance Policy to ensure corporate activities are strictly in line with the NAGASE Group Code of Conduct. Should an illegal act or other issue be discovered at NAGASE & CO. or a group company, such should be reported immediately to the Risk Management & Compliance Committee, which shall report promptly to the Board of Directors and the Audit & Supervisory Board. In addition, the Company has introduced a compliance hotline whereby directors, officers, employees and others, including those from Group companies, can report or discuss issues directly.

Compliance Regulation System



Basic Compliance Policy

1. **Comply with applicable laws and regulations; conform to internal rules**
   - Conduct business fairly and in good faith, in keeping with laws, company rules and social norms.
   - Conduct work in keeping with internationally accepted norms to ensure our growth as a global enterprise.
   - Comply strictly with domestic and foreign laws including laws regarding bribery and competition laws.
2. **Eliminate anti-social elements**
   We firmly reject any anti-social elements that threaten the public order and safety.
3. **Provide useful products and services**
   Contribute to society through useful goods and services.
4. **Respect employee personality and individuality**
   We foster a corporate culture in which employees can contribute with their independence and creativity.
   We will protect employee health, respect their basic rights, and treat them fairly and without discrimination. We will provide a safe and enriching work environment for our employees.
5. **Disclose information**
   We will ensure management transparency by fairly disclosing corporate information to our stakeholders, including our customers, suppliers, employees, and shareholders.
6. **Protect the global environment**
   We recognize and perform on our responsibility to improve the environment.
7. **Responsibilities to top management**
   The top management of all NAGASE Group members shall take the lead to ensure that the business is administered "with the highest standard of dignity as a member of society".

Note: The Basic Compliance Policy is also available on our website. https://www.nagase.co.jp/english/csr/compliance/policy/

Fair Business Practice Initiatives

Under its Code of Conduct, the NAGASE Group is ensuring strict compliance with laws, regulations, and rules as well as internal regulations and rules.

The risk of cartel enforcement, particularly surcharges, under the Antimonopoly Act can have a major impact on a business. Accordingly, the NAGASE Group actively conducts education activities, mainly for our manufacturing companies, to ensure there is no involvement in unfair trade. We intend to strengthen our approach to the prevention of bribery of foreign public officials with respect to Japan's Unfair Competition Prevention Act. To ensure strict compliance with anticorruption measures, we are also educating employees worldwide regarding bribery prevention regulations, reflecting considerations of extraterritorial application of the U.S. Foreign Corrupt Practices Act and the UK Bribery Act.

Education Activities (Fiscal 2018)

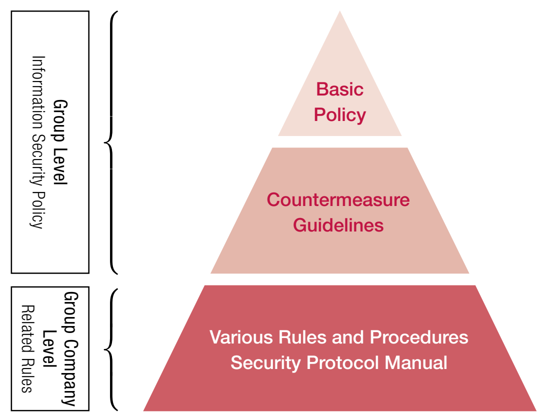
July 2018	Targets: All employees of Hayashibara Co., Ltd., Nagase ChemteX Corporation, Totaku Industries, Inc., Nagase Medicals Co., Ltd. Content: Compliance awareness survey
October 2018	Targets: Sales representatives of Totaku Industries, Inc. Content: Explanation of the Antimonopoly Act (fixing resale price, cartels)
November 2018	Targets: Managers of Hayashibara Co., Ltd., Nagase ChemteX Corporation, Totaku Industries, Inc., Nagase Medicals Co., Ltd. Content: Presentations on current status of each company based on the results of a compliance awareness survey
February 2019	Targets: All employees of Hayashibara Co., Ltd. Content: Explanation of the Antimonopoly Act (fixing resale price, cartels)
March 2019	Targets: Group manufacturing company managers Content: Overall explanation of compliance activities

Information Security

The NAGASE Group strongly recognizes the importance of protecting data assets owned and managed in the course of conducting business activities. The economic and social losses incurred from information leaks and other accidents are incalculable. As for information security measures, all NAGASE Group employees are aware of the importance and need to work together Group-wide on this matter.

Regarding the promotion of information security, we have established the Basic Policy of Information Security, as well as the Guideline for Information Security Measures which comprehensively detail recommended security levels and rules that need to be followed. In addition, each Group company creates a manual detailing rules and things to be careful about during daily tasks as well as various rules and procedures outlining how to implement information security countermeasures. We are also fostering greater awareness among all employees through regular education and training.

Information Security Policy and Related Rules



Crisis Prevention and Business Continuity Planning

Each NAGASE Group company has taken steps to mitigate such risks as those related to natural disasters that could impact the continuity of business activities as well as the safety and lives of employees.

NAGASE has enacted measures for crisis prevention to protect human life and assets as well as business continuity plans (BCPs) to ensure steady operations. 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, such as the transfer of head office functions. As for BCPs, each department has formulated a recovery plan to assure delivery to major business partners.

Crisis Prevention Activities

Protect human life and assets

- Prevent damage from disasters (reinforce anti-seismic structures, hold drills, etc.)
- Ensure rapid first response to emergencies (Crisis Prevention Head Office)
- Prevent collateral disaster damage
- Enact measures for stranded employees
- Recover safely

BCPs

Ensure steady operations

- Maintain the value chain
- Continue deliveries at an alternate site
- Prioritize activities that preserve trust and credibility

Ensuring Satellite Office Functions during Crises

The NAGASE Group's training facility NAGASE Global HR Development Center in Shibuya, Tokyo is highly resilient to earthquakes and is equipped with power generators. In an emergency in which the Tokyo head office cannot be used, this facility will function as a satellite office with a 150-person capacity.

NAGASE Global HR Development Center

Business Crisis Management

We established the Crisis Management Guidelines to prepare for a business crisis that could disrupt business continuity. The guidelines aim to build a system that can swiftly and appropriately launch on-site first responses as well as a Group-wide organizational response, encompassing an assessment of the real situation, status reports, action guidance, and more. Another aim is to raise awareness of this system. In an emergency, we will strive to maintain the stability of our business operations and minimize stakeholder losses under the Crisis Management Guidelines.

Responses to Individual Risks

Product Safety and Quality Control

The NAGASE Group considers product safety and quality control a major social responsibility in order 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 Quality Management Section of the Legal Division provides management of vendors and manufacturing contractors, support to Group manufacturing companies, and internal education.

Note: The Product Safety Principles are available on our website. https://www.nagase.co.jp/english/csr/compliance/product-safety-principles/

Nagase ChemteX Corporation

Nagase ChemteX's Fukuchiyama Plant, which manufactures food additives and health food materials, manages everything from the acceptance of raw materials and manufacturing to quality assurance and product delivery. These practices comply with ISO 9001, Food Additive Good Manufacturing Practices, and FSSC 22000, which is an international standard for food safety that we plan to acquire in fiscal 2019.

Nagase ChemteX's Fukuchiyama Plant

Hayashibara Co., Ltd.

Hayashibara has acquired FSSC 22000 certification for its mainstay product TREHA™. In addition, Hayashibara follows applicable GMPs for its active pharmaceutical ingredients, and pharmaceutical excipients in the management of everything from the acceptance of raw materials and manufacturing to quality assurance and product delivery.

Hayashibara's functional saccharide plant

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 international society, the Security Trade Control Committee works to understand the export control situation, follow the latest revisions to the Foreign Exchange and Foreign Trade Control Law, and ascertain 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.

Specific Import-Export Management Framework

Information about our export products, technologies, and overseas customers is stored in and managed via our proprietary Product Management System. We confirm whether certain products or Technologies are subject to restriction under the rules of the Foreign Exchange and Foreign Trade Control Law and the U.S. Export Administration Regulations. Only those products approved by the Item Compliance Management Section are put into the system as products allowed for export.

Going one step beyond mere adherence to the law, we define policies for the entire NAGASE Group associated with security trade controls that, as a rule, prohibit trade of products that are military-related items or that have military applications.

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 Associates (Cumulative)	
Fiscal year ended March 31, 2017	856
Fiscal year ended March 31, 2018	890
Fiscal year ended March 31, 2019	947

Regulatory Compliance in Products

The safe handling of chemicals is an important foundation underpinning the NAGASE Group's businesses. At NAGASE, we continue to improve product-related compliance and centralized information management, including management of chemical products. All the products we deal in are subject to our management system. This allows us to comply properly with any laws or regulations that affect our products.

Specific Compliance Framework

The NAGASE Group monitors related laws for the chemical components and regulated effects of new products we plan to introduce to the market. We register each chemical component to ensure compliance with every country's laws and regulations that cover particular components. Information related to these products is registered in the aforementioned Product Management System database in an effort to centralize the Group's management of said information. By joining relevant industry organizations, we have access to the latest information regarding chemical regulations. We endeavor to pass on accurate information to relevant parties in part through our use of chemSHERPA, a tool for sharing information on chemical substances contained in products across the supply chain.

Responding to Global Chemical Laws and Regulations

The Strategic Approach to International Chemical Management (SAICM) adopted at the 2002 World Summit on Sustainable Development—also known as the Johannesburg Summit—is aimed at ensuring that, by the year 2020, chemicals are produced and used in ways that minimize significant adverse impacts on the environment and human health. In accordance with this policy, the entire world is adopting more strict and standardized regulations concerning chemical management. Accordingly, we anticipate global regulatory trends related to chemical management, working with our overseas subsidiaries to educate, provide instructions, and adopt product management systems. In this way, we facilitate the global management of information related to chemical substances to provide accurate, up-to-date information to our business partners.

Measures in Various Countries to Implement SAICM

Region/Country	Inventory	GHS
Japan	Chemical Substance Control Law	Industrial Safety and Health Act
United States	TSCA	HCS (OSHA)
EU	REACH	CLP
China	China REACH	Regulations on the Safe Management of Hazardous Chemicals
South Korea	K-REACH	Occupational Safety and Health Act
Taiwan	Toxic and Chemical Substances of Concern Control Act	Occupational Safety and Health Act
ASEAN	Under development in each country	Under development in each country

Inventory: Existing chemical substance lists in each country
GHS: Globally Harmonized System of Classification and Labeling of Chemicals

The Group's Approved Operations and Products

Manufacture of poisonous and deleterious substances	Handling of stimulants raw materials
Import of poisonous and deleterious substances	Manufacture and sale of Class II medical devices
General sale of poisonous and deleterious substances	Sale of high-pressure gas (type 1)
Manufacture of pharmaceuticals Categories: packaging, labeling, storage	Sale of high-pressure gas (type 2)
Sale of pharmaceuticals	Sale of agrochemicals
Manufacture of veterinary pharmaceuticals Categories: packaging, labeling, storage	Sale of fertilizers
Wholesale of veterinary pharmaceuticals	Import of animal feed
Export of narcotics, etc.	Sale of animal feed
Import of narcotics, etc.	Import of feed additives
Wholesale and retail of specified narcotics, etc.	Sale of feed additives
Export of psychotropics	Sale of liquor
Import of psychotropics	Import of alcohol
Export of stimulants raw materials	Sale of alcohol
Import of stimulants raw materials	Wholesale of salt
	Specified sale of salt (import/export)
	Construction (installation of machinery and equipment)

Environment

Environmental Management

Basic Environmental Approach

The NAGASE Group aims to realize a sustainable world where people live with peace of mind. We believe a prerequisite of this vision is a sustainable global environment.

Currently, changes in the global environment are pressuring companies and individuals to make big decisions.

The NAGASE Group helps realize a sustainable society by actively working to solve environmental problems, including by promoting a low-carbon society, realizing a recycling society, preventing pollution, preserving biodiversity, and efficiently using water.

Environmental Policy

❶ 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.

❷ Develop businesses that give full consideration to environmental issues

We will conduct our business activities in full awareness of the need to preserve ecosystems and protect the environment, and we will make every possible effort to give full consideration to the environment within the limits of technological and economic feasibility.

❸ 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.

❹ 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.

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

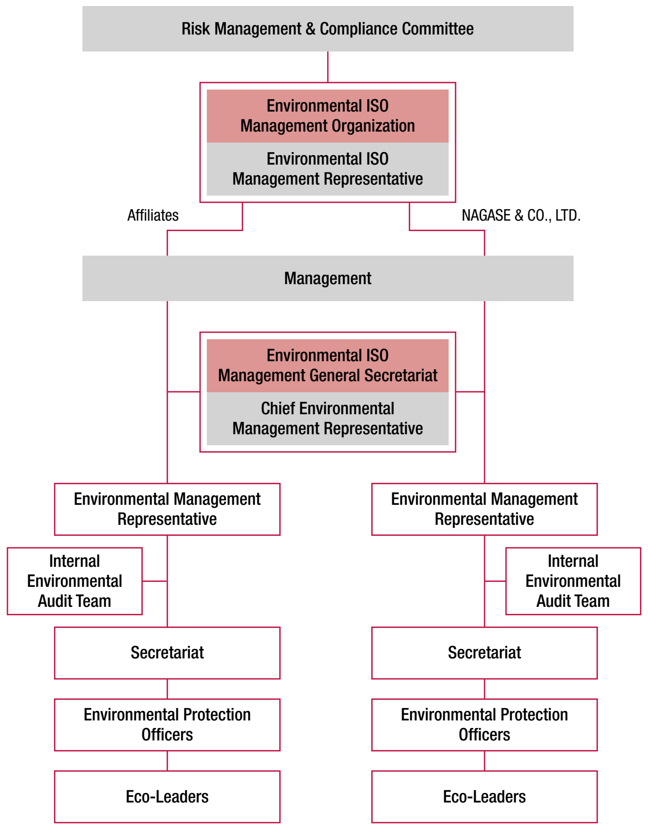
We will disclose our Environmental Policy to the public and make all who work for the NAGASE Group fully aware of its contents.

Note: The NAGASE Group Environmental Policy is available on our website. https://www.nagase.co.jp/english/csr/environment/policy/

NAGASE Group Environmental Management Activities

The NAGASE Group began building an environmental management structure in May 1999 by establishing an Environmental Protection Committee, a role currently assumed by the Risk Management & Compliance Committee. The committee encouraged and supported 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: Nagase Chemical, Nagase Plastics, Nagase Abrasive Materials, Nishinihon Nagase, Nagase Elex, and Nagase-OG Colors & Chemicals. Japan group companies Nagase ChemteX, Nagase Medicals, Totaku Industries, Nagase Techno-Engineering, Nagase Techno Service, and Fukui Yamada Chemical have received independent certification. We will continue activities to improve environmental management systems among certified group companies.

Environmental Management Structure



Environmental Management Structure

We incorporate environmental management activities into our daily business activities. Specific activities include (1) promoting environmental businesses, (2) pursuing energy-efficient activities, and (3) improving operational efficiencies.

One example of our environmental businesses is using the technologies from our key environment and energy segment to develop and grow other businesses. We are building a system to quickly roll out products and services toward creating recycling-oriented and low-carbon societies.

One example of energy-efficient activities is the Nagase Energy Calculation Online System, or NECO System. We began operating this system in August 2008. The NECO System uses logistics voucher data to calculate domestic cargo transport volumes, helping reduce our environmental footprint through logistics efficiencies.

In addition to calculating annual cargo transport volume and CO_2 emissions, the system analyzes optimal transport routes to reduce CO_2, aiding our efforts to reduce energy used in transportation.

We are also taking action in our headquarters building to conserve energy and resources.

Reducing Our Ecological Footprint

In line with the Revised Act on the Rational Use of Energy, NAGASE & CO., LTD. has been designated as a specified corporation by the Bureau of Economy, Trade and Industry, as our energy usage exceeds fixed levels. Consequently, since fiscal 2011, we have compiled data on the amount of energy consumed at every facility, formulating medium- and long-term energy reduction plans and submitting regular reports to the Bureau of Economy, Trade and Industry.

We adopted and operate a building energy management system (BEMS) at our Tokyo head office building, Nagoya branch office, and NAGASE Global HR Development Center. We automated controls and energy conservation operations during summer peak usage times to keep environmental settings within target levels.

Environmental Performance Data

Electricity Usage

	Fiscal 2016	Fiscal 2017	Fiscal 2018
Electricity Usage (kWh)	6,131,628	6,068,534	5,825,310

Waste and Recycling

	Fiscal 2016	Fiscal 2017	Fiscal 2018
Waste (t)	189	194	193
Recycling (t)	154	156	158
Recycling (Ratio)	81.7%	80.6%	81.8%

Participating Companies: NAGASE & CO., LTD.
Period: April 2016 to March 2019

CO_2 Output

	Fiscal 2016	Fiscal 2017	Fiscal 2018
CO_2 Output (t-CO_2)	3,196	3,070	2,765

Paper Usage

	Fiscal 2016	Fiscal 2017	Fiscal 2018
Paper Usage (1,000 sheets)	5,431	4,603	4,585
Paper Usage (t)	23.4	19.7	19.6

CO_2 Output from Logistics Activities

	Fiscal 2016	Fiscal 2017	Fiscal 2018
CO_2 Output (t-CO_2)	1,840	2,044	2,268

Fukui Yamada Chemical Received the Fukui Governor's Award for Excellence in Energy Management by Businesses

In 2019, Fukui Yamada Chemical Co., Ltd., which manufactures Color Former functional dyes for printing receipts, tickets and more, received the 2018 Fukui Governor's Award for Excellence in Energy Management by Businesses. This award is given to companies that take excellent energy-saving measures.

Fukui Yamada Chemical is taking energy-saving measures in an effort to reduce the amount of electricity and heavy oil used at its plants. In 2016, the company established the Safety Planning and Energy-Saving Office. The company reduced its idling electricity usage by visualizing the operating status of its machines and then staggering the peak hours of multiple machines to improve efficiency.

As a result of these repeated efforts, the company was able to reduce electricity usage by around 12% and heavy oil by about 16% year on year in fiscal 2018 in terms of the energy needed to manufacture one kilogram of products. This achievement was one of the citations for the award.

The ceremony for the Fukui Governor's Award

Society

Training and Supporting Our Human Resources

The NAGASE Group HR Development Policy and Approach

The NAGASE Group believes that human resource development strengthens the business foundations undergirding the Group's growth. We hold Group-wide training by job title and sponsor ongoing training for local staff, engaging in global unified human resource development programs that bring the comprehensive functions of the NAGASE Group to bear.

HR development programs form the foundation of our corporate activities. These programs consist of an organized combination of on-the-job and off-the-job training. On-the-job training lets employees experience real-world work in a variety of roles to gain new knowledge and skills. Off-the-job training also involves training and gaining skills through both formal lectures and self-directed learning. The NAGASE Group promotes on-the-job training, while at the same time ensuring employees are able to learn knowledge and skills for their continued growth. These programs include rank-specific training for young staff, training for managers, and position-specific training to ensure employees have the necessary knowledge and skills to perform their work.

We have emphasized the following three points among our various development policies. We will continue to revise Group education and training programs according to changes in the external business environment and NAGASE Group strategy.

Strengthening Management Capabilities and Operating Skills and Fostering Globally Proficient Personnel

❶ **Promote globalization**

- Assign employees to overseas entities
- Send employees to overseas business school
- Provide cross-cultural training
- Offer English language training support

❷ **Train managers**

Improving awareness in competitive environment (send employees to business school or MBA basic training, etc.)

❸ **Instill shared values**

- Provide shared value workshops in rank-specific training
- Offer shared value workshops for managers
- Conduct surveys regarding shared value
- Revise programs as needed in line with changes in the external environment going forward

Note: The Group's HR development programs is available on our website. https://www.nagase.co.jp/english/csr/employees-relations/

Basic Stance on Diversity

The NAGASE Group believes that diversity is an important part of overall corporate strategy. To nimbly respond to changes in the environment, we need to ensure we have human resources with a wide variety of ideas and perspectives, both in Japan and overseas. Having a diverse range of employees encourages more dynamic discussions and leads to new ideas that become the source of competitive advantage in the market. This in turn leads to the growth of both the NAGASE Group and each individual employee.

Themes for Diversity Promotion

1. Internal education

① Periodic messages from top management and broadcasts of related information

② Instill the NAGASE Management Philosophy, NAGASE Vision, and NAGASE Way deeply into NAGASE Group employees

2. Diversity in organizations and individuals

③ Improve global communications

④ Support employees' career development

⑤ Continue employing non-Japanese people and women as main career track staff and improve our corporate culture

3. Develop good places to work

⑥ Instill awareness and activate initiatives for continuity and productivity improvements

⑦ Support employees who are dealing with home care or other challenges

Empowering Women in the Workplace

The NAGASE Group believes empowering female employees to be an important initiative for promoting diversity. We have been actively leveraging the power of our female workforce in business, by hiring more women in core roles, promoting more women to management, and expanding their career opportunities. We are also focused on fostering an environment where women can promote work life balance and continue their career, by enhancing the support for employees with child rearing and caregiving needs. Although the number of women in management has improved, it is still an ongoing challenge for us to achieve further increases. The proportion of women among all employees is also not high, so we will continue to improve the situation by increasing the number of women's employment.

子育てサポートしています 2010年認定事業主

Kurumin Logo

Our Benefit Programs for Promoting Work-Life Balance

Program	Overview
Maternity leave	Leave from six weeks before giving birth to eight weeks after the birth
Parental leave	Leave for raising children (for both male and female employees)
Time off for childcare	Time off for nursing sick/injured children
Reduced working hours for child-rearing	Reduction of working hours for employees with child-rearing needs
Flextime for childcare	Flexible working hours for child-rearing
Subsidy for childcare service	A subsidy that covers a part of the childcare service cost
Time off for caregiving	Time off for caregiving for a family member
Caregiving leave	Leave for caregiving for a family member
Reduced working hours for caregiving	Working hours reduced for employees with caregiving needs
Flextime for caregiving	Flexible working hours for employees with caregiving needs
Subsidy for caregiving service	A subsidy that covers a part of the caregiving service cost

Hiring People with Disabilities and Posting Non-Japanese Employees to Core Positions

Hiring People with Disabilities

The NAGASE Group strives to create a work environment where everyone can thrive together, regardless of whether they have a disability or not. We respect the capabilities of each employee, and foster an environment where they can excel with reasonable accommodation for disabilities.

Posting Non-Japanese Employees to Core Positions

The Group is expanding its business in various countries and regions around the globe. Based on the basic approach of respecting the diversity of employees' ideas and perspectives, we are posting outstanding non-Japanese employees to core positions in accordance with the needs of each country, region, and company.

Respect for Human Rights

Basic Approach

As a corporate group doing business around the globe, the NAGASE Group respects the history, culture, and customs of every region, and we do not engage in harassment or discrimination based on race, creed, gender, religion, nationality, language, physical characteristics, wealth, or place of birth. Specifically, the Group established a Code of Conduct to thoroughly ensure respect for human rights and respect for individuality. In the event of an incident of discrimination, the Group will take immediate steps to investigate the situation, acting to help the affected individual(s) and to prevent any recurrence.

Human Rights Education

The Code of Conduct, which enshrines our respect for human rights, is available in Japanese, English, Chinese, and German, distributed as a booklet and available through our corporate intranet for the reference of all Group employees. We require every NAGASE Group employee to comply with this Code of Conduct.

Labor Management Relations

The Group supports the Universal Declaration of Human Rights and the OECD Guidelines for Multinational Enterprises and guarantees the basic labor rights of its employees. Our labor union has the three rights of labor (the right to organize, the right to collective bargaining, and the right to collective action). The Labor Union and Management hold "Labor Management Committee" meetings periodically to discuss and resolve issues regarding working conditions, work environment, etc. We are also working on building a good relationship between the labor union and management at overseas affiliate companies in accordance with each country's labor laws and regulations.

Vibrant Work Environments

Approach to Occupational Health and Safety

We believe occupational health and safety is a fundamental prerequisite for promoting business activities, since "to enrich the lives of our employees" is our Management Philosophy. By actively taking initiatives to ensure occupational health and safety, we are continually improving and maintaining a safe and comfortable work environment.

Measures to Work Style Reforms

To increase the productivity of the Group as a whole, we believe it is important to ensure each employee makes the most of their work hours with priority on productivity and efficiency, and to achieve work-life balance. Based on this idea, we are promoting discussions and taking initiatives aiming at achieving work style reforms.

For example, the monthly meeting of the Employee-Management Health Committee includes discussions related to flexible work schedules, encouraging paid time off, and reducing overtime. The committee uses results of workplace surveys as a basis for employee-management talks regarding creating a more enjoyable workplace environment.

Our Benefit Programs for Work Style Reforms

Program	Overview
Time Off for Spouse's Childbirth	Time off to be present at spouse's childbirth
Flextime (for R&D employees)	Employees can choose when to start and finish work, depending on individual business needs
Time Off for Refreshing and Recharging	Time off given to employees who have worked 15 full continuous years to refresh and recharge

Community Involvement

The NAGASE Group 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.

Health and Productivity Management

The Group aims to realize a sustainable world where people live with peace of mind. We believe that the most important measure for achieving this is ensuring the physical and mental wellness of our employees, which constitute Group assets, as well as their families. To this end, we formulated and unveiled the NAGASE Health Declaration in 2018 in support of improving the health of the Group employees. We are currently promoting initiatives in line with the declaration.

2019 健康経営優良法人 Health and productivity ホワイト500

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.

Supporting the 2021 International Chemistry Olympiad in Japan

We are supporting the 53rd International Chemistry Olympiad to be held in Japan in 2021 with the aim of developing future global leaders of the chemistry and materials industries. Around 300 high school students from about 70 countries and areas will take part. We are helping sponsor the games with the main purpose of creating a brighter future through chemistry.

Nurturing Local Culture

Hayashibara Museum of Art

NAGASE Group company Hayashibara Co., Ltd. provides operational support for the Hayashibara Museum of Art. 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.

Participation in the Living Architecture Museum Festival

NAGASE & CO., LTD.'s Osaka head office is a registered cityscape resource of Osaka City. Every year, NAGASE participates in the Living Architecture Museum Festival in Osaka, helping the City's promotion attract people.

Contribution to Society

TABLE FOR TWO

NAGASE participates in the TABLE FOR TWO charity program, which simultaneously strives to solve the problems of hunger in developing nations and of obesity and lifestyle diseases in developed nations.

SCRUM JAPAN PROGRAM

NAGASE & CO., LTD. supports the SCRUM JAPAN PROGRAM, a program operated by the Japan Rugby Football Union to foster human resources through the sport of rugby.

Supporting Para-Athletes

We support the activities of the non-profit Japan Blind Marathon Association. In addition, NAGASE employs athlete Shinya Wada, a bronze medalist at the 2012 London Paralympics in track and field (5000m).

Functional Materials

Performance by Segment

	Customer industries
Performance Chemicals Business	Paints, inks, urethane
Speciality Chemicals Business	Petrochemicals, plastics, electronic materials, semiconductors, industrial oil, surfactants, organic synthetics, environment-related etc.

Risks & Opportunities

- Global reorganization of the petrochemical and paint industries
- Impact of stricter environmental regulations around the world on chemical manufacturing

Strengths

- The largest share in the coating and urethane industry and a borderless global network
- Business expansion through composites, chemical synthesis, and polymer technologies
- Proposal of composite materials and technologies using evaluation data at the Nagase Application Workshop (NAW)
- Technical background equivalent to a manufacturer and compliance with various regulatory trends around the world


Tamotsu Isobe
GM, Performance Chemicals Department

Business Solutions Providing Performance, Safety & Reduced Environmental Load

The Coating Materials Division has been working to offer better solutions to customers while keeping a careful eye on challenges in the entire paint market amid global market reorganization.

Our key product “Pat!naLock™” can contribute to society and the environment by extending the life of infrastructure and reducing the necessary number of paint jobs. We are working to develop more applications for this product.

In line with the concept of providing a much more comfortable life with our urethane business network, the Advanced Comfort Materials Division provides various combinations of new materials and services, enhancing the presence of the NAGASE Group.

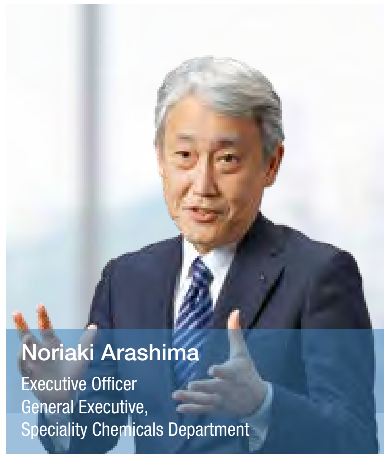
The Performance Chemicals Department has been making every effort for stable growth by providing chemicals for safety and comfort as well as biomass-derived materials for reduced environmental load.

Providing Value as a Specialist Chemicals Group

We supply a wide variety of materials that meet the needs of our business partners, from general products to high function/high value-added products (speciality products). In addition, we are developing new materials in line with the technological advancements made in electric vehicles, IoT, 5G, 3D technology, and more.

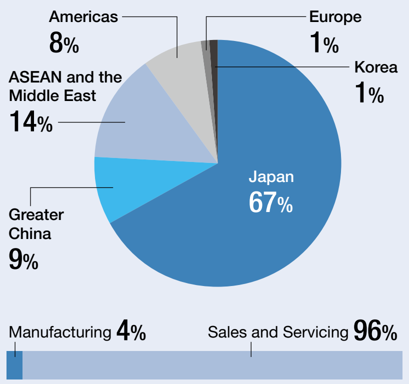
Furthermore, we provide our business partners with a wide range of data related to our value chain along with our unique technology-oriented sales and innovation capabilities. The data we provide covers not only prominent risks in the business environment but, also latent risks. We have earned highly favorable feedback from our business partners by offering forward-looking alternatives.

In addition to enhancing our eco-friendly products and services, we are researching uses of digital technology in the chemicals industry. We will continue working to maximize the value we provide as a group that specializes in chemicals.

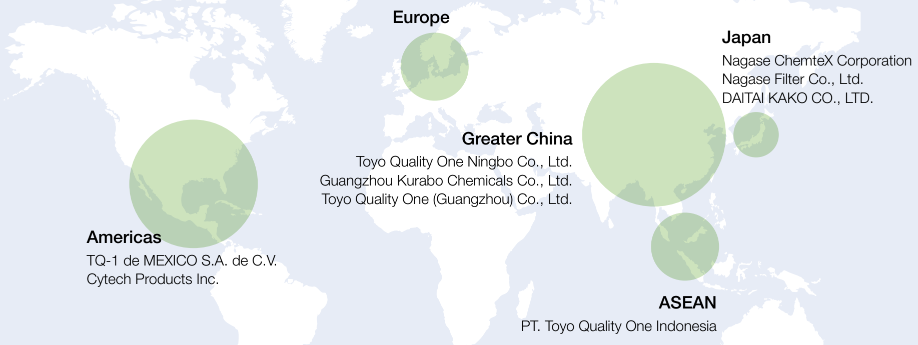

Noriaki Arashima
Executive Officer
General Executive,
Speciality Chemicals Department

Business Scope and Operating Performance

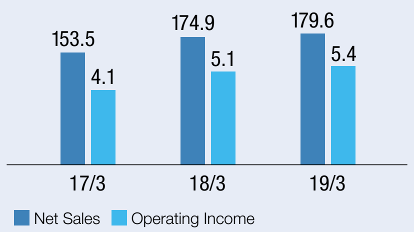
Net Sales Ratio by Region and Field



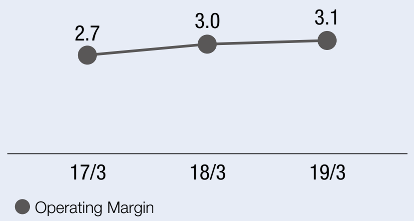
Main Manufacturing Bases (Includes equity affiliates)



Net Sales / Operating Income (Billions of yen)



Operating Margin (%)



Major Achievements under *ACE-2020*

Performance Chemicals Business	• Acquired stock of Fitz Chem LLC, further developing the North American coating market • Acquired stock of DAITAI KAKO CO., LTD. thereby entering downstream industries
Speciality Chemicals Business	• Developed the market for Nagase ChemteX products. We redoubled our efforts and developed the market through our global marketing capabilities • Expanded environmental infrastructure business and globally constructed a business model • Used digital marketing to discover new customers and applications • Expanded the filter business by increasing market share and strengthening initiatives in filter cleaning

Topics

Combating Infrastructure Decay with New Pat!naLock™ Reactive Paint

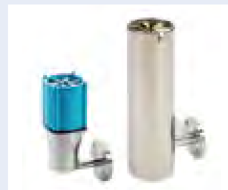
NAGASE jointly commercialized Pat!naLock™, an anti-rust paint that can extend the life of iron and steel infrastructure.

Pat!naLock™ is a new, innovative reactive paint that prevents corrosion by forming a dense, protective layer of rust on the surface of iron and steel material through reactions with oxygen in the air. Because it is expected to protect structures from destructive rust that leads to decay, it is being widely adopted for plant engineering equipment and by communications and electric power companies, which will face difficulty in securing adequate labor in the future. In 2018, this product received an excellence award at the Second Annual Infrastructure Maintenance Awards and one of the 18th KCS Awards in Environmental Technology from the Kinka Chemical Society.

Creating a Circular Economy and Contributing to the Global Environment: Supporting Customer ESG Investment

The concept of a circular economy, fully responsive to global environmental regulations, has garnered recent attention in manufacturing. In response, NAGASE has focused its efforts on selling REARTH™ in regions where new environmental regulations have been adopted. This eco-friendly product of MORIKAWA INDUSTRIES CORPORATION achieves major cost reductions by collecting and reusing volatile organic compounds (VOCs) that otherwise pollute the atmosphere.

We also sell the AQUABLASTER™ (pictured right) wastewater treatment system developed by Aience Limited. Though these sales, we help solve a variety of customer issues by reducing related costs for electricity and treatment, while increasing total treatment capacity.



Advanced Materials & Processing

Performance by Segment

	Customer industries
Colors & Advanced Processing Business	Paper manufacturing, thermal paper, printing, print processing materials, office equipment, electronic equipment, 3D printing, packaging, cosmetics, hygiene products, medical products, home appliances, sheet and film products, liquid crystal, semiconductor components, colorants, dyestuffs, pigments, inks, paints, resins, and fiber processing
Polymer Global Account Business	Office equipment, games, electronics, consumer electronics, home appliances, building and construction packaging materials

Risks & Opportunities

- Strategic alliances between manufacturers and users (reorganization of the industry)
- Rise in demand for eco-friendly materials and technologies
- Changes in global production bases

Strengths

- Direct interaction with end users to acquire specifications and generate business
- A foundation for overseas expansion, an overseas network with capable human resources and strong sales potential, especially in China and ASEAN
- The testing and evaluation organization Nagase Application Workshop (NAW) to solve problems with business partners and manufacturers
- A wide range of materials and technical capabilities for creating premium products


Kusuo Ota
Executive Officer
GM, Colors & Advanced Processing Department

Close Relationships with Customers and Effective use of Customer Information

This department traces its roots back to the dyestuff business at the very founding of our company. The department consists of four main product groups: digital printing supply, colors & additives, functional film materials, and polymer products. We can cover a wide range of industries spanning many of our affiliated companies. We have staked out a midstream position that connects upstream seeds with downstream needs, which is ideal for executing on the NAGASE Vision's directive to Identify.

Our customers have started seeking higher level functions, ranging from our conventional procurement to sales of their own products, collaboration on new businesses, and proposals of latent business opportunities that are not presented by conventional data visualization. We are asked about how to grow and expand businesses as well as about our design capabilities for them.

Whether in Japan or overseas, in this department each of us will continue giving our all to meet the expectations of our customers. We will do this by leveraging the network we've built over the years through trading, our technical support that utilizes our application lab, and our manufacturing and sales affiliates.

Tapping Our Deep Insight to Create Optimal Customer-Focused Proposals

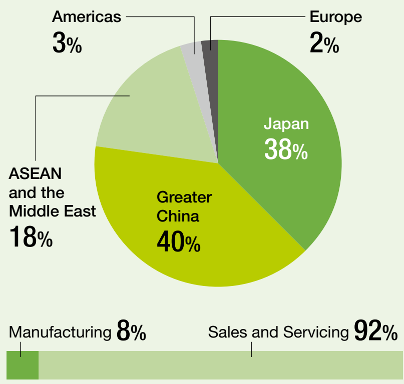
The NAGASE Group's plastics resin sales business has forged close ties with global businesses over many years via distribution rights. The organizational culture fostered through these relationships still remains one of our strengths. In addition, at overseas subsidiaries our locally hired staff have been praised for their high degree of expertise in the resins field and for expanding new business with non-Japanese customers.

Environmental awareness is rising in the resins field, especially regarding the problem of marine plastic. We have identified business opportunities in eco-friendly materials, such as Biomass Plastics, Biodegradable Plastics and Mono-materials (uniform materials optimized for recycling). The NAGASE Group will tap into its keen perception and use its global network to offer optimal solutions.


Koichi Sagawa
Executive Officer
GM, Polymer Global Account Department

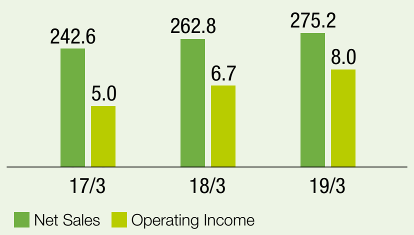
Business Scope and Operating Performance

Net Sales Ratio by Region and Field

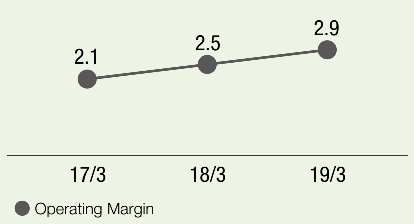


Main Manufacturing Bases (Includes equity affiliates)

Net Sales / Operating Income (Billions of yen)



Operating Margin (%)



Major Achievements under *ACE-2020*

Colors & Advanced Processing Business	• Expanded overseas business by supporting the establishment of a branch in Turkey and acquiring resin trading rights in five Asian countries • Established SCREEN DecoraPrint Co., Ltd. as a joint venture company with SCREEN Holdings Co., Ltd.
Polymer Global Account Business	• Expanded and strengthened partnerships with global customers • Further expanded our global network (India, South Korea, Australia)

Topics

Joint Development Project with Art Students to Uncover New Possibilities for Plastic Materials

As the distributor for Eastman Chemical Company in Japan, NAGASE deals with copolyester resins. One of them, Tritan™, boasts superior transparency, chemical resistance, durability, moldability, and heat resistance. It is used in a wide range of products, from daily goods like infant bottles and sports bottles to medical equipment.

In 2018, we launched a business-academic joint research program with Musashino Art University and Tama Art University to uncover new possibilities for the material. It is a new endeavor aimed at students aspiring to be product designers with the purpose of increasing understanding of Tritan™ and searching for new possibilities for the material.

At a recent results presentation, students unveiled novel ideas that only youth could dream up, including athletic goggles, musical instruments, and clothing accessories. These proposals highlight dazzling new possibilities for the material.

Proprietary Denapolymer™ Meets Exacting Customer Demands

With leading compounding technologies, the Company's manufacturing affiliate Setsunan Kasei Co., Ltd. handles a wide range of resins, including general-purpose resins, super-engineering plastics, petroleum derivatives, and biomass. NAGASE combined its unique information gathering expertise with Setsunan Kasei's resin processing technologies to promote Denapolymer™, a proprietary brand that Setsunan Kasei developed and manufactures. This product can meet unique requests and fulfill niche customer demands that present challenges to major resin manufacturers.

We are also working to create a record of success for unique, differentiated products, including functional masterbatches, eco-friendly resins and HS80 Series of high sliding polyethylene. Especially this HS80 series realizes unique sheets and films with enhanced sliding properties and impact strength.

Electronics

Performance by Segment

	Customer industries
Electronics Business	Electronic components, semiconductors, heavy electric machinery, displays, silicon wafers, LED lighting, automotive, aircraft, environment and energy

Risks & Opportunities

- Trade friction between the United States and China
- Emerging needs due to technological innovation
- The arrival of the 5G and IoT eras

Strengths

- An organization that unifies trading and manufacturing functions
- A network that can directly contact end users
- Selection and concentration in strategic domains utilizing data on technological and market trends

Focusing on the Technological Foundations for the New Era of Semiconductor- and Electronics-Related Businesses

Self-driving cars and IoT services like telemedicine are already supporting the lifestyles of the future. But this progress was only possible once semiconductors and electronic devices had advanced sufficiently.

The Electronics Department aims to solve technological issues that arise in the development of next-generation semiconductors and electronic devices. We provide total solutions using technological materials, equipment-related technology, and process technology. These are centered around the latest packaging technologies made possible by liquid epoxy encapsulating materials developed by Nagase ChemteX Corporation.

As fallout from the trade friction between the United States and China continues to spread, especially in the semiconductor and electronic device markets, we are keeping an eye on various trends. At the same time, we will fully harness the potential of the new organization, which unifies our trading and manufacturing functions, and use technology to continue development in tandem with regional economies.

Integration of the Electronic Chemicals Department and the Electronic Materials Department

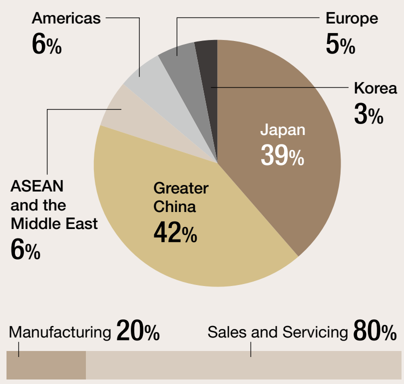
In April 2019, with the aim of flexibly implementing forward-looking business expansion and building a system that can monitor the entire industry, NAGASE integrated the Electronic Chemicals Department and the Electronic Materials Department to form the new Electronics Department. This new department will promote business expansion while swiftly responding to the diversification of semiconductor technologies, 5G- and AI-driven changes in applications, and structural changes in the industry due to self-driving technology.

Former Electronic Chemicals Department	Former Electronic Materials Department
■ Industries Semiconductors, heavy electric machinery, etc. ■ Main products Formulated epoxy resins and related products, photolithography materials for the production of semiconductors and display, etc.	■ Industries Displays, silicon wafers, etc. ■ Main products Display materials, OLED materials, silicon wafer processing materials, functional materials, etc.

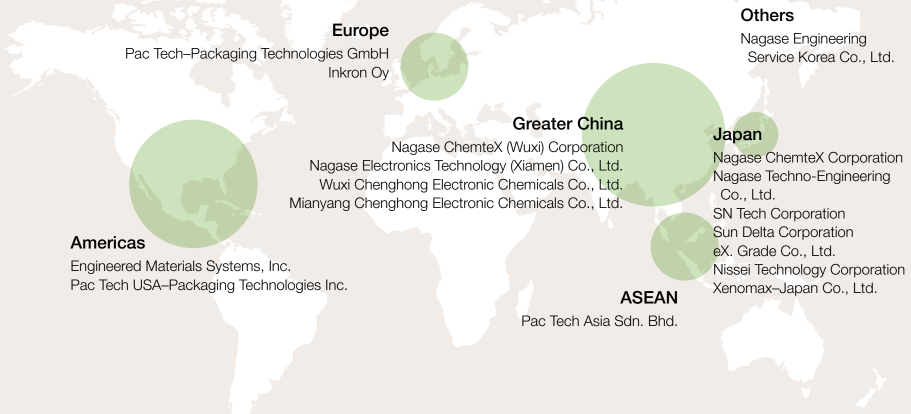
Electronics Department

Business Scope and Operating Performance

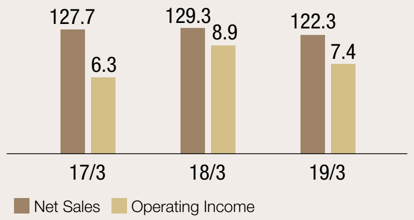
Net Sales Ratio by Region and Field



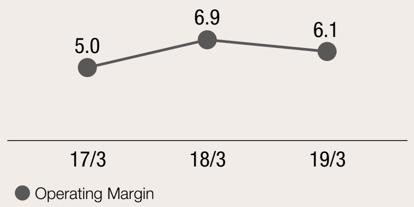
Main Manufacturing Bases (Includes equity affiliates)



Net Sales / Operating Income (Billions of yen)



Operating Margin (%)



Major Achievements under *ACE-2020*

Electronics	• Established a new photolithography materials manufacturing base in China in cooperation with the China-based Chengxing Group and built a local Chinese supply system for photolithography materials • Invested in Kyulux, Inc. to spur development of the next-generation OLED market • Acquired functional material technology for electronic devices and components by making Inkron a subsidiary

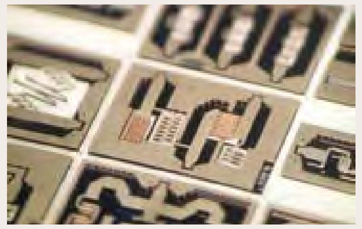
Topics

Supplying Next-Generation Display Materials
Completed Construction of Xenomax–Japan's Headquarters Plant

We wrapped up construction of the headquarters plant for Xenomax–Japan Co., Ltd. in Tsuruga City, Fukui Prefecture, and operations commenced in 2018. Xenomax–Japan was established as a joint venture with Toyobo Co., Ltd. XENOMAX® polyimide film offers among the best dimensional stability performance in the world, with a stable coefficient of thermal expansion (CTE) in environments ranging from room temperature to as high as 500℃. Toyobo created this film by making the most of its heat-resistant polymer synthesis and film manufacturing technologies. This plant will enable the company to meet growing demand for TFT substrates to be used in electronic paper displays. To market the product, Xenomax–Japan will also be able to capitalize on the main features of XENOMAX®. It is thin, light, virtually unbreakable and bendable, making it suitable for use in flexible OLED, various sensors and next-generation displays such as microLED.

Strengthening Our Presence in the 5G Market with Equity Investment in 3D Glass Solutions, Inc.

The Electronics Department is working hard to strengthen businesses in anticipation of the arrival of the 5G era. In 2018, we invested in 3D Glass Solutions, Inc. (3DGS), which is a specialty glass processing design and manufacturing company with development and production based in Albuquerque, New Mexico, USA. 3DGS is striving to expand its next-generation semiconductor business and globally roll out high-frequency 5G products while working to incorporate semiconductor-related technologies possessed by NAGASE Group companies, especially those of Nagase ChemteX Corporation. 3DGS will continue creating new businesses with an eye to the arrival of the 5G era. 3DGS aims to establish a global supply system centered in Asia by around 2021.



Mobility & Energy

Performance by Segment

	Customer industries
Mobility Solutions Business	Automobiles, trains, aircraft, spacecraft, mobility, social infrastructure
Energy Business	Batteries, photovoltaic generation, automobiles, electric components, construction, distribution, lighting, commercial facilities, public facilities, etc.

Risks & Opportunities

- Transitioning to a next-generation mobility society for people, things, and data
- Responding to global energy- and environment-related issues

Strengths

- A pipeline from which we can extract data by directly contacting key players and our customer base in the automotive industry
- Possession of in-house battery development and manufacturing capabilities

Hiroyuki Ueshima
Executive Officer
GM, Mobility Solutions Department

Bringing Networks and Know-How Cultivated in the Automotive Industry to the Entire Mobility Sector

With the rise of electric and IT-capable automobiles, a paradigm shift is underway as the conventional automobile market moves beyond vehicles to embrace a broader concept of mobility. In addition, data systems are beginning to account for a larger percentage of related product sales.

In light of this situation, the Automotive Solutions Department was renamed the Mobility Solutions Department. We will not only supply automotive materials and parts as before, we will now offer total mobility solutions.

The department is aiming to achieve double-digit growth, focusing on the overseas business. To this end, we will continue working to quickly change the mindset of every person in the NAGASE Group as we unite to create the kind of business model needed in a next-generation mobility society.

The Value the Mobility Solutions Department Provides

Safety (Protecting Lives): We provide solutions that enhance safety each day in a society shaped by smart mobility, enabling people to live their lives without worry.

Environment (Protecting the Planet): We help protect the global environment by promoting electric-powered mobility and materials with minimal environmental impact, to meet the overarching aim of realizing a low-carbon society.

Comfort (Enriching Lives): We help create lives that are richer on a daily basis, by providing new value that saves time and space for people who use mobility.

The Possibilities of the Energy Management Field

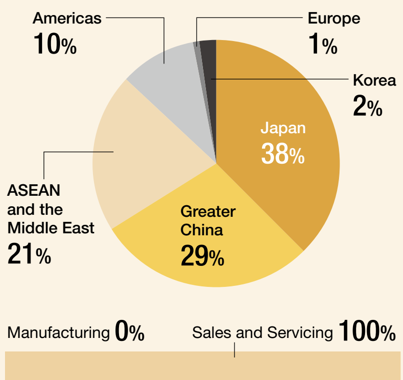
Countries around the world are grappling with energy-related problems, a situation which creates major business opportunities. For example, the household FIT scheme that began in Japan in 2009 to buy back surplus power from photovoltaic generation will be phased out from 2019. For households whose buyback programs have ended, it will therefore become more economical to store the surplus energy in batteries for personal use than to sell it to power companies. The Energy Business Office is promoting the development and sales of energy storage systems for that express purpose. We are also working to establish an engineering service system for the market.

We are developing an energy management system that can avoid region-wide blackouts like the one that occurred in Hokkaido Prefecture last year. Our system is expected to help solve problems related to emergency preparedness. In addition, we are working on the development of optical wireless communication as a reliable, low-cost means of communicating even in places where traditional wireless technology too often ends in disconnection or interference. Going forward, we will continue working to reduce the energy consumption of the NAGASE Group as a whole.

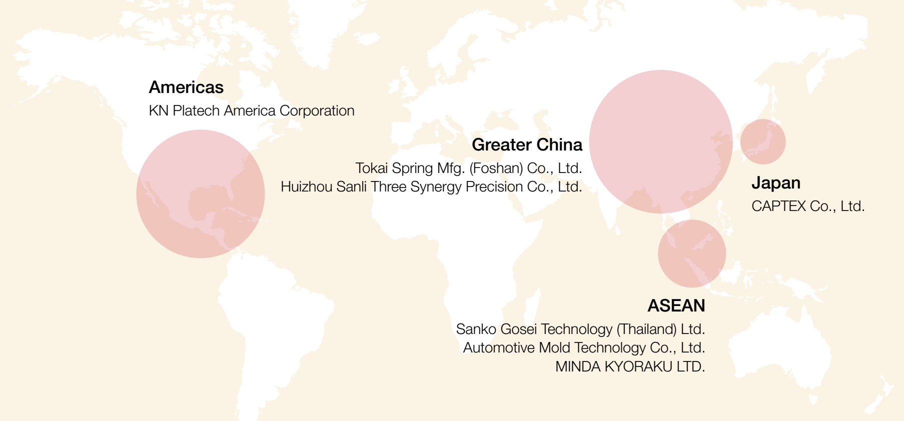
Kiyoshi Sato
GM, Energy Business Office

Business Scope and Operating Performance

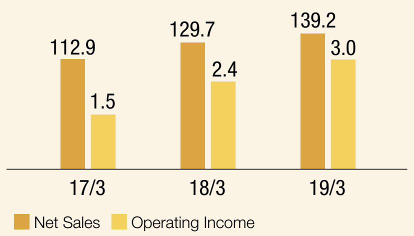
Net Sales Ratio by Region and Field



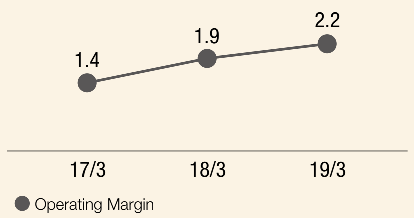
Main Manufacturing Bases (Includes equity affiliates)



Net Sales / Operating Income (Billions of yen)



Operating Margin (%)



Major Achievements under *ACE-2020*

Mobility Solutions Business	• Expanded business in India as MINDA KYORAKU LTD.'s plant in Gujarat came on line • Concluded a consulting agreement with an automotive parts design company and began providing manufacturing methods and alternative materials to metals during the design concept stage
Energy Business	• Established a production system for household and industrial storage batteries at our affiliate CAPTEX Co., Ltd. as well as a sales system and field engineering functions for launching products on the market • Continued running pilot tests in the market to establish new optical wireless communications technologies using LEDs and lasers

Topics

Start of Mass Production of Molded Parts for Hybrid and Electric Vehicles at Chinese Joint Venture

The global shift from gasoline and diesel vehicles to electric vehicles is accelerating, and that trend is rapidly picking up speed in China.

Seizing this business opportunity, NAGASE in 2018 established a joint venture with China-based Shenzhen Kedali Industry Co., Ltd., which is the No. 1 producer of lithium ion battery cases in China, and with Japan-based ATECS Corporation, whose strength lies in metal insert moldings. The company began full-scale mass production for the Chinese market of module cases (pictured below) for molded components (semiconductor devices called IGBTs) used in hybrid and electric vehicles. The aim is to capture a larger share of the Chinese market, which is expected to see strong growth going forward.

Full-Scale Entry into the Field of Self-Driving Technology
Start of Collaboration with Two LiDAR-Related Companies

NAGASE has begun collaborating with Canada-based LeddarTech Inc. and US-based TriLumina Corp., which possess strengths in light detection and ranging (LiDAR) sensor systems. These systems are garnering attention for being indispensable to making autonomous driving more practical.

TriLumina has developed modules for vertical-cavity surface-emitting lasers (VCSELs), which are used in industrial and private-use 3D sensing light sources, including for automotive LiDAR. This technology is expected to enable high-definition and long-distance LiDAR detection capability, boosting it to over 200 meters.

LeddarTech makes automotive systems on chip (SoCs) (pictured below) that are unique for being compatible with short- to long-range LiDAR systems. This helps enhance the product lineup of automotive part manufacturers and shortens development periods.

Life & Healthcare Materials

Performance by Segment

	Customer industries
Life & Healthcare Products Business	Food products, pharmaceuticals, health care, diagnostic drugs, fragrances, cosmetics, household products, agriculture, fisheries, and livestock

Risks & Opportunities

- Intensifying global competition
- Growing demand for eco-friendly materials

Strengths

- License for manufacture and sales of drugs, development of generic pharmaceuticals (formulation, specification of active pharmaceutical ingredients, registration of drug master files), and manufacture of pharmaceuticals using unique drug delivery system (DDS) technology or through our alliance with PeptiStar, Inc.
- Applying actinomycetes, which form a fundamental technology of the Nagase R&D Center, to production of fermentation products and enzymes
- Enzyme production technology of Nagase ChemteX Corporation (Lactase, PLA2, etc.)
- Development and manufacturing functions of Hayashibara Co., Ltd., Nagase Medicals Co., Ltd., and Nagase ChemteX Corporation

Yoshihiro Shimizu
GM, Life & Healthcare Products Department

Leveraging the Wide-Ranging Strengths of the Group's Manufacturing Companies

The NAGASE Group's Life & Healthcare Segment includes the manufacturing companies of Hayashibara Co., Ltd., Nagase Medicals Co., Ltd., Nagase ChemteX Corporation, and more. The beauty care products business is mainly composed of Nagase Beauty Care Co., Ltd. The unique characteristic of this segment is its wide variety of products.

Hayashibara's vitamin C derivatives command the largest share of the domestic market. Nagase Medicals has built a disposable production line, which does not require cleaning validation, for high-potency formulations including those for anti-cancer drugs. Nagase ChemteX's unique enzymes derived from actinomycetes have a competitive edge and potential to shine on the global stage.

Strengthening the position of Hayashibara in the food industry overseas will be a specific area of interest going forward. As for pharmaceuticals, we will continue aiming to roll out our own formulations (anti-cancer drugs) in Europe and the United States. As for toiletries and cosmetics, we will expand overseas from Asia to Europe and the United States using our network comprising the Lyon, France branch (established in 2017) and the U.S.-based Group company Fitz Chem LLC.

Nagase Beauty Care Co., Ltd.

Nagase Beauty Care is a wholly owned subsidiary of NAGASE & CO., LTD. and conducts research, development, and sales of NAGASE brand cosmetics and health foods. The company's 50,000 beauty consultants located nationwide conduct door-to-door sales.

New Skin Care Brand
RASISA

Risks & Opportunities	Strengths
• Declining birthrate and aging population • Spread of e-commerce	• The expansive sales networks of our organization of around 500 sales agents (managers) • Data and know-how accumulated from a 50-year history in direct sales

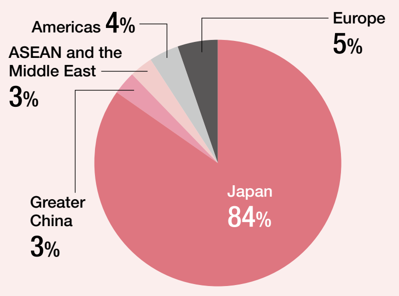
Measures for Achieving the Goals of *ACE -2020*

We promote sales-focused activities and have created an integrated manufacturing and sales structure. As a result, sales of skincare and other mainstay products began to turn around and are now increasing. By further enhancing sales-focused activities, we aim to expand sales of health foods and other mainstay products.

Action Policy: Three Arrows Strategy	Pursuing Total Beauty: The Exercise, Nutrition, and Rest Initiative
• Focusing on sales: Strengthening the training system for sales personnel • Training the next generation of managers: Appealing to younger generations • Running business under the direct control of the head office	We offer services and hold events related to exercise, nutrition, and rest with the aim of helping customers, especially seniors, extend beauty and health for many more years. This will in turn sharpen our appeal to younger customers and generations to come.

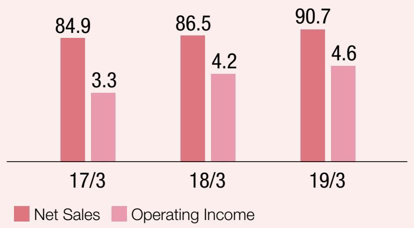
Business Scope and Operating Performance

Net Sales Ratio by Region and Field

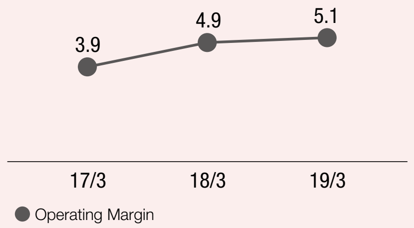


Main Manufacturing Bases (Includes equity affiliates)

Net Sales / Operating Income (Billions of yen)



Operating Margin (%)



Major Achievements under *ACE-2020*

Life & Healthcare Product Business	• Invested in PeptiStar, Inc., which has specialty peptide pharmaceutical technologies • Established the Lyon branch in France to focus on cosmetics • Concluded a general distributor agreement with Shikoku Nucleic Acids Chemistry Co., Ltd. • Launched the bread-making enzyme DENABAKE™ EXTRA in collaboration with Nagase ChemteX Corporation and Hayashibara Co., Ltd. • Completed an expansion of the T Building at Hayashibara's Okayama Functional Saccharide Plant

Topics

Peptide Pharmaceuticals Underpin Industry Trend toward Medium to Large Molecule Drugs

In the pharmaceutical industry, development of medium to large molecule drugs is accelerating amid the shift away from conventional small molecule drugs. To align its portfolio with this trend, the NAGASE Group has invested in PeptiStar, Inc., which possesses specialty peptide pharmaceutical technologies. In addition, we have spearheaded initiatives focused on forward-looking biotechnology-based medicine through an alliance with Shikoku Nucleic Acids Chemistry Co., Ltd. PeptiStar engages in R&D and manufacturing based on PeptiDream Inc.'s peripheral knowledge and technologies related to specialty peptide pharmaceuticals. Through investment in and collaboration with PeptiStar, NAGASE helps develop and manufacture new pharmaceuticals to underpin next-generation healthcare.

Collaboration between Nagase Beauty Care and Tanita Corp.

In collaboration with Tanita Corp., we opened TANITA × NAGASE Iki Iki Plaza, a members-only female fitness club, in Kosai City, Shizuoka Prefecture. Nagase Beauty Care had struggled to raise brand awareness, but by entering this new industry, the company aims to boost its recognition and promote the health of women in the community.

The mostly female clientele enjoys the twin benefits of health support, which is an area of competitive strength for Tanita, and beauty support, which is an area of competitive strength for Nagase Beauty Care. Nagase Beauty Care will continue promoting new activities that expand the scope of its main fields of *Activity, Beauty, Youth, and Health*.

Global Network

Built on a foundation of chemistry, the NAGASE Group is engaged in global business across a wide spectrum of industries. One of the NAGASE Group's biggest strengths is its global network, which can respond to precise needs and is well acquainted with the logistics and relevant laws and regulations of each country and region.

Goals of Mid-Term Management Plan *ACE-2020*

Aiming for ¥600 Billion in Total Overseas Group Sales
Launched in 2016, ***ACE-2020*** designates twin pillars to grow revenues:

1. Accelerate Globalization
2. Improve Manufacturing Profitability

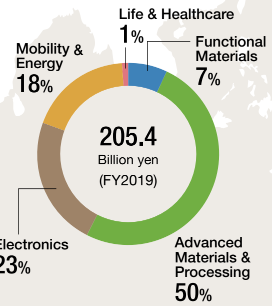
Note: Employees in the consolidated corporate group as of March 31, 2019

Greater China

Basic information

Base established: 1971
Number of employees: 1,049

Breakdown of Net Sales



■ Aiming to Achieve *ACE-2020*

Amid a rapidly changing industry structure and ongoing technological advances in China, under the slogan of "One China" we have organized and consolidated NAGASE's key resources (human resources and data). These had previously been dispersed across China's different regions. We set four focus businesses of semiconductors, mobility, electronics, and life & health. We will continue dynamically growing our businesses through active investment.

Representative:
Masatoshi Kamada
Executive Officer
Greater China CEO
Nagase (China) Co., Ltd.
CEO and COO

■ VISION Region / Main Businesses

Semiconductors	Leveraging the supply chain's information gathering expertise and the local human resources, we are leading the expansion of Chinese businesses through win-win relationships as an overseas manufacturing business consultant
Mobility	We will help develop smart mobility in China by quickly responding to technological advances in the industry and providing value-added products and services.
Electronics	In such fields as next-generation displays, 5G, and car electronics, we create high-value-added local communication businesses by uncovering needs using our strengths and providing solutions.

FOCUS

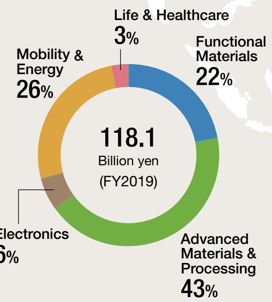
As the regional headquarters for Greater China, including Taiwan and Hong Kong, we established Nagase (China) Co., Ltd. in January 2019. Fully leveraging the Group's total capabilities, we aim to expand business in the still promising Chinese market by swiftly assessing investments, creating new businesses and strengthening governance with the regional headquarters as the center base.

ASEAN and the Middle East

Basic information

Base established: 1975
Number of employees: 723

Breakdown of Net Sales



■ Aiming to Achieve *ACE-2020*

In addition to the basic business of plastics, in the automotive industry, we are working to steadily capture demand in growth markets, especially Thailand, Vietnam, and Indonesia. We are also striving to create new businesses and expand our area through a region-wide collaborative framework with partner companies. In the food materials business, amid rising income levels, we expect demand to rise for functional and high-value-added products. We will continue developing businesses key to achieving the goals of ***ACE-2020*** by leveraging the expertise cultivated at Hayashibara Co., Ltd. and strengthening the specialization and R&D functions in the region.

Representative:
Takayuki Masuda
Executive Officer
ASEAN and India CEO
Regional Operating Centre Leader

■ VISION Region / Main Businesses

Mobility	We aim to create new businesses and expand our area by assessing customer needs for electric vehicles.
Food Materials	By expanding our sales channels and pursuing regional specialization, we will accelerate the development into our main businesses.

FOCUS

Establishment of Nagase (Thailand) Co., Ltd.'s Pakistan Office

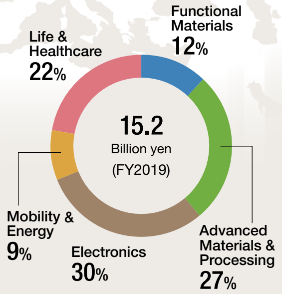
In February 2019, we established an overseas representative office for Nagase Thailand (NTL) in Karachi, Pakistan. The office began operations with NTL representatives and two local staff members to meet the need for local production, especially in the automotive industry. In addition to its existing customers, the office is contributing to the Group's growth as a strategic base in Pakistan and neighboring countries through collaboration with local companies and active entry into non-automotive industries.

Europe

Basic information

Base established: 1980
Number of employees: 260

Breakdown of Net Sales



■ Aiming to Achieve *ACE-2020*

Due to the maturation of existing businesses and the need for eco-friendly business, we are shifting toward high-value-added products and environmental business. In pharmaceutical raw materials, we continue providing solutions that closely match customer needs. Furthermore, we are discovering investment opportunities for natural materials, batteries, and recycled and energy-efficient products. That includes collaboration with start-up companies.

Representative:
Ryuichi Uchida
Executive Officer
Europe CEO
Americas CEO
Nagase Holdings America Corporation CEO

■ VISION Region / Main Businesses

Pharmaceutical Raw Materials	We will contribute to a sustainable society through the bioeconomy.
Mobility	We will focus on e-mobility, including battery systems and Robotics.

FOCUS

Clean Labels and White Biotechnology: Addressing Regulations and Customer Demands

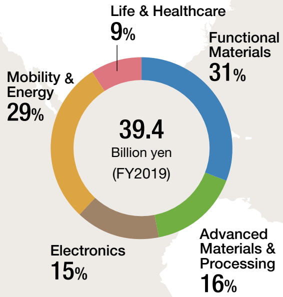
To meet various changing demands in the cosmetics field, we will establish a synthesis laboratory facility in Lyon, France, to develop formulations, especially with natural materials. Using current artificial 3D skin models, we are working to acquire basic and application data for natural materials for use in approved acquisitions and marketing activities.

Americas

Basic information

Base established: 1971
Number of employees: 246

Breakdown of Net Sales



■ Aiming to Achieve *ACE-2020*

In addition to spurring inorganic growth in our focus fields, we will take measures aimed at enhancing the corporate value of the Group companies Fitz Chem LLC and Infinite Material Solutions LLC. In mobility and life & healthcare, we are considering investments and alliances. We will continue expanding our business in new markets, especially in Central and South America. We will also meet customer needs through Group products and new technological discovery. We are expanding businesses that can contribute to a sustainable society.

Representative:
Ryuichi Uchida
Executive Officer
Americas CEO
Europe CEO
Nagase Holdings America Corporation CEO

■ VISION Region / Main Businesses

Mobility	We will acquire mobility-related technologies and focus on selling functional resins.
Life & Healthcare	We will expand sales of our own products in the life and healthcare field.

FOCUS

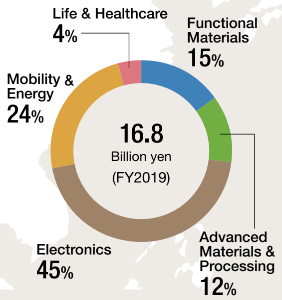
In April 2019, we established Nagase Holdings America Corporation as a regional headquarters. Looking to expand business in the Americas, which is still expected to be a promising market, this headquarters will serve as a base for the NAGASE Group's total capabilities. We aim to spur M&A and other business investments, create new businesses through regional leadership, strengthen governance, and make swift management decisions in response to local conditions.

Korea

Basic information

Base established: 1985
Number of employees: 35

Breakdown of Net Sales



■ Aiming to Achieve *ACE-2020*

We not only sell materials to major Korean companies and industries (such as semiconductors, display devices, and rechargeable batteries), we also support the overseas expansion of unique products from companies underpinning those supply chains. In addition, with the overseas expansion of Korean companies, we aim to achieve drastic growth by actively forming alliances with their overseas subsidiaries.

Representative:
Hideharu Yamazaki
Executive Officer
Nagase Korea Corporation CEO and COO

■ VISION Region / Main Businesses

Electronics	We will expand business in semiconductors, electronic components, and display devices.
Businesses Related to Korean Products	We will create and expand businesses where South Korean companies excel and accelerate global expansion.

FOCUS

Expanding South Korean Communication Businesses

Shifting from a technology-driven approach toward global expansion, we aim to expand our range of NAGASE Group products and products that South Korean companies excel in producing, including OLED-related materials, semiconductor process materials, battery materials, and cosmetic materials.

Nagase ChemteX Corporation

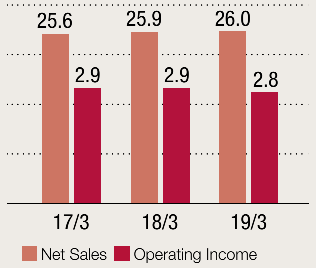
"For the Future."

To leverage the strength of our unique product lineup, we aim to establish a competitive production system with a view to global markets.

Core Technologies / Creative

We have developed a wide variety of elemental technologies based on our core technologies, which encompass synthesis technologies (organic and polymerization), formulation technologies, biotechnologies, and evaluation technologies. Into technologies that we have nurtured and passed down over many years, we have infused innovation to create unique product lineups in the Functional Resins, Photolithography Materials, Performance Chemicals, and Bio Chemicals businesses.

Net Sales and Operating Income
(Billions of Yen)



President: **Satoru Fujii**

Established: 1970
Production and development bases:
Domestic
- Harima Plant
- Fukuchiyama Plant
- Sakai Plant

Overseas
- Nagase ChemteX (Wuxi) Corporation (China)
- Wuxi Chenghong Electronic Chemical Co., Ltd. (China)
- Engineered Materials Systems, Inc. (U.S.)
- Inkron Oy (Finland)

Number of employees: 584
Number of patents held: 584
(including 279 overseas patents)
(As of March 2019)

Functional Resins Business

We develop and manufacture formulated epoxy resins and other high-value-added products, especially in the fields of environmentally friendly energy, mobility, and mobile devices. We have established a global supply system (covering Japan, the United States, and China) to provide total solutions.

Materials Supporting Our Information-Based Society

We are supporting our information-based society through FRP matrix adhesives for the mobility field (EVs, PHVs), highly heat resistant potting materials for car electronics, and encapsulating materials for semiconductor packaging used in 5G communications and data processing. In addition, we have begun work on developing new materials geared toward a society based on ubiquitous information access.

Photolithography Materials Business

We conduct development and manufacturing activities based on technologies developed in the chemicals business for liquid crystal display and front-end process of semiconductors. We are garnering praise from customers for developing new products for mid-end process of semiconductors. We are also steadily developing new photoresist for lift-off process for next-generation devices.

NPR9000 Series

This is a series of photoresists specialized for lift-off processes. These products enhance functionality, miniaturize, and reduce processing for electronic devices, including sensors that are expected to be more heavily used in IoT and self-driving applications. We are broadening our product lineup to meet every need.

Performance Chemicals Business

We are developing new applications for highly functional materials, based on organic synthesis technologies, polymerization technologies, and compounding technologies, in the fields of displays, automobiles, and hygiene products. We are working to create new businesses and expand existing business by developing new materials, acquiring new technologies, and developing new applications.

Denacol™ / Denatron™

The epichlorohydrin-derivatives Denacol™ is used as a resin for 3D printers and crosslinkers for superabsorbent polyment by leveraging its strengths (transparency and water solubility). We are working to develop applications for the conductive coating material Denatron™ for displays and light control films by leveraging its high conductivity and antistatic properties.

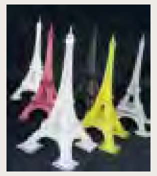
Bio Chemicals Business

This business serves as the core of the Life Science field and develops food and industrial applications for enzymes derived from microorganisms and plants. We are strengthening our alliances with the Nagase R&D Center and Hayashibara Co., Ltd. and are focusing on developing new products using actinomycete enzymes.

DENABAKE™ EXTRA

DENABAKE™ EXTRA is a bread-making enzyme jointly developed with Hayashibara Co., Ltd. It is a unique product that can make bread soft and melt-in-your-mouth. It can also add natural sweetness. It works well with whole-wheat and barley flour. We are promoting this enzyme for making scrumptious, easy-to-eat, healthy bread.

Topics



Next-Generation Manufacturing and Biomaterials

As for new businesses, we have entered the fields of next-generation manufacturing and biomaterials. In the next-generation manufacturing field, we have expanded our lineup of resins for 3D printers and began sales of samples of low-temperature sintered wiring ink with the aim of full commercialization, earning positive feedback for both efforts. In the biomaterial field, we used our unique endotoxin removal technology to begin providing samples that use low-endotoxin materials, mainly for the medical industry.

Hayashibara Co., Ltd.

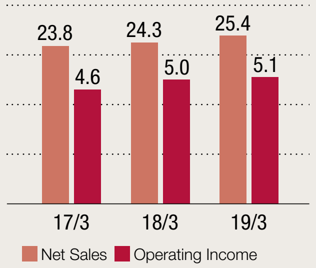
"We continue to innovate new and original materials with our advanced biotechnology."

We will strengthen our overseas bases to make our functional ingredients a top global brand.

Biotechnology / Innovation

Our core technologies are microorganism screening technology, substance production technology using microorganisms and enzymes, and technologies for discovering functions of materials. We will continue working hard to develop new materials while refining our core technologies. We produce unique functional carbohydrates using enzymes created by microorganisms. We then supply these carbohydrates as ingredients for foods, cosmetics, and pharmaceuticals in a wide range of markets in Japan and overseas. In addition, we use sophisticated organic synthesis technologies to develop and manufacture a wide variety of functional dyes. The dyes are used in various industrial fields as well as the life science field as pharmaceuticals and diagnostic detectors.

Net Sales and Operating Income
(Billions of Yen)



President: **Naoki Yasuba**

Established: 1932
Production and development bases:
Domestic
Okayama Plant I, Okayama Plant II, Okayama Functional Saccharide Plant, Fujita Plant, Fujita Pharmaceutical Plant, Fujisaki Institute, L' Plaza

Number of employees: 645
Number of patents held: 801
(including 531 overseas patents)
(As of March 2019)

Food Ingredient Business

We develop, manufacture, and sell unique high-value-added food ingredients and health food ingredients. We are playing a part in NAGASE Group's Life & Healthcare segment. We contribute to overseas subsidiaries by expanding their sales and sales channels through sales of food and health food ingredients.

TREHA™

TREHA™ is a low-sweetness food ingredient with a clean finish. It has a wide range of functions, including prevention of starch retrogradation, protein denaturation, and freshness keeping. Because it retains good flavor and texture for a long time, it is used in Japan and overseas in a wide range of fields, such as processed foods, beverages, and food services including restaurants, catering, and delis.

Cosmetic and Pharmaceutical Ingredient Business

We develop and manufacture unique high-value-added cosmetic and pharmaceutical ingredients. We provide products in the field of personal care and pharmaceuticals for the NAGASE Group's Life & Healthcare segment. We also contribute to expanding the sales of each Group company in Japan and overseas.

AA2G™

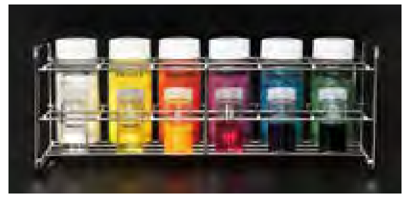
AA2G™ is produced by the enzymatic binding of glucose to vitamin C. This enzymatic conversion makes AA2G™ stable when incorporated into cosmetics. This maintains its activity and provides resistance to discoloration and odors. When applied to the skin, AA2G™ is degraded by a natural enzyme to release vitamin C, resulting in cosmetics that promote brighter healthier looking skin. It is used in Japan and around the world.

Functional Dye Business

We develop and manufacture a wide variety of functional dyes as an organic synthesis specialist. Dyes with various functions are used in a broad range of fields. We also provide many different kinds of products to the life sciences fields, including the NAGASE Group's Advanced Materials & Processing segment.

Dyes for the Life Sciences

Some functional dyes are known for having medicinal and/or bioactive functions. In addition, some dyes are used as cell staining dyes and have fluorescent properties. We are developing new medical and pharmaceutical applications using these functions.



Topics

Formed Long-Term Partnership for Expanding Pullulan Capsule Market

To keep pace with the expanding market for pullulan capsules, we concluded a long-term partnership agreement with Switzerland-based Lonza, a leading supplier to the pharmaceutical, biotech and specialty ingredients markets. Pullulan is a highly water-soluble polysaccharide produced through the natural fermentation of starch. It is used as a food ingredient and a pharmaceutical ingredient for supplement capsules and other such products. We started to set up a new facility, which will be completed in September 2020 in order to respond to the expanding demand.

Nagase Business Expert Co., Ltd.

"Shared Service Center"

We are contracted to perform intra-Group administrative operations, including logistics, trade, payroll, treasury services, and credit management, and we strive to make these operations more efficient.

President: Takanori Yamauchi

Established: 1996

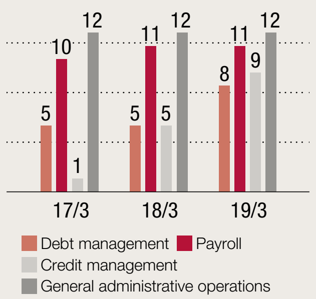
Note: The company relaunched in 2017 by integrating the businesses of Nagase General Service Co., Ltd. and Nagase Trade Management Co., Ltd.

Number of employees: 172

(As of March 2019)

Under the mid-term management plan ***ACE-2020***, we outlined the pursuit of efficiency to strengthen our business foundation. Nagase Business Expert Co., Ltd. has highly specialized staff who handle the administrative operations of NAGASE & CO., LTD. and its Group companies. Through this work, we aim to help rationalize Group management, help enhance productivity and make Group administrative operations more efficient, fulfill such risk management functions as credit and legal management, and develop human resources that can contribute to the Group. We aim to further contribute to the Group's value creation mainly by increasing the number of Group companies we provide services to and expanding the contracted operations in order to increase sales and profit, reduce costs, minimize future loss, and enhance the productivity of sales departments.

Number of Contracted Companies
(By operation)



For payroll operations, we plan to standardize the existing contracted companies by integrating our systems by fiscal 2020, and we plan to accept new contracts to expand our business from fiscal 2021 onward.

HR & General Affairs Services Department

General Affairs Services Division

This division accepts contracts for a wide range of general affairs operations, including facility management, especially facility operations and building office environments; support for emergency preparedness, BCPs, and environmental ISO certifications; and employee welfare services. In addition, the department helps improve efficiency through Group-wide procurement, including for consumables and office equipment, and the joint use of services.

HR Services Division

This division accepts contracts from 11 Group companies, mainly for global HR training support and payroll-related services (domestic and overseas payroll, social insurance, labor insurance, work hour management, life insurance, non-life insurance, asset formation, stockholding associations, etc.). Regarding payroll-related operations, we are working to standardize the operations using a universal system.

Trading Services Department

Logistics Division

This division handles operations for Group companies, such as the creation of trade-related documents, procedures for customs clearance and ship loading, and insurance coverage. It also takes actions aimed at optimizing and reducing logistics costs, such as revising transportation routes and inventory bases.

Financial Services Division

This division accepts contracts from Group companies for operations related to domestic and overseas debt management, domestic treasury services (including paying business expenses), and overseas exchange rate management. The department is working to raise the efficiency of operations for making and receiving payments.

Sales Support Division

This division works to enhance the productivity of the entire Group using a unique system to manage credit, standardize various administrative operations related to sales activities, and automate operations using robotic process automation (RPA).

Topics

Promoting Working Style Reforms ahead of Group Companies

To enhance productivity, which is the source of the Company's competitiveness, we have actively introduced flexible working styles. We had already introduced a four day work week, paid vacation that can be taken in one-hour units, and reduced working hours without the need for childcare and care giving as reasons. In addition to these programs, we aim to introduce a telecommuting program during fiscal 2019 and will conduct trials where employees can conduct business by accessing the company's system from home. We are promoting working style reforms ahead of Group companies and will continue working to promote these good practices throughout the Group.

New Value Creation (NVC) Office

"New Value Creation"

We discover the cores of new businesses by using data science in the chemical big data fields.

GM: Yasumitsu Orii

Established: 2017

Organizational Goals / Structure

The NVC Office was established in April 2017 to promote NAGASE Group innovation and build core businesses of the future that will create new value. The office assesses trends in the IT industry, including IoT and AI, planning and developing mechanisms for businesses not currently part of the NAGASE Group. These mechanisms will be deployed to the various business divisions for implementation.

Semiconductors are running up against the limits of miniaturization, which had been the standard for measuring the advancement of electronics, and the technological revolution in this area is currently approaching a new turning point. Under its next-generation slogan of "Bio-Inspired Technologies," the NVC Office aims to create new value by focusing on the integration of electronics and biology, as exemplified by neural devices and biomimicry.

Organizational Goals

- We will actively interact with academia to grasp industry-wide trends and build new businesses that look ahead five to ten years in the future.
- We will take stock of trends in hardware technologies that support AI and IoT to ensure that we always stay one step ahead of the next paradigm shift.

Organizational Structure

The NVC Office will be a flexible organization that benefits from synergistic effects between the business divisions, group companies, and partner companies.

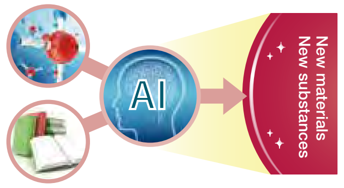
Project ① Predicting and offering new materials sought by users
Materials Informatics

Technology Overview

Materials Informatics (MI) is a field of technology for developing new materials by combining the latest data processing technologies with materials science. We recently jointly started to developed a platform with IBM Corporation. Using AI to analyze and systematize big data from materials-related literature and experiments, this platform utilizes a cognitive approach to predict and propose new materials sought by users. There is also an analytics approach that shows the chemical structures of substances sought by users by having AI learn the relationships between chemical structures and physical properties from big data about substances.

Our Advantage

The conventional way to develop new materials is to repeatedly conduct experiments and make prototypes. However, by introducing MI, we aim to significantly reduce development costs and shorten development times. MI is also gaining a lot of attention due to its potential to help discover revolutionary materials.



Project ② Semiconductor design and technology supporting AI and 5G
Axonerve™ Intellectual Property Core

Technology Overview

Axonerve™ is a data search algorithm developed by NAGASE and domestic research organizations. NAGASE developed an IP core for FPGAs, which are programmable semiconductors, and is expanding its IP core licensing business. Currently, FPGAs are garnering attention as a way to accelerate network functions and high-speed data processing at data centers, where virtualization is making inroads. We are working to cultivate the market with FPGA vendors.

Our Advantage

5G, which will start from 2019, will enable many simultaneous connections for high volume traffic and ultra-low latency. For telecommunication infrastructure that will support 5G and for edge serves that are expected to provide low-latency services, FPGAs' ability to accelerate servers is gaining attention for meeting tough low-latency demand and processing capabilities, as well as for enabling low-power-consumption systems. On the other hand, FPGA vendors are accelerating the development of design simplification tools using programming languages and sales of general-purpose cards for acceleration applications. They are promoting these design solutions with partners in Japan and overseas.

Topics

Launched Division-wide Technology Community Activities

We launched the NAGASE Technical Vitality Program, a division-wide technology community activity, with the purpose of incubating new cross-functional business that will support the future of the NAGASE Group.

Aim of New Activities

- Generate new division-wide themes (we will consider previously set themes and themes generated by members in a bottom-up approach)
- Engrain leading-edge technologies across the Company (AI, IoT, semiconductors, neural devices, additive manufacturing, next-generation wireless technology (5G, 6G), etc.
- Promote NAGASE Group technologies internally and externally (material informatics, biotechnology, etc.)
- Discover and develop specialist human resources

Nagase R&D Center

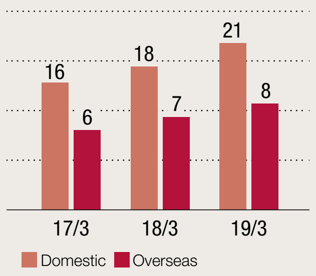
"Unavailable Made Available in a Sustainable Way"

The Nagase R&D Center will continue to advance the NAGASE Group's bio-related businesses from the earliest stages of research development.

Fundamental Technologies / Integration

Societies around the world are currently facing a multitude of issues, including growing populations with dwindling resources, abnormal weather events, and environmental problems. To solve these issues, the Nagase R&D Center aims to create research themes that contribute to society from a macro perspective. By integrating advanced technologies and our knowledge spanning many different bio fields, we will continue to spur process innovation and contribute to health, safety, security, and solutions to environmental problems as we meet people's needs.

Cumulative Number of Patent Applications* *From fiscal 2013 onward



GM: **Xiaoli Liu**

Established: 1990

Number of patents held: 30*

* Includes, pending applications and 10 overseas patents

(As of March 2019)

Patent Field ① Core Technologies

- Fermentation technologies using actinomycetes
- Strain improvement technologies utilizing metabolic engineering

Explanation of Patent Field: Materials production technologies using actinomycetes
Using actinomycete fermentation, we can efficiently manufacture valuable materials that are scarce in nature and are difficult to synthesize using organic chemistry.

Example applications:
- Ergothioneine (antioxidant)
- Nootkatone (fragrance ingredient)
- Trehangelin (cosmetic) materials, etc.
- Mycosporine-like amino acids (UV absorbers)

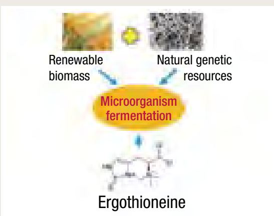
Patent Field ② Fundamental Technologies

- Genetic engineering
- Metabolic engineering
- Fermentation engineering
- Bioprocess engineering
- Bioinformatics
- Bioactivity assessment

Explanation of Patent Field: Bioinformatics
We develop technologies that set us apart from competitors in regard to various elemental technologies indispensable to bio-related manufacturing.

Specific Research Content:
To use microorganisms to manufacture valuable materials that only plants produce, you first have to discover microorganism-derived enzymes that have a function equivalent to the unique enzymes in plants. Usually, the search begins with the genetic sequences that code for the enzyme. However, we found a search method that uses reaction patterns and does not rely on sequence data.

Topics



Breakthrough in Fermentation Technology for Producing Functional Ingredient "Ergothioneine"

Ergothioneine is a natural amino acid that has excellent antioxidant properties and can be found in trivial amounts in mushrooms and other organisms. Its applications in a wide range of fields, including foods, cosmetics, and pharmaceuticals are highly expected. The conventional method of extraction from mushrooms or chemical synthesis has issues in terms of stable supply, environmental impact, and cost. The Nagase R&D Center has researched an alternative fermentation method that is safe, secure and eco-friendly. The issue with the fermentation method is productivity, and it is important to control the complex microorganic metabolic systems. The R&D Center discovered an important factor related to the highly efficient production of ergothioneine and made a technological breakthrough that greatly raised production efficiency. We aim to quickly commercialize this technology as we continue to meet the needs of the market.

Nagase Application Workshop

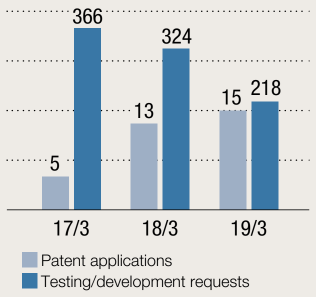
"A Place for Open Innovation for Plastics and Coatings"

We will enhance our global presence through high performance test and evaluation functions and technical support.

Plastics and Coatings / Evaluations

As the testing and evaluation arm of the NAGASE Group for plastics and coatings, the Nagase Application Workshop (NAW) develops application technologies to meet various needs, including those of domestic and overseas customers as well as materials manufacturers and processing companies. Annual visitors exceed 200 companies, and we respond to between 200 and 300 testing and development requests. We have gained magnificent trust as a development partner of customers and suppliers. In addition, we have an excellent technological expertise for new elemental technologies and functional materials, thereby enhancing the market presence of NAGASE.

Number of Patent Applications and Testing/Development Requests



GM: **Akihiro Taniguchi**

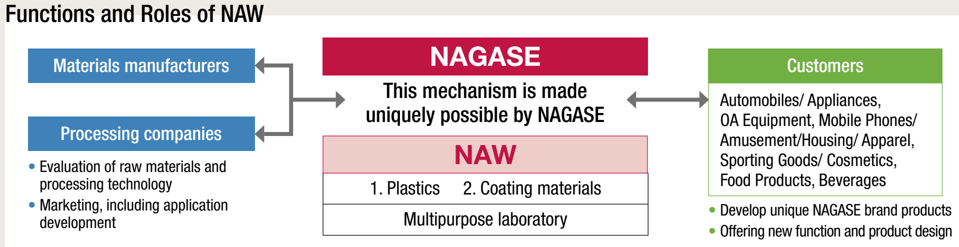
Established: 2007

Number of patents held: 42*

* Includes, pending applications and 25 overseas patents

(As of March 2019)

Functions and Roles of NAW



Main Function ① Plastics

Plastic material analysis using twin-screw extruders, injection molding machines, and various analytical equipment; compound formulation, prototypes of formed products, and materials analysis

Equipment:
- Twin-screw extruders (15mm, 18mm, 26mm)
- Injection molding machines (80t and 110t)
- Forming presses
- Analysis equipment
- Measurement equipment, etc.

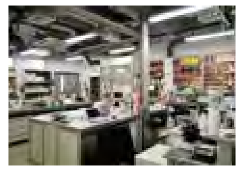
Products Developed in the Plastics Field
- Plastic materials for molding (in collaboration with automotive part makers)
- High sliding polyethylene featuring superior processing characteristics
- Transparent, high impact plastics for use in cosmetics, medical products, and food applications

Main Function ② Coating materials

Coating material analysis using various processing equipment, evaluation and analysis equipment, development of paint and ink formulation, prototyping and property evaluation

Equipment:
- Dry coating booths
- Dispersing machines (paint conditioner, horizontal type, vertical type bead mill)
- UV irradiation machines
- Drying ovens
- Various environmental testing machines

Products Developed in the Coating Materials Field
- Pat!naLock™, a reactive paint that suppresses rust using rust
- A carbon hybrid coating system that dramatically reduces volatile organic compounds (VOCs) in paint
- New coating materials that enable new design offerings to meet industry needs



Topics

Vision for NAW

- **Testing and Evaluation Arm of the NAGASE Group (Testing Ground for New Technologies)**
Because NAW is a laboratory of a trading house, it has access to materials from a wide range of suppliers and serves as a place to carefully study all the different technologies in the world. We will continue to flexibly respond to the NAGASE Group's various requests for testing, evaluation, prototyping, and development.
- **Antenna for Technological Trends (Storehouse of Technologies)**
As the storehouse of the NAGASE Group's technologies, NAW fosters greater information sharing, combines and processes accumulated technologies, and promotes its findings across the Group.
- **Developer of Innovative Businesses (Development of Proprietary Fundamental Technologies)**
Working with various partners, NAW promotes the development of proprietary fundamental technologies and helps create new businesses.
- **Collaboration with Group Manufacturing Companies**
We enhance the Group's capabilities through collaboration with Group manufacturing companies while maintaining mutual independence.
- **Developer of Engineers**
We develop the NAGASE Group's engineers using technical training and other programs.
- **Promoting NAGASE Group**

Six-Year Summary

NAGASE & CO., LTD. and Consolidated Subsidiaries (Fiscal years ended March 31, 2014–2019)

	Millions of yen						Thousands of U.S. dollars (Note 1)
	2014	2015	2016	2017	2018	2019	2019
For the Fiscal Year:							
Net Sales	¥723,212	¥759,713	¥742,194	¥722,384	¥783,933	**¥ 807,755**	**$7,277,728**
Domestic	372,939	374,208	363,038	369,365	395,428	**412,617**	**3,717,605**
Overseas	350,272	385,505	379,155	353,019	388,504	**395,137**	**3,560,114**
Gross Profit	88,936	91,991	91,663	91,503	102,675	**105,441**	**950,005**
Operating Income	15,789	18,153	18,024	15,030	24,118	**25,226**	**227,282**
Profit before Income Taxes and Non-Controlling Interests	18,353	18,989	15,239	16,100	24,049	**28,204**	**254,113**
Profit Attributable to Owners of the Parent	11,663	11,318	12,316	10,331	17,175	**20,136**	**181,422**
As of the Fiscal Year-End:							
Total Assets	¥498,141	¥546,525	¥512,081	¥530,775	¥569,456	**¥ 567,346**	**$5,111,686**
Net Assets	251,892	287,500	279,149	295,198	308,804	**312,609**	**2,816,551**
Interest-Bearing Debt	92,828	98,493	87,560	82,046	86,173	**85,620**	**771,421**
Share Price (Yen)	1,275	1,573	1,237	1,551	1,805	**1,589**	**14.32**
Market Value	176,470	200,413	157,604	197,610	229,971	**202,451**	**1,824,047**
Number of Shares Issued and Outstanding (Thousands of Shares)	138,408	127,408	127,408	127,408	127,408	**127,408**	—
Number of Shareholders	6,984	6,781	7,338	10,394	11,357	**12,788**	—
Number of Employees	5,960	6,259	6,267	6,241	6,312	**6,143**	—

	Yen						U.S. dollars (Note 1)
Per Share Data							
Profit Attributable to Owners of the Parent	¥ 91.86	¥ 89.10	¥ 96.96	¥ 81.65	¥ 136.34	**¥ 161.30**	**$ 1.45**
Net Assets	1,942.20	2,215.18	2,156.67	2,301.10	2,424.97	**2,481.01**	**22.35**
Cash Dividends	28.00	30.00	32.00	33.00	40.00	**42.00**	**0.38**

	%						
Ratios							
Operating Margin (Operating Income/Net Sales)	2.2	2.4	2.4	2.1	3.1	**3.1**	—
Ratio of Profit before Income Taxes and Non-Controlling Interests to Net Sales	2.5	2.5	2.1	2.2	3.1	**3.5**	—
Return on Sales (ROS)	1.6	1.5	1.7	1.4	2.2	**2.5**	—
Total Assets Turnover (Times)	1.5	1.5	1.4	1.4	1.4	**1.4**	—
Return on Assets (ROA)	2.4	2.2	2.3	2.0	3.1	**3.5**	—
Return on Equity (ROE)	4.9	4.3	4.4	3.7	5.8	**6.6**	—
Shareholders' Equity Ratio	49.5	51.5	53.5	54.7	53.3	**54.2**	—
Debt to Equity Ratio (Times)	0.38	0.35	0.32	0.28	0.28	**0.28**	—
Current Ratio	187.2	187.0	200.1	192.9	183.1	**181.2**	—
Interest Coverage Ratio (Times) (Note: 2)	15.80	17.86	18.69	16.31	20.02	**15.99**	—

Note: 1. U.S. dollar amounts have been translated from yen, for convenience only, at the rate of ¥110.99=U.S. $1.00, the approximate rate of exchange prevailing on March 31, 2019.
Note: 2. Interest coverage ratio is calculated as (operating income + interest income + dividend income) / interest expense.

Management's Discussion and Analysis of Operations and Finances

Business Lines and Scope of Consolidation

The NAGASE Group is led by NAGASE & CO., LTD. (the "Company" or "NAGASE"). The Company and its consolidated subsidiaries (collectively, the "Group") imports and exports a diverse array of products and engages in domestic transactions. In addition, the Group manufactures and sells products and provides services. These businesses are conducted by 102 affiliated companies consisting of 69 subsidiaries and 33 affiliates. The NAGASE scope of consolidation includes 60 companies, as well as 23 affiliates accounted for by the equity method.

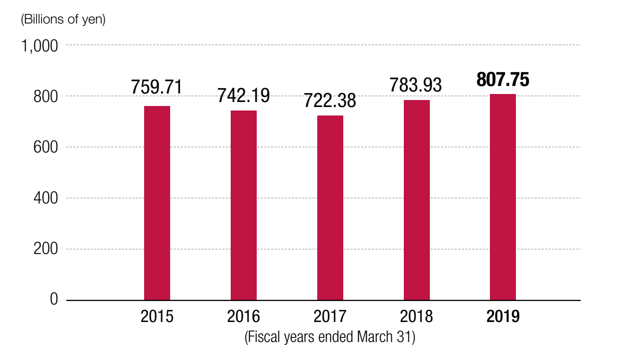
Overview of Consolidated Results

■ Net Sales

The Japanese economy remained strong throughout the fiscal year ended March 31, 2019, supported by improved corporate earnings, employment, and payrolls. However, uncertainties in the global economy have been increasing since the end of the prior year, and signs have emerged of a slowing in growth, mainly in the industrial sector, which relies on demand from overseas. Although corporate earnings in the United States has been a major driving force in the global economy, U.S.-China trade frictions, national fiscal policies, exchange rate fluctuations, and other emerging risk factors have given rise to concerns about the future direction of the world economy.

In this environment, the Company recorded domestic sales of ¥412.61 billion (+4.3% year on year) for the fiscal year. Overseas sales amounted to ¥395.13 billion (+1.7%). In total, the Company recorded ¥807.75 billion in net sales (+3.0%), a record high.

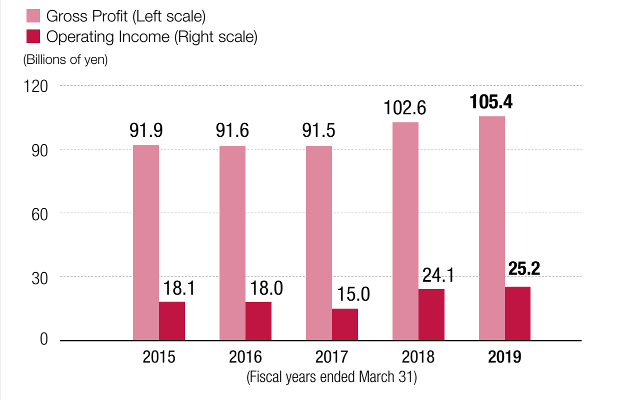
Net Sales



■ Gross Profit and Profit Attributable to Owners of the Parent

The Company recorded gross profit of ¥105.44 billion (+2.7%) mainly due to generally higher global sales and improved profitability among the Company's manufacturing subsidiaries. Operating income was ¥25.22 billion (+4.6%). As a result, gross profit margin and operating income margin remained roughly in line with the previous fiscal year at 13.1% and 3.1%, respectively. Ordinary income amounted to ¥26.64 billion (+2.5%). All profit indicators marked record highs in the history of the Company.

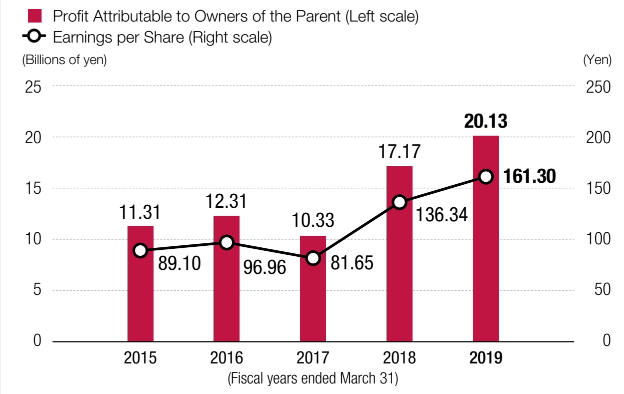
Gross Profit and Operating Income



The Company recorded profit before income taxes of ¥28.2 billion (+17.3% year on year) with a ratio of profit before income taxes to net sales of 3.5%, which was a 0.4 percentage point increase compared to the prior fiscal year.

As a result, profit attributable to owners of the parent amounted to ¥20.13 billion (+17.2%). Return on sales increased by 0.3 percentage points to 2.5%. Earnings per share was ¥161.30, compared to ¥136.34 in the prior year.

Profit Attributable to Owners of the Parent / Earnings per Share



Results by Business Segment

Note: The Company reclassified certain reportable segments in the fiscal year ended March 31, 2019. The Company has reclassified reportable segment classifications for the prior fiscal year for comparative purposes.

Functional Materials

Fiscal years ended March 31 (Millions of yen)

	2018	2019
Sales to Customers	¥174,922	**¥179,627**
Segment Income	5,185	**5,494**
Segment Assets	86,176	**87,158**
Depreciation and Amortization	456	**444**
Amortization of Goodwill	82	**110**
Goodwill	2,031	**2,012**
Investments in Equity Affiliates	2,478	**2,398**
Increase in Property, Plant, and Equipment and Intangible Fixed Assets	243	**314**

The Functional Materials segment recorded higher sales in both domestic and overseas markets.

The Performance Chemicals business recorded higher sales, mainly due to improved sales of coating raw materials and urethane materials, spurred by strong automotive production in Japan and overseas, as well as naphtha price increases. Another contributing factor was the additional sales of the U.S. distributor acquired in the second quarter of the prior fiscal year, reflected for the entire fiscal year.

The Speciality Chemicals business recorded sales slightly higher compared to the prior fiscal year. Although overseas sales were lower for the period, our domestic business experienced an increase in sales of electronics chemicals and plastic materials/plastic additives for the semiconductor and other related electronics industries.

As a result, the Functional Materials segment recorded sales of ¥179.62 billion, a ¥4.7 billion (+2.7%) increase compared to the prior fiscal year. Operating income for the segment was ¥5.49 billion, an increase of approximately ¥300 million (+6.0%).

Advanced Materials & Processing

Fiscal years ended March 31 (Millions of yen)

	2018	2019
Sales to Customers	¥262,831	**¥275,203**
Segment Income	6,700	**8,093**
Segment Assets	134,977	**135,403**
Depreciation and Amortization	645	**692**
Amortization of Goodwill	—	**—**
Goodwill	—	**—**
Investments in Equity Affiliates	1,482	**1,545**
Increase in Property, Plant, and Equipment and Intangible Fixed Assets	2,817	**1,542**

The Advanced Materials & Processing segment recorded higher sales in both domestic and overseas markets.

The Colors & Advanced Processing business recorded higher sales as a whole, driven by growth in Japan for plastic resins for industrial and packaging applications and dyes/additives, as well as growth in digital print processing materials in both Japan and overseas.

The Polymer Global Account business mainly sells plastics to the office equipment, appliance, and video game device markets. The sales of those business were higher overall, driven by growth in Japan, Greater China, and ASEAN.

As a result, the Advanced Materials & Processing segment recorded sales of ¥275.2 billion, a ¥12.37 billion (+4.7%) increase compared to the prior fiscal year. Operating income grew ¥1.39 billion (+20.8%), reaching ¥8.09 billion for the year.

Electronics

Fiscal years ended March 31 (Millions of yen)

	2018	2019
Sales to Customers	¥129,324	**¥122,319**
Segment Income	8,917	**7,400**
Segment Assets	70,149	**65,022**
Depreciation and Amortization	2,454	**2,511**
Amortization of Goodwill	112	**136**
Goodwill	1,296	**1,218**
Investments in Equity Affiliates	2,751	**3,765**
Increase in Property, Plant, and Equipment and Intangible Fixed Assets	1,834	**3,201**

The Electronics segment recorded lower sales in both domestic and overseas markets.

Despite strong performance in formulated epoxy resins sales to the semiconductor industry, lower photolithography materials sales and equipment-related sales drove Electronic Chemicals business sales lower.

The Electronic Materials business recorded lower sales due to decreases in display-related products, despite strong performance in our business for abrasives used in connection with interim processing in semiconductors.

As a result, sales for the segment amounted to ¥122.31 billion, which was a ¥7.0 billion (-5.4%) decrease. Operating income fell ¥1.51 billion (-17.0%) to ¥7.4 billion for the year.

Automotive & Energy

Fiscal years ended March 31 (Millions of yen)

	2018	2019
Sales to Customers	¥129,708	**¥139,235**
Segment Income	2,415	**3,051**
Segment Assets	51,109	**56,747**
Depreciation and Amortization	249	**211**
Amortization of Goodwill	—	**—**
Goodwill	—	**—**
Investments in Equity Affiliates	1,231	**1,253**
Increase in Property, Plant, and Equipment and Intangible Fixed Assets	191	**329**

The Automotive Solutions business recorded higher sales, driven by strong performance in our resins business in Japan, Greater China, and ASEAN. Sales growth in car electronics-related products was another positive factor.

As a result, sales for the segment amounted to ¥139.23 billion, which was a ¥9.52 billion (+7.3%) increase compared to the prior fiscal year. Segment operating income grew ¥630 million (+26.4%), reaching ¥3.05 billion for the year.

(Note) As of April 1, 2019, the Automotive & Energy Segment has been renamed the Mobility & Energy Segment.

Life & Healthcare

Fiscal years ended March 31 (Millions of yen)

	2018	2019
Sales to Customers	¥86,517	**¥90,794**
Segment Income	4,201	**4,648**
Segment Assets	99,396	**97,627**
Depreciation and Amortization	3,552	**3,801**
Amortization of Goodwill	1,552	**1,569**
Goodwill	22,150	**20,636**
Investments in Equity Affiliates	2,601	**2,769**
Increase in Property, Plant, and Equipment and Intangible Fixed Assets	2,369	**3,206**

The Life & Healthcare segment recorded higher sales in both domestic and overseas markets.

Sales of TREHA™ and other products in the food ingredients field in the Life & Healthcare Products business rose overseas and were slightly higher in Japan. Sales of AA2G™ to customers in the skin care and toiletries sectors were higher both in Japan and overseas. In the medical and pharmaceutical field, sales of pharmaceutical raw materials and intermediates, sales of medical materials, and pharmaceutical business sales were higher than the prior fiscal year. As a result, the business recorded higher sales compared to the prior year.

The Beauty Care Products business, which includes sales of cosmetics and health foods, recorded lower sales, driven down due to weak performance across all product categories.

As a result, sales for the segment amounted to ¥90.79 billion, which was a ¥4.27 billion (+4.9%) increase compared to the prior fiscal year. Operating income grew ¥440 million (+10.6%), reaching ¥4.64 billion.

Others

No special matters to disclose.

Financial Condition

Summary of Consolidated Cash Flows

Cash and cash equivalents (Cash) increased ¥1.15 billion (+2.7%) compared to the end of the prior fiscal year, amounting to ¥44.01 billion. Cash from operating activities amounted to ¥17.37 billion, while cash used in investing activities came to ¥7.32 billion and cash used in financing activities amounted to ¥8.9 billion.

■ Cash Flows from Operating Activities

Cash from operating activities for the fiscal year ended March 31, 2019 amounted to ¥17.37 billion. Cash decreased ¥12.52 billion stemming from an increase in working capital, while the Company recorded ¥4.87 billion in income taxes paid. In contrast, the Company recorded ¥28.2 billion in profit before income taxes and cash reserves of ¥9.32 billion related to depreciation and amortization.

■ Cash Flows from Investing Activities

Cash used in investing activities for the fiscal year ended March 31, 2019 amounted to ¥7.32 billion. This result was mainly due to ¥10.75 billion in purchases of tangible and intangible fixed assets, as opposed to ¥5.47 billion in proceeds from sales of investments in securities.

■ Cash Flows from Financing Activities

Cash used in financing activities for the fiscal year ended March 31, 2019 amounted to ¥8.90 billion. This result was mainly due to repayments of long-term loans in the amount of ¥11.17 billion and payments of dividends in the amount of ¥5.13 billion. These outlays exceeded net proceeds from commercial paper of ¥7.0 billion.

Cash Flow Summary

Fiscal years ended March 31 (Millions of yen)

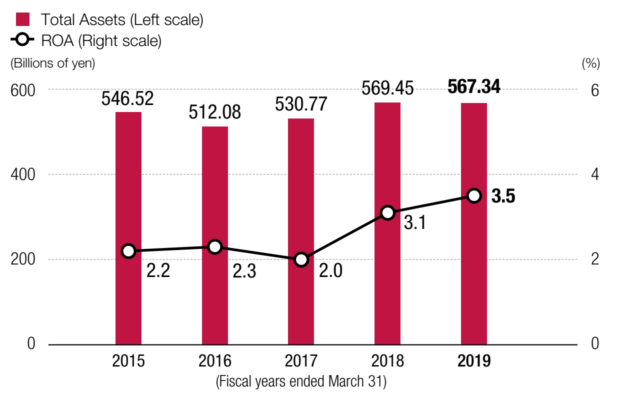
	2015	2016	2017	2018	2019
Cash Flows from Operating Activities	¥15,474	¥29,376	¥14,527	¥21,013	**¥17,375**
Cash Flows from Investing Activities	(7,732)	(12,600)	(6,518)	(14,442)	**(7,325)**
Cash Flows from Financing Activities	(3,205)	(12,822)	(10,592)	(3,161)	**(8,909)**

Summary of the Consolidated Balance Sheet

■ Assets

As of March 31, 2019, current assets amounted to ¥365.82 billion. This represents an increase of ¥12.5 billion compared to the end of the prior fiscal year, mainly due to increases in accounts receivable and inventories. Non-current assets amounted to ¥201.51 billion, down ¥14.61 billion. This decrease was mainly due to a decrease in investments in securities stemming from the sale of certain shares retained and lower fair values in shares retained. As a result of these various factors, total assets decreased ¥2.1 billion to ¥567.34 billion as of the end of the fiscal year.

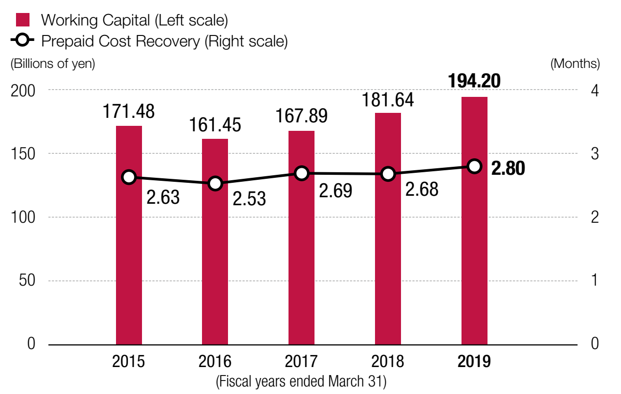
Total Assets / ROA



■ Liabilities

Liabilities amounted to ¥254.73 billion, a ¥5.91 billion decrease compared to the end of the prior fiscal year. This decrease was mainly due to repayments of long-term loans.

Working Capital / Prepaid Cost Recovery

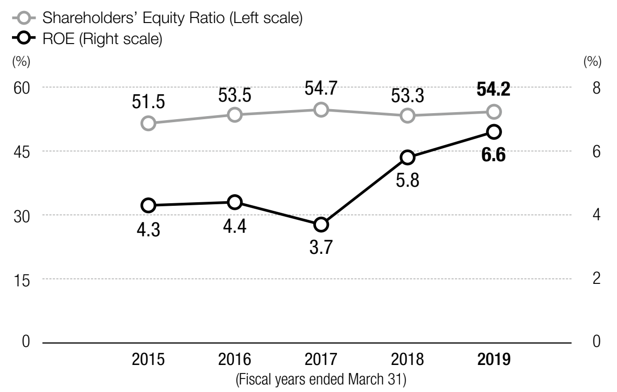


■ Net Assets

Net assets amounted to ¥312.6 billion, up ¥3.8 billion. While the Company recorded a decrease of ¥8.91 billion in net unrealized holding gain on securities, profit attributable to owners of the parent amounted to ¥20.13 billion, which more than offset this decrease.

As a result, the Company recorded a shareholders' equity ratio of 54.2%, 0.9 percentage points higher than the end of the prior fiscal year.

Shareholders' Equity Ratio / ROE



Capital Investment

During the fiscal year, the NAGASE Group recorded ¥10.61 billion in capital investment (including purchases of intangible fixed assets). This amount included ¥2.11 billion in capital investment at the new pullulan and enzyme wing of the Okayama No. 2 Plant of Hayashibara Co., Ltd. (Life & Healthcare Segment). The Group used cash on hand and funds procured from external sources for capital investments.

Reportable Segments	(Millions of yen)
Functional Materials	¥ 314
Advanced Materials & Processing	1,542
Electronics	3,201
Automotive & Energy	329
Life & Healthcare	3,206
Others	2,018
Total	10,612

Research and Development Expenses

The NAGASE Group develops new technologies and products originating from our marketing activities. We also engage in research and development activities for the purpose of generating and sharing technological information. These activities bring the comprehensive power of the group to bear in creating new businesses.

The New Value Creation Office promotes innovation within the Group and creates new value that anticipates changing trends, including AI and IoT, with the aim of creating business cores that the Group has not had to date. (The office is a Company-wide corporate asset held in common for use by all the segments.) The office conducts development activities geared toward solutions for materials informatics, which is a new technical field of material development that combines advance data processing technologies and material science, as well as enabling server acceleration to reduce the power consumption of systems and to meet latency demands of processing for edge serves, which are anticipated after realizing next-generation telecommunication standards.

The Nagase R&D Center conducts foundational technology research and proposes research topics for the biotechnology-related businesses operated by the NAGASE Group. At present, the Nagase R&D Center is working to help create a global-scale bioeconomy for society through process innovation (*Unavailable Made Available*) to facilitate high-efficiency production of plant- and animal-derived rare and useful substances, which have been traditionally difficult to synthesize. The center is leveraging our own core technologies (N-STePP®*: Technology for breeding and fermenting actinomycetes) and other foundational technologies to accomplish this goal. Examples include algae-derived ultraviolet absorbing substances (mycosporine-like amino acids), proteins in human and animal blood (ferritin), unusual antioxidative amino acids (ergothioneine) contained in mushrooms and wheat varieties, biodyes, and other functional substances unique to actinomycetes. The center is developing these useful substances to be applied across a wide range of functional foods, cosmetics, and industrial products. The center also applies for patents and registrations of numerous foundational and peripheral technologies. In this way, the Nagase R&D Center fulfills its mission to develop and utilize foundational biotechnologies, inventing products that will lead the NAGASE Group into the future.

The Nagase Application Workshop (NAW) is home to specialized equipment and expert staff capable of conducting raw materials analysis, application development, and final product formulation for plastics and coating materials. The NAW supports the NAGASE Group trading company differentiation strategy by combining materials and processing technologies from business partners and group manufacturing companies. This combination of materials and processes produce solutions that respond to market needs identified through the marketing functions of the NAGASE Group network. The NAW accurately formulates new elemental technologies and functional materials, developing these technologies and materials into solutions for our customers. Here, the workshop coordinates closely with NAGASE divisions and Group companies to explore the potential for new businesses.

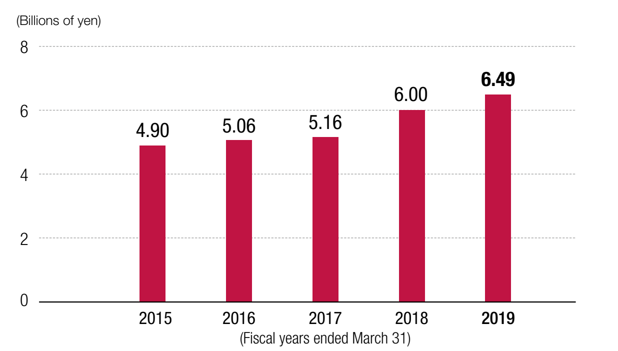
Nagase ChemteX focuses on establishing new business in the fields of next-generation manufacturing and biomaterials within the New Business Development Headquarters. In the next-generation manufacturing field, the company has developed various materials that can use additive manufacturing methods, such as UV cured resins for 3D printers and low-temperature sintered-type ink for wiring applications, and has already begun product sales. Going forward, the company will continue expanding its product lineup and upgrading its systems aimed at full-scale commercialization. In the biomaterials field, the company has begun supplying samples of low-endotoxin biocompatible polymers, for which needs have been increasing for medical equipment applications.

Using unique siloxane synthesis technologies, Inkron Oy has begun mass production of materials for LED applications that require high reliability. In addition, the company is developing special optical materials in the AR/VR field, which is expected to grow going forward, using refractive index control technologies that span a wide range from a low of 1.25 to a high of 1.8. Nagase ChemteX uses nanoparticle dispersion technologies, mass-production technologies, and complementary synergies with quality control systems developed over many years to contribute to customer innovations by supplying leading-edge materials for next-generation optical devices on a global scale.

Hayashibara Co., Ltd. continues research and development activities for the use of TREHA™, pullulan, and other functional saccharides in everything from foods, cosmetics, and pharmaceuticals/medicines to applications in agricultural and industrial fields. The company is raising consumer awareness of and accelerating development activities for mainstay products Fibryxa™ and Hayashibara Hesperidin S for applications in Foods with Function Claims and other uses. Hayashibara is searching for new enzyme-producing bacteria from microorganisms, moving forward with research and development related to products created through unique enzymes. As the company considers patents and intellectual property strategy for commercializing functional saccharides with the potential of becoming mainstay products for the next generation, it also continues to study manufacturing methods for new materials. Activities include market analysis, suggestions for effective uses, and applications development. Meanwhile, the NAGASE Group is making use of Hayashibara's extensive library of functional dyes, focusing on developing new applications in commercial fields, such as photo and printing plates, as well as in the currently growing life science fields, including pharmaceuticals and in-vitro diagnostics. The NAGASE Group incurred a total of ¥6.4 billion in research and development expenses for the fiscal year.

* Abbreviation of Nagase Streptomyces Technology for Protein/Precious Products, a NAGASE registered trademark in Japan.

Research and Development Expenses



Outlook for the Year Ending March 31, 2020

Improving employment and payrolls in Japan should prevent any significant declines in personal consumption in the Japanese economy. However, we are concerned with the impact of the consumption tax increase and uncertainty in the industrial sector, which relies mainly on orders from overseas. The global economy is experiencing the impact of U.S.-China trade frictions, as well as a rise in risk factors reflecting national fiscal policies and exchange rate fluctuations. We intend to keep a close eye on the U.S. and China, two countries with a major impact on macroeconomic trends. With respect to our business environment, we recognize the rising importance in supply issues stemming from global environmental regulations, global governance in response to increasing overseas business opportunities, and the need for stronger compliance structures at our manufacturing businesses.

For the fiscal year ending March 2020, we forecast consolidated net sales of ¥850.0 billion (+5.2% year on year), operating income of ¥26.0 billion (+3.1%), ordinary income of ¥27.0 billion (+1.3%), and profit attributable to owners of the parent in the amount of ¥20.5 billion (+1.8%).

These forecasts have been developed based on a currency conversion rate of ¥110 to the U.S. dollar.

(Announced on May 7, 2019) (Millions of yen)

	Net sales	Operating income	Ordinary income	Profit attributable to owners of the parent
Year ending March 31, 2020 (Projected)	850,000	26,000	27,000	20,500
Year ended March 31, 2019 (Actual)	807,755	25,226	26,643	20,136
Change	+5.2%	+3.1%	+1.3%	+1.8%

Profit Sharing Policy

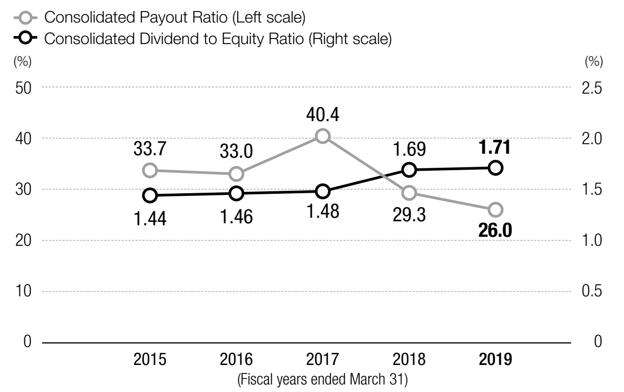
■ Dividend Policy

Our basic policy is to continue paying a stable dividend to our shareholders in line with our consolidated results as we improve our earnings power and management structure. We look to improve per-share dividends based on considerations of the consolidated payout ratio and consolidated dividend to equity ratio. We also plan to use funds from internal reserves effectively in our business growth and to build a stronger management function.

The NAGASE Group declared a year-end dividend of ¥24 per share based on this policy, a ¥1 increase compared to the prior fiscal year. As a result, the scheduled full-year cash dividend will amount to ¥42 per share, including an interim dividend.

We forecast a full-year dividend of ¥44 per share, which will be an increase of ¥2 per share, for the fiscal year ending March 31, 2020. This dividend will consist of a ¥22 per share interim dividend and a ¥22 per share year-end dividend.

Consolidated Payout Ratio / Consolidated Dividend to Equity Ratio



This forecast was made May 7, 2019. Forecasts in connection with the Group's future performance are subject to a variety of risks and uncertainties including those outlined as follows. As a result, readers are advised that actual results may differ from projections.

Operating and Other Risks

The NAGASE Group is engaged in trading, marketing, research and development, manufacturing and processing in six business segments across the world: Functional Materials, Advanced Materials & Processing, Electronics, Mobility & Energy, Life & Healthcare, and Others. The nature of these businesses entails various risks that may have a material effect on investment decisions. We provide a discussion of the major risks below.

Any forward-looking statements are based on management decisions as of the end of fiscal year under review.

(1) Overall Operating Risk

The NAGASE Group is engaged in activities that rely on the use of chemicals across a wide spectrum of products and services through our Functional Materials, Advanced Materials & Processing, Electronics, Mobility & Energy and Life & Healthcare business. These products and services include dyes/pigments, coating materials/inks, surfactants, OA, electrical equipment, home electronics, automobiles, LCDs, semiconductors, and pharmaceutical/medical applications. Accordingly, significant changes in domestic and international commercial chemicals industry could affect the NAGASE Group's earnings and financial condition.

(2) Product Market Conditions

The NAGASE Group handles extensive petrochemicals manufactured from naphtha in our Functional Materials, Advanced Materials & Processing, and Mobility & Energy segments. Raw materials markets and demand-supply balance are two factors that result in unique market circumstances for each of our products. Fluctuations in these factors could affect our revenues and profits in related product lines. Also, some products manufactured by the Group use raw materials derived from grains. Raw materials costs fluctuate widely due to changes in grain market prices; we may not be able to pass on increased raw materials costs through higher sales prices, which could affect our profits in related product lines.

(3) Impact of Fluctuations in Foreign Currency Exchange Rates

The NAGASE Group conducts import/export as well as non-trade business transactions denominated in foreign currencies. Fluctuations in currency markets have a significant impact when prices are converted to yen. While the Group executes exchange contract hedges for these transactions to minimize exchange rate risk to the greatest extent possible, currency exchange rate fluctuations could have a significant impact on Group earnings and financial conditions. The NAGASE Group owns foreign-domiciled corporations whose financial statements are prepared using local currencies. The conversion of these currencies to Japanese yen for consolidated reporting purposes entails currency conversion risk due to fluctuating exchange rates.

(4) Impact of Fluctuations in Interest Rates

The NAGASE Group obtains funds for operating and investing activities through loans from financial institutions; some of these loans are interest-bearing debt including variable interest terms. The Group reduces interest rate fluctuation risk related to variable interest loans by utilizing interest-rate swap contracts. Group earnings and financial conditions may be affected by future interest rate trends. Interest rate fluctuations cause variations in discount rates used for retirement benefit obligations and plan asset investment income, impacting NAGASE Group business performance and financial position.

(5) Risks Involved in Operating Overseas

A significant and increasing percentage of NAGASE Group sales and production takes place overseas in locations such as Greater China, ASEAN, the Americas, and Europe. While NAGASE Group management keeps a close eye on local trends and conditions in order to respond appropriately, unforeseen events stemming from local government regulations, business customs, or other influences could have an impact on Group business performance and financial condition.

(6) Impact of Changes in Stock Prices

The NAGASE Group maintains a portfolio of marketable securities, primarily equity shares of companies doing business with the Group. These equity investments are subject to share price fluctuation risks. As a matter of policy, the NAGASE Group reduces risk by continuously reviewing and reorganizing its shareholdings. However, changes in share prices could impact Group earnings and financial condition. A decline in share prices could damage the value of pension plan assets managed by the Group, increasing retirement benefit costs and thereby reducing Group profits.

(7) Counterparty Credit Risk

The NAGASE Group extends credit to domestic and overseas purchasers in connection with various transactions. As a matter of policy, the NAGASE Group reduces credit risk by obtaining guarantees, collateral, and insurance, etc. according to the financial condition of the purchaser. Although the NAGASE Group strives to ensure stable, uninterrupted product procurement, financial weakness or bankruptcies among suppliers or others could damage the Group's ability to procure goods. Such circumstances could have an impact on the Group's earnings and financial condition.

(8) Risk of Investments

The NAGASE Group engages in investment activities to establish new companies, to invest in equipment at manufacturing subsidiaries, and to acquire other business entities. These types of investment activities involve certain risks, including the risk of failing to recover investments in cases where the Company is not able to record profits at initially planned levels, the risk that additional funding may be required, and the risk that the Group will not be able to withdraw from investments according to the desired timing and method. The NAGASE Group strives to reduce risk in this area. Decisions to invest in new businesses are made after a careful study of the viability of business plans and profitability. At the same time, the Group regularly monitors the performance of existing investments. However, even these management initiatives cannot completely negate potential investment risk, and such risk may have an impact on Group earnings and financial condition.

(9) Risk of Asset Impairment

The NAGASE Group owns non-current assets such as business assets in manufacturing subsidiaries and goodwill. These assets entail the risk of impairment loss if asset value declines. The NAGASE Group records impairment losses when deemed necessary. However, even greater impairment losses may be incurred as a result of deteriorating business profits or other factors in the future, which may have an impact on Group business performance and financial condition.

(10) Product Quality Risk

The NAGASE Group operates the Nagase R&D Center and manufacturing subsidiaries to offer high-value-added products to our customers. We pay detailed attention to the quality of the technologies and products that bear the name of NAGASE and our affiliates. We also bear manufacturers' liability for imported products, products manufactured on a contract basis, etc. Accordingly, the Group treats these products with the same attention to detail and quality as if they were made in our own facilities. However, product defects could result in cessation of sales and/or product recalls, exposing the NAGASE Group to liability for damages, which could have an impact on Group earnings and financial conditions.

(11) Risks Related to Product Laws

The NAGASE Group imports, exports, and sells domestically a wide variety of chemicals and other products for a broad range of uses. To maintain international peace and safety, the chemicals and other items we export are subject to different laws, including the Foreign Exchange and Foreign Trade Control Law and the Export Trade Control Order. Imports and domestic sales are subject to the Chemical Substances Control Law and other related statutes, as well as similar regulations in foreign jurisdictions. To ensure compliance, the Group has established internal Security Trade Control Regulations and Chemical/Product Control Regulations. However, a violation of such laws and statutes could result in restrictions on Group business activities, having an impact on Group earnings and financial condition.

(12) Risks of Natural Disasters

The NAGASE Group has put emergency response systems in place, including the creation of a business contingency plan, the adoption of safety confirmation systems, the creation of a disaster-response manual, earthquake-response measures, disaster-response training, and other measures to deal with natural disasters. However, as we conduct business across a great number of countries and regions, we are exposed to the risk of major natural disasters, H1N1 influenza and other communicable diseases, and other emergencies that could disrupt our supply chain. Such disruptions could prevent us from selling our products or damage the manufacturing capabilities of important Group facilities. Such interruptions would result in opportunity loss, and could have a significant impact on Group earnings and financial condition.

Consolidated Balance Sheet

NAGASE & CO., LTD. and Consolidated Subsidiaries (March 31, 2019 and 2018)

ASSETS	Millions of yen 2019	Millions of yen 2018	Thousands of U.S. dollars (Note 1) 2019
Current assets:			
Cash and time deposits (Notes 15 and 22)	¥ 44,068	¥ 43,303	$ 397,045
Notes and accounts receivable (Note 15)	230,459	225,999	2,076,394
Inventories (Note 5)	81,003	73,671	729,823
Other current assets	10,651	10,953	95,964
Less allowance for doubtful accounts	(355)	(602)	(3,198)
Total current assets	365,827	353,325	3,296,036
Property, plant and equipment, at cost (Note 6 and 7):			
Land (Note 20)	20,456	21,154	184,305
Buildings and structures	57,846	58,016	521,182
Machinery, equipment and vehicles	82,397	82,437	742,382
Leased assets	247	530	2,225
Construction in progress	3,784	784	34,093
	164,732	162,922	1,484,206
Less accumulated depreciation	(98,264)	(95,697)	(885,341)
Property, plant and equipment, net (Note 23)	66,467	67,225	598,856
Investments and other assets:			
Investments in securities (Notes 8 and 15):			
Unconsolidated subsidiaries and affiliates	9,556	8,116	86,098
Other	80,706	92,287	727,147
	90,263	100,403	813,253
Long-term loans receivable	243	109	2,189
Goodwill (Note 23)	23,866	25,478	215,028
Technology-based assets	10,639	12,215	95,855
Asset for retirement benefits (Note 11)	109	—	982
Deferred tax assets (Notes 3 and 12)	2,290	2,409	20,632
Other assets (Note 7)	7,732	8,389	69,664
Less allowance for doubtful accounts	(92)	(101)	(829)
Total investments and other assets	135,051	148,904	1,216,785
Total assets (Note 23)	¥567,346	¥569,456	$5,111,686

LIABILITIES AND NET ASSETS	Millions of yen 2019	Millions of yen 2018	Thousands of U.S. dollars (Note 1) 2019
Current liabilities:			
Notes and accounts payable (Note 15)	¥117,256	¥118,028	$1,056,456
Short-term loans (Notes 9 and 15)	34,964	31,934	315,019
Current portion of long-term loans and finance lease obligations (Notes 9, 15 and 20)	972	11,126	8,758
Commercial papers (Note 15)	12,000	5,000	108,118
Current portion of bonds (Notes 9 and 15)	10,000	—	90,098
Accrued income taxes (Note 12)	3,594	1,738	32,381
Accrued expenses	3,005	3,250	27,075
Accrued bonuses for employees	5,355	5,451	48,248
Accrued bonuses for directors and executive officers	287	274	2,586
Other current liabilities	14,429	16,191	130,003
Total current liabilities	201,866	192,996	1,818,776
Long-term liabilities:			
Bonds (Notes 9 and 15)	10,000	20,000	90,098
Long-term loans and finance lease obligations (Notes 9, 15 and 20)	17,683	18,112	159,321
Deferred tax liabilities (Notes 3 and 12)	12,075	14,420	108,794
Liability for retirement benefits (Note 11)	12,461	14,518	112,271
Other long-term liabilities	650	603	5,856
Total long-term liabilities	52,870	67,655	476,349
Contingent liabilities (Note 19)			
Net assets:			
Shareholders' equity (Note 13):			
Common stock:			
Authorized – 346,980,000 shares			
Issued – 127,408,285 shares in 2019 and 2018	9,699	9,699	87,386
Capital surplus	10,647	11,158	95,928
Retained earnings (Notes 21 and 24)	247,617	232,534	2,230,985
Treasury stock, at cost (Note 14) – 3,396,352 shares in 2019 and 2,195,966 shares in 2018	(5,070)	(3,114)	(45,680)
Total shareholders' equity	262,892	250,278	2,368,610
Accumulated other comprehensive income:			
Net unrealized holding gain on securities (Note 8)	41,857	50,773	377,124
Deferred loss on hedges (Note 16)	(7)	(15)	(63)
Translation adjustments	3,224	2,917	29,048
Retirement benefit liability adjustments (Note 11)	(292)	(317)	(2,631)
Total accumulated other comprehensive income	44,781	53,358	403,469
Non-controlling interests	4,934	5,168	44,454
Total net assets	312,609	308,804	2,816,551
Total liabilities and net assets	¥567,346	¥569,456	$5,111,686

See notes to consolidated financial statements.

Consolidated Statement of Income

NAGASE & CO., LTD. and Consolidated Subsidiaries (Years ended March 31, 2019 and 2018)

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	2019
Net sales (Note 23)	¥807,755	¥783,933	$7,277,728
Cost of sales	702,313	681,258	6,327,714
Gross profit	105,441	102,675	950,005
Selling, general and administrative expenses (Notes 17 and 18)	80,215	78,557	722,723
Operating income (Note 23)	25,226	24,118	227,282
Other income (expenses):			
Interest and dividend income	1,994	1,791	17,966
Interest expense	(1,702)	(1,294)	(15,335)
Equity in earnings of affiliates	538	921	4,847
Gain on sales of shares of subsidiaries and affiliates	6	84	54
Gain on sales of investments in securities (Note 8)	4,355	8	39,238
Loss on sales of shares of a subsidiary and affiliates	—	0	0
Loss on devaluation of investments in securities	(208)	(12)	(1,874)
Gain on sales of property, plant and equipment	282	50	2,541
Loss on sales of property, plant and equipment	(78)	(419)	(703)
Loss on disposal of property, plant and equipment	(275)	(168)	(2,478)
Loss on impairment of fixed assets (Notes 7 and 23)	(2,294)	(847)	(20,669)
Loss on reduction of property, plant and equipment	(205)	(212)	(1,847)
Gain on bargain purchase	—	229	—
Subsidy income	205	288	1,847
Loss on discontinued operation	(194)	(462)	(1,748)
Loss on step acquisitions	—	(294)	—
Other, net	556	269	5,009
Profit before income taxes	28,204	24,049	254,113
Income taxes (Note 12):			
Current	6,400	5,358	57,663
Deferred	1,395	1,098	12,569
Profit	20,408	17,592	183,872
Profit attributable to:			
Non-controlling interests	(271)	(417)	(2,442)
Owners of parent	¥ 20,136	¥ 17,175	$ 181,422

See notes to consolidated financial statements.

Consolidated Statement of Comprehensive Income

NAGASE & CO., LTD. and Consolidated Subsidiaries (Years ended March 31, 2019 and 2018)

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	2019
Profit	¥20,408	¥17,592	$183,872
Other comprehensive income (Note 10):			
Net unrealized holding (loss) gain on securities	(8,907)	3,083	(80,250)
Deferred gain (loss) on hedges	7	(19)	63
Translation adjustments	298	(14)	2,685
Retirement benefit liability adjustments	25	(43)	225
Share of other comprehensive (loss) income of affiliates accounted for by the equity method	(29)	50	(261)
	(8,604)	3,055	(77,520)
Comprehensive income	¥11,803	¥20,648	$106,343
Total comprehensive income attributable to:			
Owners of parent	¥11,640	¥20,101	$104,874
Non-controlling interests	163	547	1,469

See notes to consolidated financial statements.

Consolidated Statement of Changes in Net Assets

NAGASE & CO., LTD. and Consolidated Subsidiaries (Years ended March 31, 2019 and 2018)

	Millions of yen											
	Common stock	Capital surplus	Retained earnings	Treasury stock, at cost	Total shareholders' equity	Net unrealized holding gain on securities	Deferred loss on hedges	Translation adjustments	Retirement benefit liability adjustments (Note 11)	Total accumulated other comprehensive income	Non-controlling interests	Total net assets
Balance at April 1, 2017	¥9,699	¥11,590	¥219,721	¥(1,337)	¥239,674	¥47,683	¥ 4	¥3,129	¥(274)	¥50,542	¥4,981	¥295,198
Profit attributable to owners of parent	—	—	17,175	—	17,175	—	—	—	—	—	—	17,175
Cash dividends	—	—	(4,287)	—	(4,287)	—	—	—	—	—	—	(4,287)
Purchases of treasury stock	—	—	—	(1,776)	(1,776)	—	—	—	—	—	—	(1,776)
Disposition of treasury stock	—	0	—	0	0	—	—	—	—	—	—	0
Changes in parent's ownership interest due to transactions with non-controlling interests	—	(431)	—	—	(431)	—	—	—	—	—	—	(431)
Changes resulting from merger with an unconsolidated subsidiary	—	—	(6)	—	(6)	—	—	—	—	—	—	(6)
Decrease in retained earnings resulting from changes in scope of consolidation	—	—	(67)	—	(67)	—	—	—	—	—	—	(67)
Decrease in retained earnings resulting from changes in scope of equity method	—	—	(1)	—	(1)	—	—	—	—	—	—	(1)
Other changes	—	—	—	—	—	3,090	(19)	(212)	(42)	2,815	187	3,002
Balance at April 1, 2018	9,699	11,158	232,534	(3,114)	250,278	50,773	(15)	2,917	(317)	53,358	5,168	308,804
Profit attributable to owners of parent	—	—	20,136	—	20,136	—	—	—	—	—	—	20,136
Cash dividends	—	—	(5,133)	—	(5,133)	—	—	—	—	—	—	(5,133)
Purchases of treasury stock	—	—	—	(1,956)	(1,956)	—	—	—	—	—	—	(1,956)
Changes in parent's ownership interest due to transactions with non-controlling interests	—	(500)	—	—	(500)	—	—	—	—	—	—	(500)
(Decrease) increase in retained earnings resulting from changes in scope of consolidation	—	(11)	79	—	68	—	—	—	—	—	—	68
Other changes	—	—	—	—	—	(8,916)	7	307	25	(8,576)	(233)	(8,810)
Balance at March 31, 2019	¥9,699	¥10,647	¥247,617	¥(5,070)	¥262,892	¥41,857	¥ (7)	¥3,224	¥(292)	¥44,781	¥4,934	¥312,609

	Thousands of U.S. dollars (Note 1)											
	Common stock	Capital surplus	Retained earnings	Treasury stock, at cost	Total shareholders' equity	Net unrealized holding gain on securities	Deferred loss on hedges	Translation adjustments	Retirement benefit liability adjustments (Note 11)	Total accumulated other comprehensive income	Non-controlling interests	Total net assets
Balance at April 1, 2018	$87,386	$100,532	$2,095,090	$(28,057)	$2,254,960	$457,456	$(135)	$26,282	$(2,856)	$480,746	$46,563	$2,782,269
Profit attributable to owners of parent	—	—	181,422	—	181,422	—	—	—	—	—	—	181,422
Cash dividends	—	—	(46,247)	—	(46,247)	—	—	—	—	—	—	(46,247)
Purchases of treasury stock	—	—	—	(17,623)	(17,623)	—	—	—	—	—	—	(17,623)
Changes in parent's ownership interest due to transactions with non-controlling interests	—	(4,505)	—	—	(4,505)	—	—	—	—	—	—	(4,505)
(Decrease) increase in retained earnings resulting from changes in scope of consolidation	—	(99)	712	—	613	—	—	—	—	—	—	613
Other changes	—	—	—	—	—	(80,332)	63	2,766	225	(77,268)	(2,099)	(79,377)
Balance at March 31, 2019	$87,386	$ 95,928	$2,230,985	$(45,680)	$2,368,610	$377,124	$ (63)	$29,048	$(2,631)	$403,469	$44,454	$2,816,551

See notes to consolidated financial statements.

Consolidated Statement of Cash Flows

NAGASE & CO., LTD. and Consolidated Subsidiaries (Years ended March 31, 2019 and 2018)

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	2019
Operating activities:			
Profit before income taxes	¥28,204	¥24,049	$254,113
Adjustments to reconcile profit before income taxes to net cash provided by operating activities:			
Depreciation and amortization other than amortization of goodwill	9,329	9,295	84,053
Amortization of goodwill	1,815	1,748	16,353
Loss on impairment of fixed assets	2,294	847	20,669
Gain on bargain purchase	—	(229)	—
Loss on step acquisitions	—	294	—
Subsidy income	(205)	(288)	(1,847)
Loss on reduction of property, plant and equipment	205	212	1,847
Loss on discontinued operation	194	462	1,748
Decrease in liability for retirement benefits	(2,023)	(210)	(18,227)
Interest and dividend income	(1,994)	(1,791)	(17,966)
Interest expense	1,702	1,294	15,335
Exchange loss (gain), net	295	(309)	2,658
Gain on sales of investments in securities, investments in capital, shares of subsidiaries and affiliates, and investments in capital of subsidiaries and affiliates, net	(4,359)	(92)	(39,274)
Changes in operating assets and liabilities:			
Notes and accounts receivable	(4,477)	(17,382)	(40,337)
Inventories	(7,157)	(9,610)	(64,483)
Notes and accounts payable	(894)	15,024	(8,055)
Other, net	(1,530)	1,623	(13,785)
Subtotal	21,399	24,937	192,801
Interest and dividends received	2,520	2,235	22,705
Interest paid	(1,670)	(1,292)	(15,046)
Income taxes paid	(4,874)	(4,865)	(43,914)
Net cash provided by operating activities	17,375	21,013	156,546
Investing activities:			
Purchases of property, plant and equipment	(10,253)	(6,679)	(92,378)
Proceeds from sales of property, plant and equipment	917	1,360	8,262
Purchases of intangible fixed assets included in other assets	(505)	(539)	(4,550)
Purchases of investments in securities	(2,555)	(1,603)	(23,020)
Proceeds from sales of investments in securities	5,479	105	49,365
Purchases of investments in capital	(96)	(54)	(865)
Purchase of shares of subsidiaries resulting in change in scope of consolidation	—	(5,994)	—
Proceeds from sales of shares of subsidiaries resulting in change in scope of consolidation	—	207	—
(Increase) decrease in short-term loans receivable included in other current assets, net	(807)	108	(7,271)
Decrease (increase) in time deposits, net	392	(242)	3,532
Subsidy income	205	288	1,847
Other, net	(102)	(1,400)	(919)
Net cash used in investing activities	(7,325)	(14,442)	(65,997)
Financing activities:			
Increase in short-term loans, net	2,771	3,632	24,966
Increase in commercial papers, net	7,000	5,000	63,069
Proceeds from long-term loans	582	8,301	5,244
Repayments of long-term loans	(11,175)	(3,117)	(100,685)
Redemption of bonds	—	(10,000)	—
Purchase of treasury stock	(1,956)	(1,776)	(17,623)
Cash dividends paid	(5,133)	(4,287)	(46,247)
Cash dividends paid to non-controlling interests	(398)	(275)	(3,586)
Payments for purchases of shares of subsidiaries not resulting in change in scope of consolidation	(498)	(606)	(4,487)
Other, net	(99)	(30)	(892)
Net cash used in financing activities	(8,909)	(3,161)	(80,268)
Effect of exchange rate changes on cash and cash equivalents	100	(175)	901
Net increase in cash and cash equivalents	1,240	3,234	11,172
Cash and cash equivalents at beginning of the year	42,857	39,730	386,134
Decrease in cash and cash equivalents resulting from exclusion of subsidiaries from consolidation	(80)	(111)	(721)
Increase in cash and cash equivalents resulting from merger with unconsolidated subsidiaries	—	4	—
Cash and cash equivalents at end of the year (Note 22)	¥44,017	¥42,857	$396,585

See notes to consolidated financial statements.

Notes to Consolidated Financial Statements

NAGASE & CO., LTD. and Consolidated Subsidiaries (March 31, 2019)

1. BASIS OF PREPARATION

The accompanying consolidated financial statements of NAGASE & CO., LTD. (the "Company") and consolidated subsidiaries are prepared on the basis of accounting principles generally accepted in Japan, which are different in certain respects as to the application and disclosure requirements of International Financial Reporting Standards, and have been compiled from the consolidated financial statements prepared by the Company as required by the Financial Instruments and Exchange Act of Japan.

In preparing the accompanying consolidated financial statements, certain reclassifications and rearrangements have been made to the consolidated financial statements issued domestically in order to present them in a format which is more familiar to readers outside Japan.

Certain amounts in the prior year's consolidated financial statements have been reclassified to conform to the current year's presentation. Such reclassifications had no effect on consolidated profit or net assets.

The U.S. dollar amounts in the accompanying consolidated financial statements have been translated from yen amounts solely for the convenience of the reader, as a matter of arithmetic computation only, at ¥110.99 = U.S.$1.00, the rate of exchange prevailing on March 31, 2019. This translation should not be construed as a representation that the yen amounts have been, could have been, or could in the future be, converted into U.S. dollars at the above or any other rate.

As permitted by the Financial Instruments and Exchange Act of Japan, amounts of less than one million yen for the years ended March 31, 2019 and 2018 have been omitted. Consequently, the totals shown in the accompanying consolidated financial statements for the years ended March 31, 2019 and 2018 (both in yen and in U.S. dollars) do not necessarily agree with the sum of the individual amounts.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

(a) Principles of Consolidation

The accompanying consolidated financial statements include the accounts of the Company and companies that it controls directly or indirectly. Affiliates over which the Company exercises significant influence in terms of their operating and financial policies have been accounted for by the equity method. All significant intercompany balances and transactions have been eliminated in consolidation.

Certain subsidiaries were excluded from the scope of consolidation because the effect of their sales, net profit or loss, total assets and retained earnings on the accompanying consolidated financial statements was immaterial. The unconsolidated subsidiaries and affiliates not accounted for by the entity method were excluded from the scope of application of the equity method, because their profit or loss and retained earnings attributable to the Company's interest were not material to the consolidated financial statements.

For consolidation purposes, the financial statements of the consolidated subsidiaries whose fiscal year end date differs from that of the Company have been included in consolidation based on a provisional statement of accounts for a full fiscal year ending March 31.

Unrealized intercompany gains among the Company and the consolidated subsidiaries have been entirely eliminated and the portion attributable to non-controlling interests has been charged to non-controlling interests.

(b) Foreign Currency Translation

All monetary assets and liabilities denominated in foreign currencies are translated into yen at the rates of exchange in effect at the balance sheet date, except that receivables and payables hedged by qualified foreign currency forward exchange contracts are translated at the corresponding contract rates. All other assets and liabilities denominated in foreign currencies are translated at their historical rates. Gain or loss on each translation is credited or charged to income.

Revenue and expense items arising from transactions denominated in foreign currencies are generally translated into yen at the rates in effect at the respective transaction dates. Foreign exchange gain or loss is credited or charged to income in the period in which such gain or loss is recognized for financial reporting purposes.

The balance sheet accounts of the overseas consolidated subsidiaries are translated into yen at the rates of exchange in effect at the balance sheet date, except that the components of net assets excluding non-controlling interests, net unrealized holding gain on securities, and deferred gain or loss on hedges are translated at their historical exchange rates. Revenue and expense accounts are translated at the average rates of exchange in effect during the year. Adjustments resulting from translating financial statements whose accounts are denominated in foreign currencies are not included in the determination of net income but are reported as "Translation adjustments" as a component of accumulated other comprehensive income or loss in the accompanying consolidated balance sheets.

(c) Cash and Cash Equivalents

Cash and cash equivalents consist of cash on hand, demand deposits, and short-term investments which are readily convertible to cash and subject to an insignificant risk of any change in their value, which were purchased with an original maturity of three months or less.

(d) Inventories

Inventories are stated at the lower of cost or net selling value, cost being determined primarily by the moving-average method.

(e) Investments in Securities

Securities are classified into three categories: trading securities, held-to-maturity debt securities or other securities. Trading securities, consisting of debt and marketable equity securities, are stated at fair value. Gain and loss, both realized and unrealized, are credited or charged to income. Held-to-maturity debt securities are stated at their amortized cost. Marketable securities classified as other securities are carried at fair value with any changes in unrealized holding gain or loss, net of the applicable income taxes, reported as a separate component of accumulated other comprehensive income or loss. Non-marketable securities classified as other securities are carried at cost determined by the moving-average method.

(f) Property, Plant and Equipment and Depreciation (except for leased assets)

Property, plant and equipment are stated at cost.

Depreciation of property, plant and equipment is calculated by the straight-line method based on the estimated useful lives of the respective assets.

The estimated useful lives of the principal assets are as follows:

Buildings	
(other than structures attached to the buildings)	15 to 50 years
Machinery and equipment	2 to 20 years

(g) Intangible Assets (except for leased assets)
Technology-based assets recognized upon acquisition are amortized on a straight-line basis over 13 to 17 years.

Costs incurred for computer software obtained for internal use are capitalized and amortized on a straight-line basis over an estimated useful life of 5 years.

(h) Goodwill
Goodwill is amortized over a period not exceeding 20 years on a straight-line basis. When immaterial, goodwill is charged to income as incurred.

(i) Leased Assets
Leased assets under finance lease contracts which do not transfer ownership to the lessee are depreciated to a residual value of zero by the straight-line method over the respective lease terms.

(j) Allowance for Doubtful Accounts
The Company and its consolidated subsidiaries provide allowances for doubtful accounts based on their historical experience of bad debts on ordinary receivables plus an additional estimate of probable specific doubtful accounts from customers experiencing financial difficulties.

(k) Income Taxes
Income taxes are calculated based on taxable income and charged to income on an accrual basis. Deferred tax assets and liabilities are computed based on the temporary differences between the financial reporting and the tax bases of the assets and liabilities that will result in taxable or deductible amounts in the future. Computations of deferred tax assets and liabilities are based on the tax rates which have been enacted as of the balance sheet date. The Company and certain domestic consolidated subsidiaries have adopted the consolidated taxation system (the Company is the taxable entity), which allows companies to make tax payments on the combined profits of the parent company and its wholly owned domestic subsidiaries.

(l) Accrued Bonuses for Employees
Accrued bonuses for employees are provided based on the estimated amount of bonuses to be paid to employees in the following fiscal year which is attributable to the current fiscal year.

(m) Accrued Bonuses for Directors and Executive Officers
Accrued bonuses for directors and executive officers are provided based on the estimated amount of bonuses to be paid to directors and executive officers in the following fiscal year which is attributable to the current fiscal year.

(n) Liability for Retirement Benefits
Liability for retirement benefits is provided based on the amount of the retirement benefit obligation less estimated pension plan assets at the end of the fiscal year. The estimated benefit is attributed to each period based on the plan's benefit formula.

Prior service cost is charged to income in the fiscal year in which such cost is recognized for financial reporting purposes. Actuarial differences are principally credited or charged to income in the fiscal year following the fiscal year in which such differences are recognized for financial reporting purposes.

(o) Derivatives and Hedging Activities
Derivatives positions are carried at fair value with any changes in unrealized gain or loss charged or credited to income, except for those which meet the criteria for deferral hedge accounting under which unrealized gain or loss is deferred as a component of net assets. Foreign currency receivables and payables hedged by qualified foreign currency forward exchange contracts are translated at the corresponding foreign exchange contract rates ("allocation method"). Interest-rate swaps which meet certain conditions are accounted for as if the interest rates applied to the swaps had originally applied to the underlying loans.

Derivative financial instruments are utilized principally in order to manage the risk arising from adverse fluctuation in foreign currency exchange rates and interest-rate swaps are also utilized to mitigate the risk of fluctuation in interest rates on loans. Hedging instruments are foreign currency forward exchange contracts, foreign currency deposits, foreign currency loans and interest-rate swaps. Hedged items are foreign currency receivables and payables, forecast transactions and interest rates on loans from financial institutions.

The Company and its consolidated subsidiaries (collectively, the "Group") manage derivative transactions in accordance with internal management rules. Under these rules, the Group conducts foreign currency forward exchange contracts within a range of actual demand of accounts receivable, accounts payable and actual transactions in foreign currencies. Execution and management of interest-rate swaps are based on internal management rules and hedged items of interest-rate swaps are identified by individual contracts.

The Company and certain consolidated subsidiaries assess the effectiveness of the hedging activities based on a comparison of the accumulated fluctuations of the hedged items and those of the hedging instruments in the period from the start of the hedging activities to the assessment date. However, with regard to interest-rate swaps which meet certain conditions, the evaluation of effectiveness is omitted.

(p) Research and Development Costs
Research and development costs are charged to income when incurred.

(q) Distributions of Retained Earnings
Dividends and other distributions of retained earnings are approved by the shareholders at a meeting held subsequent to the end of the fiscal year to which such distributions are applicable. The accompanying consolidated financial statements do not, however, reflect the applicable distributions of retained earnings as approved by the shareholders subsequent to the fiscal year end. (Refer to Note 24.)

3. CHANGES IN PRESENTATION METHOD

Changes in Conjunction with the Application of Partial Amendments to Accounting Standard for Tax Effect Accounting

Effective from the beginning of the fiscal year ended March 31, 2019, the Company applied *Partial Amendments to Accounting Standard for Tax Effect Accounting* (ASBJ Statement No.28, February 16, 2018). Under this standard, the presentation method was changed and the Company now classifies deferred tax assets under investments and other assets, while deferred tax liabilities are classified under long-term liabilities.

As a result, deferred tax assets under current assets on the consolidated balance sheet as of March 31, 2018 decreased ¥2,783 million, while deferred tax assets under investments and other assets increased ¥2,783 million. Deferred tax liabilities under current liabilities decreased ¥44 million, while deferred tax liabilities under long-term liabilities increased ¥44 million.

The Company offsets deferred tax assets and deferred tax liabilities for the same taxable entity. Total assets as of March 31, 2018 have decreased ¥1,989 million compared to the balance prior to this change.

4. ACCOUNTING STANDARDS ISSUED BUT NOT YET EFFECTIVE

Accounting Standard and Implementation Guidance for Revenue Recognition

(a) Overview
On March 30, 2019, the ASBJ issued "Accounting Standard for Revenue Recognition" (ASBJ Statement No.29) and "Implementation Guidance on Accounting Standard for Revenue Recognition" (ASBJ Guidance No.30). The International Accounting Standards Board (hereinafter referred to as the "IASB") and the Financial Accounting Standards Board (hereinafter referred to as the "FASB") in the United States co-developed comprehensive accounting standards for revenue recognition and issued "Revenue from Contracts with Customers" (IFRS 15 by the IASB and Topic 606 by the FASB) in May 2014. The ASBJ developed comprehensive accounting standards on revenue recognition and issued them in conjunction with the implementation guidance based on fact that IFRS 15 is applied from fiscal years starting on or after January 1, 2018 and Topic 606 is applied from fiscal years starting after December 15, 2017.

As the basic policy in developing accounting standards for revenue recognition, the ASBJ defined the accounting standard starting with incorporating the basic principle of IFRS 15 from a standpoint of comparability between financial statements, which is one benefit of ensuring consistency with IFRS 15. Furthermore, the ASBJ added alternative accounting treatment without impairing comparability when there are matters to be considered related to accounting practices, etc. common in Japan.

(b) Scheduled date of adoption
The Company expects to adopt the accounting standard and implementation guidance from the beginning of the fiscal year ending March 31, 2022.

(c) Impact of the adoption of accounting standard and implementation guidance
The Company is currently evaluating the effect of the adoption of the accounting standard and the implementation guidance on its consolidated financial statements.

5. INVENTORIES

Inventories at March 31, 2019 and 2018 are summarized as follows:

	Millions of yen		Thousands of U.S. dollars
	2019	2018	2019
Merchandise and finished goods	¥74,471	¥67,681	$670,970
Work in process	1,847	1,883	16,641
Raw materials and supplies	4,683	4,106	42,193
Total	¥81,003	¥73,671	$729,823

6. REDUCTIONS IN ACQUISITION COSTS DUE TO SUBSIDIES

The amounts of subsidies received from the Japanese national government and deducted from the acquisition costs of property, plant and equipment at March 31, 2019 and 2018 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2019	2018	2019
Land	¥ 190	¥ —	$ 1,712
Buildings and structures	528	528	4,757
Machinery, equipment and vehicles	637	621	5,739
Total	¥1,356	¥1,150	$12,217

7. LOSS ON IMPAIRMENT OF FIXED ASSETS

Loss on impairment of fixed assets for the years ended March 31, 2019 and 2018 was as follows:

			Millions of yen	Thousands of U.S. dollars
Major use	Classification	Area	2019	2019
Business-use assets for manufacturing and selling of pharmaceutical products	Buildings and structures, machinery, equipment and vehicles	Kinki	¥1,999	$18,011
Business-use assets for processing and selling of plastic materials	Buildings and structures, machinery, equipment and vehicles, and intangible assets included in other assets	Kinki	217	1,955
Business-use assets for manufacturing and selling of rechargeable battery systems	Machinery, equipment and vehicles	Tokai	22	198
Business-use assets for manufacturing of plastic resins products	Machinery, equipment and vehicles, and intangible assets included in other assets	Jiangsu, China	4	36
Idle assets	Land, machinery, equipment and vehicles	Kinki	50	450
Total			¥2,294	$20,669

Major use	Classification	Area	Millions of yen 2018
Business-use assets for manufacturing and selling of functional dyes	Buildings and structures, machinery, equipment and vehicles, land, and intangible assets included in other assets	Chugoku	¥284
Business-use assets for processing of thin glass panels	Buildings and structures, machinery, equipment and vehicles, and intangible assets included in other assets	Taoyuan, Taiwan	221
Business-use assets for processing and selling of plastic materials	Buildings and structures, machinery, equipment and vehicles, and intangible assets included in other assets	Kinki	71
Business-use assets for developing and manufacturing of polymer film	Buildings and structures, machinery, equipment and vehicles	Kinki	168
Business-use assets for manufacturing and selling of rechargeable battery systems	Buildings and structures, machinery, equipment and vehicles, and intangible assets included in other assets	Tokai	4
Business-use assets for developing and selling digital textile printing systems	Intangible assets included in other assets	Kinki	3
Idle assets	Land, building and structures	Kinki, Chugoku	92
Total			¥847

The Company and its consolidated subsidiaries group fixed assets for business use principally based on its business management segment. They also group fixed assets to be disposed of and idle assets at each asset individually as smallest cash-generating units.

For the year ended March 31, 2019, due to decreasing profitability, the carrying values of certain fixed assets for business use were reduced to their recoverable amounts. As to idle assets, due to a declining fair value, the carrying fair values were reduced to their recoverable amounts.

The recoverable amounts were measured at net selling value or value in use. The recoverable amounts for business-use assets for manufacturing and selling of pharmaceutical products were measured at value in use, on the present value of the future cash flow with a discount rate of 0.2%. Net selling value was calculated based on the appraisal value published by the tax authorities or the real estate appraisers, or estimated sales value.

For the year ended March 31, 2018, due to decreasing profitability on business-use assets, the carrying values were reduced to their recoverable amounts. As to idle assets, due to a declining fair value, the carrying values of certain fixed assets for business use were reduced to their recoverable amounts.

The recoverable amounts were measured at net selling value or value in use. Net selling value was calculated based on the appraisal value published by the tax authorities or the real estate appraisers, or estimated sales value.

8. INVESTMENTS IN SECURITIES

(a) Marketable securities classified as other securities at March 31, 2019 and 2018 are summarized as follows:

	Millions of yen					
	2019			2018		
	Carrying value	Acquisition costs	Unrealized gain (loss)	Carrying value	Acquisition costs	Unrealized gain (loss)
Securities whose carrying value exceeds their acquisition costs:						
Equity securities	¥75,476	¥16,060	¥59,415	¥88,219	¥16,475	¥71,743
Securities whose carrying value does not exceed their acquisition costs:						
Equity securities	514	590	(75)	792	870	(78)
Total	¥75,991	¥16,651	¥59,339	¥89,011	¥17,346	¥71,665

	Thousands of U.S. dollars		
	2019		
	Carrying value	Acquisition costs	Unrealized gain (loss)
Securities whose carrying value exceeds their acquisition costs:			
Equity securities	$680,025	$144,698	$535,318
Securities whose carrying value does not exceed their acquisition costs:			
Equity securities	4,631	5,316	(676)
Total	$684,665	$150,023	$534,634

"Acquisition costs" in the above table represent the carrying value after recognizing impairment losses. The Company and its consolidated subsidiaries recognized such impairment losses of ¥183 million ($1,649 thousand) for the year ended March 31, 2019. For the year ended March 31, 2018, the Company and its consolidated subsidiaries did not recognized any impairment losses on valuation of marketable securities.

(b) Securities classified as other securities for which market value was not determinable and not included in the table (a) at March 31, 2019 and 2018 are summarized as follows:

	Millions of yen 2019	Millions of yen 2018	Thousands of U.S. dollars 2019
	Carrying value	Carrying value	Carrying value
Market value not determinable:			
Unlisted equity securities	¥4,714	¥3,275	$42,472
Total	¥4,714	¥3,275	$42,472

(c) Proceeds from sales of, and gross realized gain and loss on, other securities for the years ended March 31, 2019 and 2018 are summarized as follows:

	Millions of yen 2019	Millions of yen 2018	Thousands of U.S. dollars 2019
Proceeds from sales	¥5,432	¥14	$48,941
Gain on sales	4,355	8	39,238
Loss on sales	2	—	18

9. SHORT-TERM LOANS, BONDS, LONG-TERM LOANS, COMMERCIAL PAPERS AND FINANCE LEASE OBLIGATIONS

Short-term loans at March 31, 2019 and 2018, principally represented loans and commercial papers in the form of deeds at weighted-average annual interest rates of 3.11% and 2.62% per annum, respectively.

Long-term loans, bonds and finance lease obligations at March 31, 2019 and 2018 consisted of the following:

	Millions of yen 2019	Millions of yen 2018	Thousands of U.S. dollars 2019
Unsecured loans from banks and insurance companies, payable in Yen, U.S. dollars, RMB, and HK dollars due through 2023, at rates from 0.13% to 4.51%	¥18,526	¥28,974	$166,916
Unsecured bonds in Yen, due 2019, at a rate of 0.753%	10,000	10,000	90,098
Unsecured bonds in Yen, due 2022, at a rate of 0.539%	10,000	10,000	90,098
Lease obligations	129	264	1,162
	38,655	49,239	348,275
Less current portion	(10,972)	(11,126)	(98,856)
Total	¥27,683	¥38,112	$249,419

The aggregate annual maturities of bonds, long-term loans and finance lease obligations subsequent to March 31, 2019 are summarized as follows:

	Millions of yen 2019	Thousands of U.S. dollars 2019
2020	¥10,972	$98,856
2021	1,224	11,028
2022	11,907	107,280
2023	14,495	130,597
2024	30	270
2025 and thereafter	25	225
Total	¥38,655	$348,275

In order to achieve more efficient and flexible financing, the Company has concluded line-of-credit agreements with certain financial institutions. The status of these lines of credit at March 31, 2019 and 2018 is as follows:

	Millions of yen 2019	Millions of yen 2018	Thousands of U.S. dollars 2019
Lines of credit	¥10,000	¥10,000	$90,098
Credit utilized	—	—	—

10. OTHER COMPREHENSIVE (LOSS) INCOME

Reclassification adjustments and tax effects allocated to each component of other comprehensive (loss) income for the years ended March 31, 2019 and 2018 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2019	2018	2019
Net unrealized holding (loss) gain on securities:			
Amount arising during the year	¥ (8,348)	¥4,413	$ (75,214)
Reclassification adjustments for gains and losses realized in the statement of income	(4,168)	(4)	(37,553)
Amount before tax effect	(12,516)	4,409	(112,767)
Tax effect	3,609	(1,325)	32,516
Net unrealized holding (loss) gain on securities	(8,907)	3,083	(80,250)
Deferred gain (loss) on hedges:			
Amount arising during the year	28	(54)	252
Reclassification adjustments for gains and losses realized in the statement of income	(17)	25	(153)
Amount before tax effect	11	(28)	99
Tax effect	(3)	8	(27)
Deferred gain (loss) on hedges	7	(19)	63
Translation adjustments:			
Amount arising during the year	298	(14)	2,685
Reclassification adjustments for gains and losses realized in the statement of income	—	—	—
Amount before tax effect	298	(14)	2,685
Tax effect	—	—	—
Translation adjustments	298	(14)	2,685
Retirement benefit liability adjustments:			
Amount arising during the year	(304)	(376)	(2,739)
Reclassification adjustments for gains and losses realized in the statement of income	341	317	3,072
Amount before tax effect	36	(59)	324
Tax effect	(10)	15	(90)
Retirement benefit liability adjustments	25	(43)	225
Share of other comprehensive (loss) income of affiliates accounted for by the equity method:			
Amount arising during the year	(29)	50	(261)
Total other comprehensive (loss) income	¥ (8,604)	¥3,055	$ (77,520)

11. RETIREMENT BENEFIT PLANS

(a) Outline of retirement benefit plans for employees

The Company and its domestic consolidated subsidiaries have defined benefit plans, i.e., defined benefit pension plans and lump-sum payment plans. Certain overseas consolidated subsidiaries also have defined benefit plans. Also, the Company and certain consolidated subsidiaries have defined contribution pension plans. In addition to the retirement benefit plans described above, the Company and its consolidated subsidiaries pay additional retirement benefits under certain conditions.

(b) Defined benefit plans

The changes in the retirement benefit obligation for the years ended March 31, 2019 and 2018 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2019	2018	2019
Balance at the beginning of the year	¥34,031	¥33,512	$306,613
Service cost	1,473	1,518	13,271
Interest cost	252	245	2,270
Actuarial differences	224	218	2,018
Retirement benefits paid	(1,542)	(1,493)	(13,893)
Changes in scope of consolidation	—	41	—
Other	0	(10)	0
Balance at the end of the year	¥34,440	¥34,031	$310,298

The changes in plan assets for the years ended March 31, 2019 and 2018 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2019	2018	2019
Balance at the beginning of the year	¥19,513	¥18,888	$175,809
Expected return on plan assets	395	378	3,559
Actuarial differences	(80)	(157)	(721)
Contributions by the Company and its consolidated subsidiaries	3,055	1,220	27,525
Retirement benefits paid	(792)	(815)	(7,136)
Other	(2)	(2)	(18)
Balance at the end of the year	¥22,088	¥19,513	$199,009

The following table sets forth the funded status of the plans and the amounts recognized in the consolidated balance sheets as of March 31, 2019 and 2018 for the Company's and the consolidated subsidiaries' defined benefit plans:

	Millions of yen		Thousands of U.S. dollars
	2019	2018	2019
Funded retirement benefit obligation	¥22,525	¥22,460	$202,946
Plan assets at fair value	(22,088)	(19,513)	(199,009)
	436	2,947	3,928
Unfunded retirement benefit obligation	11,915	11,570	107,352
Net liability for retirement benefits in the balance sheet	12,351	14,518	111,280
Liability for retirement benefits	12,461	14,518	112,271
Asset for the retirement benefits	(109)	—	(982)
Net liability for retirement benefits in the balance sheet	¥12,351	¥14,518	$111,280

The components of retirement benefit expenses for the years ended March 31, 2019 and 2018 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2019	2018	2019
Service cost	¥1,473	¥1,518	$13,271
Interest cost	252	245	2,270
Expected return on plan assets	(395)	(378)	(3,559)
Amortization of actuarial differences	341	317	3,072
Retirement benefit expense	¥1,671	¥1,702	$15,055

Actuarial differences included in other comprehensive (loss) income (before tax effect) for the years ended March 31, 2019 and 2018 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2019	2018	2019
Actuarial differences	¥36	¥(59)	$324

Unrecognized actuarial differences included in accumulated other comprehensive income (before tax effect) as of March 31, 2019 and 2018 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2019	2018	2019
Unrecognized actuarial differences	¥(411)	¥(448)	$(3,703)

The allocation of plan assets, by major category, as a percentage of total plan assets at fair value as of March 31, 2019 and 2018 is as follows:

	2019	2018
Bonds	60%	64%
Equity securities	18	19
Alternative investments*	15	15
Other	7	2
Total	100%	100%

* "Alternative investments" consist of insurance-linked securities and private REITs.

The expected long-term rate of return on plan assets is determined as a result of consideration of both the portfolio allocation at present and in the future, and expected long-term rate of return from multiple plan assets at present and in the future.

The assumptions used in accounting for the above plans were as follows:

	2019	2018
Discount rate	**0.8%**	0.8%
Expected long-term rate of return on plan assets	**2.0**	2.0

(c) Defined contribution plans

	Millions of yen		Thousands of U.S. dollars
	2019	2018	2019
Contributions to defined contribution plans by the Company and its consolidated subsidiaries	**¥282**	¥283	**$2,541**

12. INCOME TAXES

Income taxes applicable to the Company and its domestic consolidated subsidiaries consist of corporation, inhabitants' and enterprise taxes, which, in the aggregate, resulted in statutory tax rates of approximately 30.6% and 30.9% for the years ended March 31, 2019 and 2018, respectively.

The effective tax rates reflected in the accompanying consolidated statements of income for the years ended March 31, 2019 and 2018 differ from the statutory tax rates for the following reasons:

	2019	2018
Statutory tax rates	**30.6%**	30.9%
Adjustments for:		
Expenses not deductible for income tax purposes	**2.0**	3.1
Dividends and other income deductible for income tax purposes	**(9.3)**	(9.2)
Net adjustment resulting from elimination of dividend income upon consolidation	**8.9**	8.3
Different tax rates applied at overseas subsidiaries	**(3.1)**	(3.8)
Tax credit	**(1.8)**	(1.6)
Amortization of goodwill	**2.0**	2.2
Valuation allowance	**(1.8)**	(5.0)
Other, net	**0.2**	1.9
Effective tax rates	**27.6%**	26.8%

The significant components of the Company's and its consolidated subsidiaries' deferred tax assets and liabilities at March 31, 2019 and 2018 are summarized as follows:

	Millions of yen		Thousands of U.S. dollars
	2019	2018	2019
Deferred tax assets:			
Accrued bonuses for employees	**¥ 1,448**	¥ 1,436	**$ 13,046**
Allowance for doubtful accounts	**88**	152	**793**
Unrealized gain on inventories	**477**	465	**4,298**
Accrued enterprise taxes	**283**	184	**2,550**
Tax loss carryforwards	**3,187**	3,832	**28,714**
Liability for retirement benefits	**3,630**	4,306	**32,706**
Investments in securities	**973**	1,007	**8,767**
Loss on impairment of fixed assets	**1,653**	1,107	**14,893**
Tax goodwill	**4,214**	6,321	**37,967**
Other	**2,519**	2,530	**22,696**
Gross deferred tax assets	**18,477**	21,345	**166,474**
Valuation allowance	**(4,265)**	(5,190)	**(38,427)**
Total deferred tax assets	**¥14,211**	¥16,154	**$128,039**
Deferred tax liabilities:			
Technology-based assets	**¥(3,240)**	¥(3,720)	**$(29,192)**
Deferred capital gain on property	**(1,233)**	(1,240)	**(11,109)**
Reserve for special depreciation	**(251)**	(302)	**(2,261)**
Undistributed earnings of subsidiaries and affiliates	**(655)**	(643)	**(5,901)**
Revaluation of land	**(290)**	(290)	**(2,613)**
Net unrealized holding gain on securities	**(17,651)**	(21,347)	**(159,032)**
Other	**(673)**	(620)	**(6,064)**
Total deferred tax liabilities	**(23,996)**	(28,165)	**(216,200)**
Net deferred tax liabilities	**¥ (9,785)**	¥(12,011)	**$ (88,161)**

13. SHAREHOLDERS' EQUITY

The Corporation Law of Japan (the "Law") provides that an amount equal to 10% of the amount to be disbursed as distributions of capital surplus (other than the capital reserve) and retained earnings (other than the legal reserve) be transferred to the capital reserve and the legal reserve, respectively, until the sum of the capital reserve and the legal reserve equals 25% of the capital stock account.

Such distributions can be made at any time by resolution of the shareholders, or by the Board of Directors if certain conditions are met.

The Company's capital reserve included in capital surplus at March 31, 2019 amounted to ¥9,634 million ($86,801 thousand). In addition, the Company's legal reserve included in retained earnings at March 31, 2019 amounted to ¥2,424 million ($21,840 thousand).

Under the Law, upon the issuance and sale of new shares of common stock, the entire amount of the proceeds is required to be accounted for as common stock, although a company may, by resolution of the Board of Directors, account for an amount not exceeding 50% of the proceeds of the sale of new shares as additional paid-in capital.

Movements in common stock during the years ended March 31, 2019 and 2018 are summarized as follows:

	Number of shares			
	2019			
	April 1, 2018	Increase	Decrease	March 31, 2019
Common stock	**127,408,285**	**—**	**—**	**127,408,285**
	2018			
	April 1, 2017	Increase	Decrease	March 31, 2018
Common stock	127,408,285	—	—	127,408,285

14. TREASURY STOCK

Movements in treasury stock during the years ended March 31, 2019 and 2018 are summarized as follows:

	Number of shares			
	2019			
	April 1, 2018	Increase	Decrease	March 31, 2019
Treasury stock	**2,195,966**	**1,200,386**	**—**	**3,396,352**
	2018			
	April 1, 2017	Increase	Decrease	March 31, 2018
Treasury stock	1,287,366	908,602	2	2,195,966

The increase in treasury stock consists of 1,200,000 shares resulting from the purchases of treasury stock by resolution of the Board of Directors and 386 shares resulting from the purchase of shares less than one voting unit for the year ended March 31, 2019.

The increase in treasury stock consists of 900,000 shares resulting from the purchase of treasury stock by resolution of the Board of Directors, 7,549 shares resulting from the purchases from untraceable shareholders, and 1,053 shares resulting from the purchase of shares less than one voting unit for the year ended March 31, 2018. The decrease in treasury stock consists of 2 shares resulting from the disposition of shares less than one voting unit for the year ended March 31, 2018.

15. FINANCIAL INSTRUMENTS

(a) Policy for financial instruments

The Group invests excess funds in highly secure and short-term financial assets, whose principal is guaranteed to be recoverable. With regard to financing policy, short-term working funds are raised by bank borrowings or issuance of commercial papers and long-term funds are raised by bank borrowings and the issuance of bonds. The policy for derivative transactions is that those are utilized to mitigate the fluctuation risk related to foreign currency exchange rates arising from the receivables and payables denominated in foreign currencies, and fluctuation risk related to interest rates with respect to loans payable, and derivative transactions are not carried out for speculative purposes.

(b) Types of financial instruments, related risk and risk management for financial instruments

Receivables such as trade notes and accounts receivable are exposed to customers' credit risks. With regard to this risk, the Group manages the settlement date by each customer, and establishes credit limits by each customer based on the Group's internal credit rating policy and monitors outstanding balances. The Group establishes system under which the credit status by each customer is reviewed at least once a year and the sales limit amount updated as necessary.

In the cases of notes and accounts receivable or payable denominated in foreign currencies, foreign currency forward exchange contracts are used to hedge the risk of fluctuation. However, for foreign currency transactions denominated in the same currency involving either payables or receivables, foreign currency forward exchange contracts are used solely for the netted position.

Investments in securities are subject to market price fluctuation risk. However, these are mainly equity securities of other companies with which the Group has business relationships. The Group regularly monitors both their fair value and the financial condition of the issuer. The Group also reviews as needed the condition of its holdings with concern to the status of business and financial transactions.

Short-term loans are raised primarily in connection with business activities. Long-term loans and bonds are taken out principally for the purpose of making capital spending, investments and financing.

Loans with variable interest rates are subject to the risk of fluctuating interest rates. However, to reduce such risk, the Group utilizes derivatives (interest-rate swap transactions) as a hedging instrument.

Derivatives include foreign currency forward exchange contracts to manage fluctuation risk in foreign currency exchange rates and interest-rate swaps to manage fluctuation risk of interest rates related to the interest payments for bank loans.

In addition, notes and accounts payable and bank loans are exposed to liquidity risk. However, the Group manages such risk by monitoring the balance of inflow and outflow of cash and establishing liquidity on hand in excess of half of the amount of monthly net sales.

(c) Fair value of financial instruments

The carrying value of financial instruments on the consolidated balance sheets, fair value and the differences as of March 31, 2019 and 2018, are shown in the following table. Financial instruments for which fair value is deemed extremely difficult to determine are not included.

	Millions of yen		
	2019		
	Carrying value	Fair value	Difference
Assets:			
Cash and time deposits	¥ 44,068	¥ 44,068	¥ —
Notes and accounts receivable	230,459	230,459	—
Investments in securities			
Other securities	75,991	75,991	—
Total assets	¥350,519	¥350,519	¥ —
Liabilities:			
Notes and accounts payable	¥117,256	¥117,256	¥ —
Short-term loans	34,964	34,964	—
Current portion of long-term loans	949	949	—
Commercial papers	12,000	12,000	—
Current portion of bonds	10,000	10,012	12
Bonds	10,000	10,110	110
Long-term loans	17,577	17,664	87
Total liabilities	¥202,747	¥202,957	¥209
Derivatives*:			
Not subject to hedge accounting	¥ (30)	¥ (30)	¥ —
Subject to hedge accounting	(12)	(12)	—
Total derivative transactions	¥ (43)	¥ (43)	¥ —

	Millions of yen		
	2018		
	Carrying value	Fair value	Difference
Assets:			
Cash and time deposits	¥ 43,303	¥ 43,303	¥ —
Notes and accounts receivable	225,999	225,999	—
Investments in securities			
Other securities	89,011	89,011	—
Total assets	¥358,314	¥358,314	¥ —
Liabilities:			
Notes and accounts payable	¥118,028	¥118,028	¥ —
Short-term loans	31,934	31,934	—
Current portion of long-term loans	11,067	11,067	—
Commercial papers	5,000	5,000	—
Bonds	20,000	20,174	174
Long-term loans	17,906	17,979	72
Total liabilities	¥203,937	¥204,184	¥246
Derivatives*:			
Not subject to hedge accounting	¥ 29	¥ 29	¥ —
Subject to hedge accounting	(3)	(3)	—
Total derivative transactions	¥ 26	¥ 26	¥ —

	Thousands of U.S. dollars		
	2019		
	Carrying value	Fair value	Difference
Assets:			
Cash and time deposits	$ 397,045	$ 397,045	$ —
Notes and accounts receivable	2,076,394	2,076,394	—
Investments in securities			
Other securities	684,665	684,665	—
Total assets	$3,158,113	$3,158,113	$ —
Liabilities:			
Notes and accounts payable	$1,056,456	$1,056,456	$ —
Short-term loans	315,019	315,019	—
Current portion of long-term loans	8,550	8,550	—
Commercial papers	108,118	108,118	—
Current portion of bonds	90,098	90,206	108
Bonds	90,098	91,089	991
Long-term loans	158,366	159,149	784
Total liabilities	$1,826,714	$1,828,606	$1,883
Derivatives*:			
Not subject to hedge accounting	$ (270)	$ (270)	$ —
Subject to hedge accounting	(108)	(108)	—
Total derivative transactions	$ (387)	$ (387)	$ —

* Receivables and payables arising from derivative transactions are presented as a net value with the amount in parentheses representing a net liability position.

The calculation methods of fair values of financial instruments and securities and derivative transactions are as follows:

Cash and time deposits

Their carrying value approximates the fair value.

Notes and accounts receivable

The fair value of notes and accounts receivable is based on their present values discounted by the interest rate determined taking into account the remaining period to maturity for each receivable classified by settlement date.

Investments in securities

The fair value of investments in securities is based on quoted market prices. Please refer to Note 8 regarding information on securities by holding purpose.

Notes and accounts payable

The fair value of notes and accounts payable is based on their present values discounted by the interest rate determined taking into account the remaining period to maturity for each payable classified by settlement date.

Short-term loans, current portion of long-term loans and commercial papers

Since these items are settled in a short period of time, their carrying value approximates the fair value.

Bonds and current portion of bonds

The fair value of bonds is based on the market price.

Long-term loans

The fair value of long-term loans with fixed interest rates is based on the present value of the total of principal and interest discounted by the interest rate to be applied assuming new loans under similar conditions to existing loans are made. Floating interest rates for long-term loans are hedged by interest-rate swap agreements and accounted for as loans with fixed interest rates. The fair value of those long-term loans is based on the present value of the total of principals, interests and net cash flows of swap agreements discounted by the interest rates, estimated reasonably, applicable to new loans under similar conditions.

Derivative transactions

Please refer to Note 16.

The carrying value of financial instruments without determinable market value at March 31, 2019 and 2018 is presented as follows:

	Millions of yen		Thousands of U.S. dollars
	2019	2018	2019
Unlisted equity securities	¥ 4,714	¥ 3,275	$ 42,472
Investments in unconsolidated subsidiaries and affiliates	9,556	8,116	86,098
Total	¥14,271	¥11,391	$128,579

The redemption schedule for time deposits and notes and accounts receivable with maturity dates at March 31, 2019 is summarized as follows:

	Millions of yen	
	Within 1 year	Over 1 year and less than 5 years
Time deposits	¥ 44,028	¥—
Notes and accounts receivable	230,459	—
Total	¥274,488	¥—

	Thousands of U.S. dollars	
	Within 1 year	Over 1 year and less than 5 years
Time deposits	$ 396,684	$—
Notes and accounts receivable	2,076,394	—
Total	$2,473,088	$—

With respect to the redemption schedule of bonds, long-term loans and finance lease obligations, please refer to Note 9.

16. DERIVATIVES AND HEDGING ACTIVITIES

The currency-related derivatives positions outstanding for which hedge accounting has not been applied at March 31, 2019 and 2018 are as follows:

		Millions of yen			
		2019			
Classification	Transaction	Contract value (notional principal amount)	Contract value (notional principal amount over one year)	Fair value	Valuation gain (loss)
Over-the-counter transactions	Foreign currency forward exchange contracts:				
	Selling:				
	U.S. dollars	¥4,802	¥—	¥(21)	¥(21)
	Yen	1,851	—	(15)	(15)
	Euro	775	—	12	12
	RMB	957	—	(18)	(18)
	Others	130	—	(2)	(2)
	Buying:				
	U.S. dollars	1,591	—	2	2
	Yen	1,009	—	8	8
	Euro	96	—	1	1
	Others	129	—	2	2
Total		¥11,342	¥—	¥30	¥30

		Millions of yen			
		2018			
Classification	Transaction	Contract value (notional principal amount)	Contract value (notional principal amount over one year)	Fair value	Valuation gain (loss)
Over-the-counter transactions	Foreign currency forward exchange contracts:				
	Selling:				
	U.S. dollars	¥4,707	¥—	¥46	¥46
	Yen	2,062	—	(3)	(3)
	Euro	845	—	12	12
	RMB	740	—	(6)	(6)
	Others	105	—	(0)	(0)
	Buying:				
	U.S. dollars	2,019	—	(18)	(18)
	Yen	966	—	1	1
	Euro	86	—	(0)	(0)
	Others	93	—	(0)	(0)
Total		¥11,627	¥—	¥29	¥29

		Thousands of U.S. dollars			
		2019			
Classification	Transaction	Contract value (notional principal amount)	Contract value (notional principal amount over one year)	Fair value	Valuation gain (loss)
Over-the-counter transactions	Foreign currency forward exchange contracts:				
	Selling:				
	U.S. dollars	$ 43,265	$—	$(189)	$(189)
	Yen	16,677	—	(135)	(135)
	Euro	6,983	—	108	108
	RMB	8,622	—	(162)	(162)
	Others	1,171	—	(18)	(18)
	Buying:				
	U.S. dollars	14,335	—	18	18
	Yen	9,091	—	72	72
	Euro	865	—	9	9
	Others	1,162	—	18	18
Total		$102,189	$—	$(270)	$(270)

The fair value of foreign currency forward exchange contracts is mainly computed using the prices provided by counterparty financial institutions.

The currency-related derivatives positions outstanding for which hedge accounting has been applied at March 31, 2019 and 2018 are as follows:

			Millions of yen		
			2019		
Method for hedge accounting	Transaction	Major hedged item	Contract value (notional principal amount)	Contract value (notional principal amount over one year)	Fair value
Deferral hedge accounting	Foreign currency forward exchange contracts:				
	Selling:				
	U.S. dollars	Accounts receivable	¥ 16	¥—	¥ (0)
	Euro		191	—	3
	RMB		759	—	(14)
	Others		17	—	(0)
	Buying:				
	U.S. dollars	Accounts payable	200	—	0
	Euro		72	—	(1)
	RMB		56	10	(0)
	Others		9	—	0
Allocation method for foreign currency forward exchange contracts (Note 2(o))	Foreign currency forward exchange contracts:				
	Selling:				
	Euro	Accounts receivable	56	—	(*)
	Others		4	—	(*)
	Buying:				
	Euro	Accounts payable	85	—	(*)
	THB		47	—	(*)
	Others		23	—	(*)
Total			¥1,540	¥10	¥(12)

Method for hedge accounting	Transaction	Major hedged item	Millions of yen 2018 Contract value (notional principal amount)	Contract value (notional principal amount over one year)	Fair value
	Foreign currency forward exchange contracts:				
	Selling:				
	U.S. dollars		¥ 1	¥—	¥(0)
	Euro	Accounts receivable	360	—	5
	RMB		657	—	(5)
Deferral hedge accounting	Others		26	—	0
	Buying:				
	U.S. dollars		30	—	(0)
	Euro	Accounts payable	160	—	(1)
	RMB		37	22	(0)
	Others		7	—	(0)
	Foreign currency forward exchange contracts:				
	Selling:				
Allocation method for foreign currency forward exchange contracts (Note 2(o))	Euro	Accounts receivable	2	—	(*)
	Buying:				
	Euro		63	—	(*)
	THB	Accounts payable	30	—	(*)
	Others		0	—	(*)
Total			¥1,379	¥22	¥(3)

Method for hedge accounting	Transaction	Major hedged item	Thousands of U.S. dollars 2019 Contract value (notional principal amount)	Contract value (notional principal amount over one year)	Fair value
	Foreign currency forward exchange contracts:				
	Selling:				
	U.S. dollars		$ 144	$—	$ (0)
	Euro	Accounts receivable	1,721	—	27
	RMB		6,838	—	(126)
Deferral hedge accounting	Others		153	—	(2)
	Buying:				
	U.S. dollars		1,802	—	5
	Euro	Accounts payable	649	—	(9)
	RMB		505	90	(0)
	Others		81	—	0
	Foreign currency forward exchange contracts:				
	Selling:				
Allocation method for foreign currency forward exchange contracts (Note 2(p))	Euro	Accounts receivable	505	—	(*)
	Buying:				
	Euro		766	—	(*)
	THB	Accounts payable	423	—	(*)
	Others		207	—	(*)
Total			$13,875	$90	$(108)

The fair value of foreign currency forward exchange contracts is mainly computed using the prices provided by counterparty financial institutions.

(*): The fair value of foreign currency forward exchange contracts that qualify for the allocation method is included in the fair value of the underlying accounts receivable and payable.

The interest-related derivatives positions outstanding for which hedge accounting has been applied at March 31, 2019 and 2018 are as follows.

Method for hedge accounting	Transaction	Hedged item	Millions of yen 2019 Contract value (notional principal amount)	Contract value (notional principal amount over one year)	Fair value
Swap rates applied to underlying long-term loans	Interest-rate swap transactions (pay-fixed, receive-variable)	Long-term loans	¥8,000	¥8,000	(**)

Method for hedge accounting	Transaction	Hedged item	Millions of yen 2018 Contract value (notional principal amount)	Contract value (notional principal amount over one year)	Fair value
Swap rates applied to underlying long-term loans	Interest-rate swap transactions (pay-fixed, receive-variable)	Long-term loans	¥18,000	¥8,000	(**)

Method for hedge accounting	Transaction	Hedged item	Thousands of U.S. dollars 2019 Contract value (notional principal amount)	Contract value (notional principal amount over one year)	Fair value
Swap rates applied to underlying long-term loans	Interest-rate swap transactions (pay-fixed, receive-variable)	Long-term loans	$72,079	$72,079	(**)

(**): Since interest-rate swap agreements are accounted for as if the interest rates applied to the swaps had originally applied to the underlying long-term loans, their fair values were included in the fair value of the long-term loans.

17. RESEARCH AND DEVELOPMENT COSTS

Research and development costs included in selling, general and administrative expenses for the years ended March 31, 2019 and 2018 totaled ¥6,493 million ($58,501 thousand) and ¥6,009 million, respectively.

18. OPERATING LEASES

Future minimum lease payments subsequent to March 31, 2019 under noncancelable operating leases are as follows:

Year ending March 31,	Millions of yen 2019	Thousands of U.S. dollars 2019
2020	¥543	$4,892
2025 and thereafter	510	4,595
Total	¥1,054	$9,496

19. CONTINGENT LIABILITIES

At March 31, 2019, the Company and its consolidated subsidiaries were contingently liable as guarantors of loans of customers and other in the aggregate amount of ¥490 million ($4,415 thousand), and as guarantors of loans of employees in the amount of ¥0 million ($0 thousand).

In addition, at March 31, 2019, the Company and its consolidated subsidiaries had contingent liabilities arising from notes discounted with banks and notes endorsed in the amount of ¥142 million ($1,279 thousand).

20. PLEDGED ASSETS

Pledged assets at March 31, 2019 and 2018 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2019	2018	2019
Land	¥760	¥760	$6,847

Secured liabilities at March 31, 2019 and 2018 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2019	2018	2019
Long-term loans	¥—	¥28	$—
Current portion of long-term loans	¥ 7	¥—	$63

21. AMOUNTS PER SHARE

Amounts per share at March 31, 2019 and 2018 and for the years then ended are as follows:

	Millions of yen		Thousands of U.S. dollars
	2019	2018	2019
Profit attributable to owners of parent:			
Basic	¥ 161.30	¥ 136.34	$ 1.45
Diluted	—	—	—
Net assets	2,481.01	2,424.97	22.35
Cash dividends applicable to the year	42.00	40.00	0.38

Basic profit attributable to owners of parent per share has been computed based on the profit attributable to owners of parent available for distribution to the shareholders of common stock and the weighted-average number of shares of common stock outstanding during the year.

Diluted profit attributable to owners of parent per share for the years ended March 31, 2019 and 2018 has not been presented because no potentially dilutive shares of common stock were outstanding.

Net assets per share have been computed based on the number of shares of common stock outstanding at the year end.

Cash dividends per share represent the cash dividends proposed by the Board of Directors as applicable to the respective years together with the interim cash dividends paid.

The financial data used in the computation of basic profit attributable to owners of parent per share for the years ended March 31, 2019 and 2018 are summarized as follows:

	Millions of yen		Thousands of U.S. dollars
	2019	2018	2019
Profit attributable to owners of parent	¥20,136	¥17,175	$181,422
Profit available for distribution to shareholders of common stock	20,136	17,175	181,422
Weighted-average number of shares	124,842,824	125,977,181	

22. CASH AND TIME DEPOSITS

A reconciliation of cash and time deposits in the accompanying consolidated balance sheets at March 31, 2019 and 2018 and cash and cash equivalents in the accompanying consolidated statements of cash flows for the years then ended is as follows:

	Millions of yen		Thousands of U.S. dollars
	2019	2018	2019
Cash and time deposits	¥44,068	¥43,303	$397,045
Time deposits with maturities of more than three months	(51)	(445)	(460)
Cash and cash equivalents	¥44,017	¥42,857	$396,585

23. SEGMENT INFORMATION

(a) Overview of reportable segments

The reportable segments of the Company comprise those entities for which obtaining separate financial reports is possible and that are subject to regular review by the Board of Directors, which decides upon the distribution of management resources and assesses their performance.

Reflecting the respective positions of each business in the value chain, as well as identifying the most closely aligned industries, the Company defined five segment categories: Functional Materials (located at the top of the value chain), Advanced Materials & Processing (located in the next stage of the value chain), Electronics, Automotive & Energy, and Life & Healthcare (functioning within the corresponding industries).

Beginning the fiscal year ended March 31, 2019, the Company reclassified Fitz Chem LLC under the Functional Materials and the Life & Healthcare segments. In prior fiscal years, Fitz Chem LLC was classified entirely under the Functional Materials segment. This change is in response to a change in business unit management.

The Company has prepared segment information for the fiscal year ended March 31, 2018 based on this reclassification. This information is provided for the fiscal year ended March 31, 2018 under (c) Information on net sales, income or loss, assets and other Items for each reportable segment.

The following describes the major products and services handled by each reportable segment.

The Functional Materials segment is engaged in the sales of materials for paints/inks, urethane materials, auxiliaries, plastic materials, plastic additives, industrial oil solutions, surfactants materials, fluorochemicals, encapsulant materials, silicone materials, and more for the paints/inks, resins, urethane foams, organic synthesis, surfactants, and semiconductors industries.

The Advanced Materials & Processing segment is engaged in the sales of dyestuffs, dyes, functional dyes, digital print processing products, thermoplastic resins, thermosetting resins, automobile refinish paints, conductive coatings, synthetic rubber, inorganic materials, plastics products, resins molding tools/dies for the dye/additive, digital print processing materials, fiber processing, raw resin materials, resin moldings, functional films and sheets, constructions, and other industries.

The Electronics segment is engaged in the sales of pre-processing materials and devices for LCD/semiconductors, materials for display panels, materials and devices for semiconductor assembly, low-temperature/vacuum equipment, high-function epoxy, resins, precision electronics abrasives, and more for the displays, touch panels, semiconductors, hard disk drives, electronic components, and heavy electrical industries.

The Automotive & Energy segment is engaged in the sales of plastic products, thermoplastic resins, thermosetting resins, silicone products, resins molding tools/dies, high-function car electronics materials and components, battery materials, solar cell/secondary battery materials and more for the automotive, automotive components, and energy industries.

The Life & Healthcare segment is engaged in the sales of pharmaceutical/agricultural chemicals and materials, research products, in vitro diagnostics, enzymes, food additives, additives for cosmetics, feeds, and surfactants for the pharmaceutical, food, and cosmetics industries. Furthermore, the segment offers radiation measurement as one of its main services. In addition, this segment sells cosmetics, health foods, and beauty foods directly to consumers.

(b) Calculation methods of net sales, income or loss, assets, and other items by reportable segments

The accounting policies of reportable segments are generally identical to those described in Note 2. Reportable segment income corresponds to operating income in the consolidated statements of income. Intersegment internal income and transfers are determined based on the values of transactions at actual market prices.

(c) Information on net sales, income or loss, assets and other items for each reportable segment

Information by reportable segments for the year ended March 31, 2019 is as follows:

	Millions of yen 2019										
	Reportable Segments										
	Functional Materials	Advanced Materials & Processing	Electronics	Automotive & Energy	Life & Healthcare	Total	Others	Total	Corporate	Adjustments	Consolidated
Sales to customers	¥179,627	¥275,203	¥122,319	¥139,235	¥90,794	¥807,181	¥ 574	¥807,755	¥ —	¥ —	¥807,755
Intersegment sales and transfers	2,992	2,357	1,749	2,773	399	10,272	5,459	15,731	—	(15,731)	—
Net sales	182,620	277,561	124,069	142,009	91,194	817,454	6,033	823,487	—	(15,731)	807,755
Segment income	5,494	8,093	7,400	3,051	4,648	28,689	284	28,973	(4,253)	505	25,226
Segment assets	87,158	135,403	65,022	56,747	97,627	441,960	4,833	446,794	141,205	(20,653)	567,346
Other items											
Depreciation and amortization other than amortization of goodwill	444	692	2,511	211	3,801	7,660	211	7,872	1,457	—	9,329
Amortization of goodwill	110	—	136	—	1,569	1,815	—	1,815	—	—	1,815
Unamortized balance of goodwill	2,012	—	1,218	—	20,636	23,866	—	23,866	—	—	23,866
Investments in affiliates accounted for by the equity method	2,398	1,545	3,765	1,253	2,769	11,733	—	11,733	—	(52)	11,680
Increase in property, plant and equipment, net and intangible assets	314	1,542	3,201	329	3,206	8,594	130	8,725	1,887	—	10,612

Millions of yen — 2018

	Reportable Segments: Functional Materials	Advanced Materials & Processing	Electronics	Automotive & Energy	Life & Healthcare	Total	Others	Total	Corporate	Adjustments	Consolidated
Sales to customers	¥174,922	¥262,831	¥129,324	¥129,708	¥86,517	¥783,303	¥ 629	¥783,933	¥ —	¥ —	¥783,933
Intersegment sales and transfers	2,543	2,234	2,108	2,817	508	10,213	4,783	14,997	—	(14,997)	—
Net sales	177,466	265,065	131,433	132,526	87,026	793,517	5,413	798,931	—	(14,997)	783,933
Segment income	5,185	6,700	8,917	2,415	4,201	27,420	207	27,628	(3,954)	445	24,118
Segment assets	86,176	134,977	70,149	51,109	99,396	441,809	5,304	447,113	151,605	(29,262)	569,456
Other items											
Depreciation and amortization other than amortization of goodwill	456	645	2,454	249	3,552	7,359	218	7,577	1,717	—	9,295
Amortization of goodwill	82	—	112	—	1,552	1,748	—	1,748	—	—	1,748
Unamortized balance of goodwill	2,031	—	1,296	—	22,150	25,478	—	25,478	—	—	25,478
Investments in affiliates accounted for by the equity method	2,478	1,482	2,751	1,231	2,601	10,545	—	10,545	—	(2)	10,542
Increase in property, plant and equipment, net and intangible assets	243	2,817	1,834	191	2,369	7,458	68	7,527	1,896	—	9,423

Thousands of U.S. dollars — 2019

	Reportable Segments: Functional Materials	Advanced Materials & Processing	Electronics	Automotive & Energy	Life & Healthcare	Total	Others	Total	Corporate	Adjustments	Consolidated
Sales to customers	$1,618,407	$2,479,530	$1,102,072	$1,254,482	$818,038	$7,272,556	$ 5,172	$7,277,728	$ —	$ —	$7,277,728
Intersegment sales and transfers	26,957	21,236	15,758	24,984	3,595	92,549	49,185	141,733	—	(141,733)	—
Net sales	1,645,373	2,500,775	1,117,839	1,279,476	821,642	7,365,114	54,356	7,419,470	—	(141,733)	7,277,728
Segment income	49,500	72,916	66,673	27,489	41,878	258,483	2,559	261,042	(38,319)	4,550	227,282
Segment assets	785,278	1,219,957	585,837	511,280	879,602	3,981,980	43,544	4,025,534	1,272,232	(186,080)	5,111,686
Other items											
Depreciation and amortization other than amortization of goodwill	4,000	6,235	22,624	1,901	34,246	69,015	1,901	70,925	13,127	—	84,053
Amortization of goodwill	991	—	1,225	—	14,136	16,353	—	16,353	—	—	16,353
Unamortized balance of goodwill	18,128	—	10,974	—	185,927	215,028	—	215,028	—	—	215,028
Investments in affiliates accounted for by the equity method	21,606	13,920	33,922	11,289	24,948	105,712	—	105,712	—	(469)	105,235
Increase in property, plant and equipment, net and intangible assets	2,829	13,893	28,840	2,964	28,885	77,430	1,171	78,611	17,002	—	95,612

(d) Geographical information

Net sales by country or region for the years ended March 31, 2019 and 2018 are summarized as follows:

	Millions of yen 2019	Millions of yen 2018	Thousands of U.S. dollars 2019
Japan	¥412,617	¥395,428	$3,717,605
Greater China	205,408	207,437	1,850,689
ASEAN	118,113	110,380	1,064,177
Americas	39,451	36,564	355,446
Europe	15,272	14,178	137,598
Other	16,892	19,943	152,194
Total	¥807,755	¥783,933	$7,277,728

Notes: 1. Net sales are categorized by country or region based on the locations of customers.
2. Country or region is determined by geographical proximity.
3. Major countries in each region
(1) Greater China: China, Hong Kong, and Taiwan
(2) ASEAN: Thailand, and Singapore
(3) Americas: U.S.A., and Mexico
(4) Europe: Germany
(5) Other: Korea

Property, plant and equipment by country or region as of March 31, 2019 and 2018 are summarized as follows:

	Millions of yen 2019	Millions of yen 2018	Thousands of U.S. dollars 2019
Japan	¥60,344	¥61,686	$543,689
Other	6,123	5,539	55,167
Total	¥66,467	¥67,225	$598,856

(e) Information on loss on impairment of fixed assets per reportable segments

Loss on impairment of fixed assets for the years ended March 31, 2019 and 2018 is as follows:

Millions of yen — 2019

	Reportable Segments: Functional Materials	Advanced Materials & Processing	Electronics	Automotive & Energy	Life & Healthcare	Total	Others	Eliminations or corporate	Total
Loss on impairment of fixed assets	¥—	¥221	¥—	¥58	¥1,999	¥2,279	¥—	¥15	¥2,294

Millions of yen — 2018

	Reportable Segments: Functional Materials	Advanced Materials & Processing	Electronics	Automotive & Energy	Life & Healthcare	Total	Others	Eliminations or corporate	Total
Loss on impairment of fixed assets	¥—	¥528	¥221	¥4	¥—	¥754	¥—	¥92	¥847

Thousands of U.S. dollars — 2019

	Reportable Segments: Functional Materials	Advanced Materials & Processing	Electronics	Automotive & Energy	Life & Healthcare	Total	Others	Eliminations or corporate	Total
Loss on impairment of fixed assets	$—	$1,991	$—	$523	$18,011	$20,533	$—	$135	$20,669

24. SUBSEQUENT EVENTS

The following distribution of retained earnings of the Company, which has not been reflected in the accompanying consolidated financial statements for the year ended March 31, 2019, was approved at a meeting of the shareholders held on June 21, 2019:

	Millions of yen	Thousands of U.S. dollars
Cash dividends (¥24.0 = U.S.$0.22 per share)	¥2,976	$26,813

Business combination through acquisition

At the Board of Directors meeting held on June 3, 2019, the Company resolved to acquire a majority of shares of Prinova Group, LLC through the Company's wholly owned subsidiary Nagase Holdings America Corporation (established on April 1, 2019), making Prinova Group, LLC and its subsidiaries consolidated subsidiaries, and entered into a share transfer agreement.

(a) Outline of business combination

(1) Name and business description of the acquiree

Name: Prinova Group, LLC

Business description: Sales of food ingredients, processing and contract manufacturing

(2) Main reason for the business combination

Prinova, one of the leading distributors of food ingredients and a provider of integrated solutions for global food, beverage and wellness brands, will serve as a strategic base for further expanding NAGASE's food business in the United States and Europe. Going forward, NAGASE expects to expand its market presence by providing further added value to consumers in North America, Europe and Asia, through synergies created by combining Prinova's vertically integrated capabilities of ingredients procurement, processing and contract manufacturing, and the strong R&D expertise of NAGASE's Group company Hayashibara, which specializes in manufacturing functional food products.

This transaction marks a key milestone for NAGASE in realizing its mid-term management strategy (***ACE-2020***) as it focuses on reforming its profit structure, representing a major step towards significantly expanding sales and market presence in North America and globally in the lifestyle and healthcare space. Prinova will continue to be led by the current management maintaining its facilities, brands and practices, reporting to the board of NAGASE to work towards further maximizing synergies within the Group.

(3) Date of the business combination

July 2019 (as planned)

(4) Legal form of the business combination

Acquisition of equity interests for a cash consideration

(5) Ratio of equity interests acquired

93.6%

(6) Basis for determination for the acquirer

NHAC, a subsidiary of the Company, is regarded as the acquiring company since NHAC acquires the equity interests of Prinova for a cash consideration.

(b) Acquisition cost of the acquired company and related details

	Millions of U.S. dollars 2019
Consideration for acquisition	$621
Acquisition cost	$621

Note: Acquisition cost is based on the enterprise value of Prinova. In addition the actual acquisition cost will be finalized after adjusting variances related to net debt with interest, non-controlling interest, and others. The ratio of equity to be acquired will be adjusted accordingly based on the adjusted acquisition cost.

Independent Auditor's Report

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Independent Auditor's Report

The Board of Directors
NAGASE&CO., LTD.

We have audited the accompanying consolidated financial statements of NAGASE&CO., LTD. and its consolidated subsidiaries, which comprise the consolidated balance sheet as at March 31, 2019, and the consolidated statements of income, comprehensive income, changes in net assets, and cash flows for the year then ended and a summary of significant accounting policies and other explanatory information, all expressed in Japanese yen.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in Japan, and for designing and operating such internal control as management determines is necessary to enable the preparation and fair presentation of the consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in Japan. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. The purpose of an audit of the consolidated financial statements is not to express an opinion on the effectiveness of the entity's internal control, but in making these risk assessments the auditor considers internal controls relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of NAGASE&CO., LTD. and its consolidated subsidiaries as at March 31, 2019, and their consolidated financial performance and cash flows for the year then ended in conformity with accounting principles generally accepted in Japan.

Emphasis of Matter

As described in Note 24 "Subsequent Events" in the accompanying notes to the consolidated financial statements, at the board meeting of NAGASE&CO., LTD. held on June 3, 2019, NAGASE&CO., LTD. resolved to acquire a majority of shares of Prinova Group, LLC through its wholly owned subsidiary Nagase Holdings America Corporation (founded on April 1, 2019), making it and its subsidiaries consolidated subsidiaries, and entered into a share transfer agreement.

Our opinion is not qualified in respect of this matter.

Convenience Translation

We have reviewed the translation of these consolidated financial statements into U.S. dollars, presented for the convenience of readers, and, in our opinion, the accompanying consolidated financial statements have been properly translated on the basis described in Note 1.

Ernst & Young ShinNihon LLC

June 21, 2019
Osaka, Japan

A member firm of Ernst & Young Global Limited

Consolidated Subsidiaries, Affiliates and Offices

● Consolidated subsidiary ○ Company accounted for under the equity method

As of April, 2019

Category	Company name	Description of business	Location	Year of establishment
Japan				
Manufacturing and Processing				
●	Nagase ChemteX Corporation	Research, manufacture, and sale of enzymes, fermented products, pharmaceutical intermediates, disinfecting agents, functional polymers, epichlorohydrine derivatives, electronics materials, etc.	Osaka Pref.	1970
●	Hayashibara Co., Ltd.	Development, manufacture, and sale of food raw materials, pharmaceutical raw materials, cosmetics raw materials, health foods raw materials, functional dyes, etc.	Okayama Pref.	1932
●	DAITAI KAKO CO., LTD.	Manufacture and sale of special pattern paint, polyester resin related products and FRP waterproof/anticorrosion related products	Osaka Pref.	1949
●	Nagase Filter Co., Ltd.	Planning, production, processing, quality testing and sale of metal filters	Osaka Pref.	2006
●	Fukui Yamada Chemical Co., Ltd.	Manufacture of color former	Fukui Pref.	1985
●	Kotobuki Kasei Corporation	Molding, processing and sale of plastic products	Tochigi Pref.	1972
●	Totaku Industries, Inc.	Manufacture and sale of plastic products	Osaka Pref.	1952
●	Setsunan Kasei Co., Ltd.	Coloring and sale of plastics	Osaka Pref.	1966
●	Nagase Techno-Engineering Co., Ltd.	Manufacture, sale and maintenance of low-temperature vacuum equipment, systems for chemical supply management and recycling processes, inspection systems, and the peripheral equipment for each of these	Tokyo Pref.	1989
●	CAPTEX Co., Ltd.	Manufacture and development of battery power source controllers, battery power sources and power source peripheral equipment	Aichi Pref.	2004
●	Nagase Medicals Co., Ltd.	Manufacture and sale of pharmaceuticals, animal drugs, health foods, and cosmetics	Hyogo Pref.	1972
○	Honshu Rheem Co., Ltd.	Manufacture and sale of fiber drums, import and sale of food processing machines and materials	Kanagawa Pref.	1968
○	eX. Grade Co., Ltd.	Development, manufacture and sale of components for electronic equipment	Osaka Pref.	2003
○	SN Tech Corporation	Manufacture of developer, recycling business	Osaka Pref.	2008
○	Xenomax-Japan Co., Ltd.	Manufacture and sales of high heat-resistant polyimide film XENOMAX®	Fukui Pref.	2018
○	Sun Delta Corporation	Development of applications for synthetic plastic products and manufacture and sale of processed products	Tokyo Pref.	2005
○	Nissei Technology Corporation	Design, development, and manufacture of ultra-precision plastic lenses and optical units; manufacture of precision mechanical components and units	Hyogo Pref.	1953
○	Toyo Beauty Supply Corporation	Contract manufacture of cosmetics and health foods	Tokyo Pref.	1964
Sales and Servicing				
●	Nagase Chemical Co., Ltd.	Sale of dyestuffs, industrial chemicals, chemicals for manufacturing paper, plastics and machinery	Tokyo Pref.	1995
●	Nagase Chemspec Co., Ltd.	Sale and technical servicing of chemicals	Tokyo Pref.	1976
●	Nagase Plastics Co., Ltd.	Sale of raw materials for plastics and plastic products	Osaka Pref.	1975
●	Nagase Techno Service Co., Ltd.	Sales of kitting/logistics services, online catalog sales, recordable media, and RFID	Chiba Pref.	1991
●	Nagase Elex Co., Ltd.	Sale of raw materials for plastics and plastic products	Tokyo Pref.	1979
●	Nagase Tool Matex Co., Ltd.	Sale of auto models, test production materials, and carbon fiber composites	Tokyo Pref.	1965
●	Nagase Abrasive Materials Co., Ltd.	Sale of abrasives, inorganic materials and related equipment	Osaka Pref.	1955
●	Nishinihon Nagase Co., Ltd.	Sale of dyestuffs, auxiliaries, industrial chemicals and plastics	Fukuoka Pref.	1969
●	Nagase Sanbio Co., Ltd.	Sales of medicine for agriculture and additives for fertilizers, feed and food	Tokyo Pref.	1987
●	Nagase Beauty Care Co., Ltd.	Sale of cosmetics and health foods	Tokyo Pref.	1991
●	Nagase Business Expert Co., Ltd.	Office administration services, import/export administration services	Tokyo Pref.	1996
●	Nagase Logistics Co., Ltd.	Warehousing and distribution	Hyogo Pref.	1982
●	Nagase Information Development, Ltd.	Software development and maintenance	Tokyo Pref.	1987
○	Nagase-OG Colors & Chemicals Co., Ltd.	Purchasing and information services related to dyes, industrial chemicals, etc.	Osaka Pref.	1957
○	Nagase Landauer, Ltd.	Radiation measuring services	Ibaraki Pref.	1974
	Nagase Logistics Support Co., Ltd.	An exclusive stevedore for Nagase Logistics Co., Ltd.	Hyogo Pref.	1954
	Choko Co., Ltd.	Insurance agency	Osaka Pref.	1971
Greater China and Korea				
Manufacturing and Processing				
●	Nagase ChemteX (Wuxi) Corporation	Plastic manufacture and sale of adhesives and high-tech chemical products for electronics, technology services	China	2002
●	Nagase Engineering Service Korea Co., Ltd.	Equipment maintenance service and engineering	Korea	1997
●	Nagase Electronics Technology (Xiamen) Co., Ltd.	Chemical etching of liquid crystal glass panel units	China	2010
○	Guangzhou Kurabo Chemicals Co., Ltd.	Manufacture of molded urethane products for automobiles	China	2001
○	Toyo Quality One (Guangzhou) Co., Ltd.	Research and development, manufacturing, processing, sale, technology consulting, and after-sale service for major automotive parts	China	2004
○	Toyo Quality One Ningbo Co., Ltd.	Manufacture and sale of polyurethane foam	China	1993
○	Wuxi Chenghong Electronic Chemicals Co., Ltd.	Research, development, manufacture, and sales of electronics chemicals including semiconductors and flat panel displays (FPDs)	China	2013
○	Tokai Spring Mfg. (Foshan) Co., Ltd.	Development, manufacture, and sale of precision press products, spring, and standard molds	China	2005
	ON Textile Chemicals (Shanghai) Co., LTD.	Manufacture, sales, and export/import of textile-related products, dyeing processing agents	China	2003
	Mianyang Chenghong Electronic Chemicals Co., Ltd.	Research, development, manufacture, and sales of electronics chemicals for the electronics industry	China	2017
	Huizhou Sanli Three Synergy Precision Co., Ltd.	Manufacture of precise metal insert molding parts for automotive, new energy and power industries	China	2018
Sales and Servicing				
●	Nagase (China) Co., Ltd.	Investment, trade, import/export, processing, logistics, R&D, IT development, and various services	China	2019
●	Nagase (Hong Kong) Ltd.	Import/export, domestic sales, marketing	China	1971
●	Shenzhen Nagase Trading Ltd.	Import/export, domestic sales, marketing	China	2006
●	Guangzhou Nagase Trading Co., Ltd.	Import/export, domestic sales, marketing	China	2002
	Wuhan Branch Office / Chongqing Branch Office		China	
	Zhengzhou Branch Office		China	
●	Shanghai Nagase Trading Co., Ltd.	Import/export, domestic sales, marketing	China	1997
●	Tianjin Nagase International Trading Co., Ltd.	Import/export, domestic sales, marketing	China	2003
	Dalian Branch Office / Qingdao Branch Office		China	
	Changchun Branch Office		China	
●	Nagase (Taiwan) Co., Ltd.	Import/export, domestic sales, marketing	Taiwan	1988
●	Nagase Korea Corporation	General import/export trading, retailing/wholesaling, import/export trade agency	Korea	2001
	Datai (Shanghai) Chemical Trading Co., Ltd.	Sales of paints	China	2013
●	Nagase Wahlee Plastics Corporation	Sale of resins and related products	Taiwan	1990
	Taichung Office		Taiwan	
	Gangshan Office		Taiwan	

Category	Company name	Description of business	Location	Year of establishment
●	NWP International Trading (Shenzhen) Co., Ltd.	Sale of plastic products in South China	China	2004
	Dongguan Branch Office		China	
	Guangzhou Branch Office		China	
	Xiamen Branch Office		China	
●	Shanghai Hua Chang Trading Co., Ltd.	Sale of resins and related products	China	1998
	Suzhou Branch Office/ Ningbo Branch Office		China	
	Chengdu Branch Office/ Chongqing Branch Office		China	
	Nanjing Branch		China	
	ON Colors & Chemicals (Shanghai) Co., Ltd.	Sales of textile-related products, dyeing processing agents, related equipment; export/import and technology consulting, technological development of dyeing processing	China	2002
	NW Consultant Service (Shenzhen) Ltd.	Print quality management consultant	China	2008
	Nagase C&G Technology (Shanghai) Co., Ltd.	Construction and maintenance of chemical supply and management equipment	China	2006
	Nagase Business Management and Planning (Shanghai) Co., Ltd.	Management of NAGASE Group operations and promotion of business strategies related to Greater China	China	2011
Asean and the Middle East				
Manufacturing and Processing				
●	Pac Tech Asia Sdn. Bhd.	Manufacture and sale of semiconductor manufacturing equipment, semiconductor wafer bumping contract manufacturing	Malaysia	2006
○	PT. Toyo Quality One Indonesia	Manufacture of flame lamination products	Indonesia	2008
○	Dainichi Color Vietnam Co., Ltd.	Manufacture and sale of color masterbatch blend for plastic	Vietnam	2006
○	Sanko Gosei Technology (Thailand) Ltd.	Manufacture of automobile components	Thailand	1994
○	Automotive Mold Technology Co., Ltd.	Manufacture of automotive molds and dies	Thailand	2000
○	MINDA KYORAKU LTD.	Manufacture of blow-formed automobile components	India	2011
○	Nafuko Co., Ltd.	Manufacture, import/export, and sale of packaging materials and related equipment	Thailand	1996
Sales and Servicing				
●	Nagase Singapore (Pte) Ltd.	Import/export, domestic sales, marketing	Singapore	1975
	Australia Branch		Australia	
	Bangladesh Liaison Office		Bangladesh	
	Middle East Representative Office		United Arab Emirates	
	Turkey (Izmir) Branch		Turkey	
●	Nagase (Thailand) Co., Ltd.	Import/export, domestic sales, marketing	Thailand	1989
	Eastern Office		Thailand	
	Yangon Branch		Myanmar	
	Pakistan Liason Office		Pakistan	
●	Nagase (Malaysia) Sdn. Bhd.	Import/export, domestic sales, marketing	Malaysia	1981
	Johor Bahru Office		Malaysia	
	Penang Office		Malaysia	
●	PT. Nagase Impor-Ekspor Indonesia	Import/export, domestic sales, marketing	Indonesia	1998
	Surabaya Branch		Indonesia	
●	Nagase Philippines Corporation	Import/export, domestic sales, marketing	Philippines	1997
●	Nagase Philippines International Services Corporation	Domestic sales, import/export	Philippines	2005
●	Nagase Vietnam Co., Ltd.	Import/export, domestic sales, marketing	Vietnam	2008
	Ho Chi Minh City Branch		Vietnam	
	Danang Branch		Vietnam	

Category	Company name	Description of business	Location	Year of establishment
●	Nagase India Private Ltd.	Import/export, domestic sales, marketing	India	2006
	North India Branch (Gurgaon)		India	
	South India Branch (Chennai)		India	
	PT. Indonesia Mold Technology	Design changes and maintenance for large-scale plastic automobile component molds	Indonesia	2015
Americas				
Manufacturing and Processing				
●	Sofix LLC	Manufacture and sale of color formers	America	1990
●	Engineered Materials Systems, Inc.	Research and development, manufacture, and sales of materials for commercial adhesives, conductive adhesives	America	1993
●	Pac Tech USA-Packaging Technologies Inc.	Semiconductor wafer bumping, manufacture and sale of semiconductor manufacturing equipment	America	2001
○	TQ-1 de MEXICO S.A. de C.V.	Manufacture and sale of urethane for automotive seat pads and automotive laminated frames and sale of automotive ethane foam	Mexico	2012
○	Cytech Products Inc.	Manufacture and sales of mold release agents for polyurethane resins, thermal paper additives and emulsion dispersing element	America	1988
○	3D Glass Solutions, Inc.	Development, manufacture, and sale of processed 3D glass products and contracting of 3D glass processing	America	2016
○	KN Platech America Corporation	Manufacture and sale of blow-formed plastic molding components and products	America	2010
	Infinite Material Solutions, LLC	Development and manufacture of water-soluble support materials for 3D printing	America	2018
Sales and Servicing				
●	Nagase Holdings America Corporation	Regional management, Investment and asset management, Professional service provided	America	2019
●	Nagase America LLC	Import/export, domestic sales, marketing	America	1971
	Michigan Branch		America	
	California Branch		America	
●	Fitz Chem LLC	Sales of raw materials for paints, inks, adhesives, resin compounds, personal care products	America	1985
●	Nagase Enterprise Mexico S.A. de C.V.	Import/export sales, intermediate trade, market development, information collection	Mexico	2010
	Mexico City Branch		Mexico	
	Nagase do Brasil Comércio de Produtos Químicos Ltda.	Import/export sales, intermediate trade, market development, information collection	Brazil	2012
Europe				
Manufacturing and Processing				
●	Pac Tech-Packaging Technologies GmbH	Semiconductor wafer bumping, manufacture and sale of semiconductor manufacturing equipment	Germany	1995
●	Inkron Oy	Development, manufacture of functional materials for semiconductors and electronic devices	Finland	2013
Sales and Servicing				
●	Nagase (Europa) GmbH	Import/export, domestic sales, marketing	Germany	1980
	Hungarian Branch		Hungary	
	London Branch		England	
	Lyon Branch		France	

Corporate Information (As of March 31, 2019)

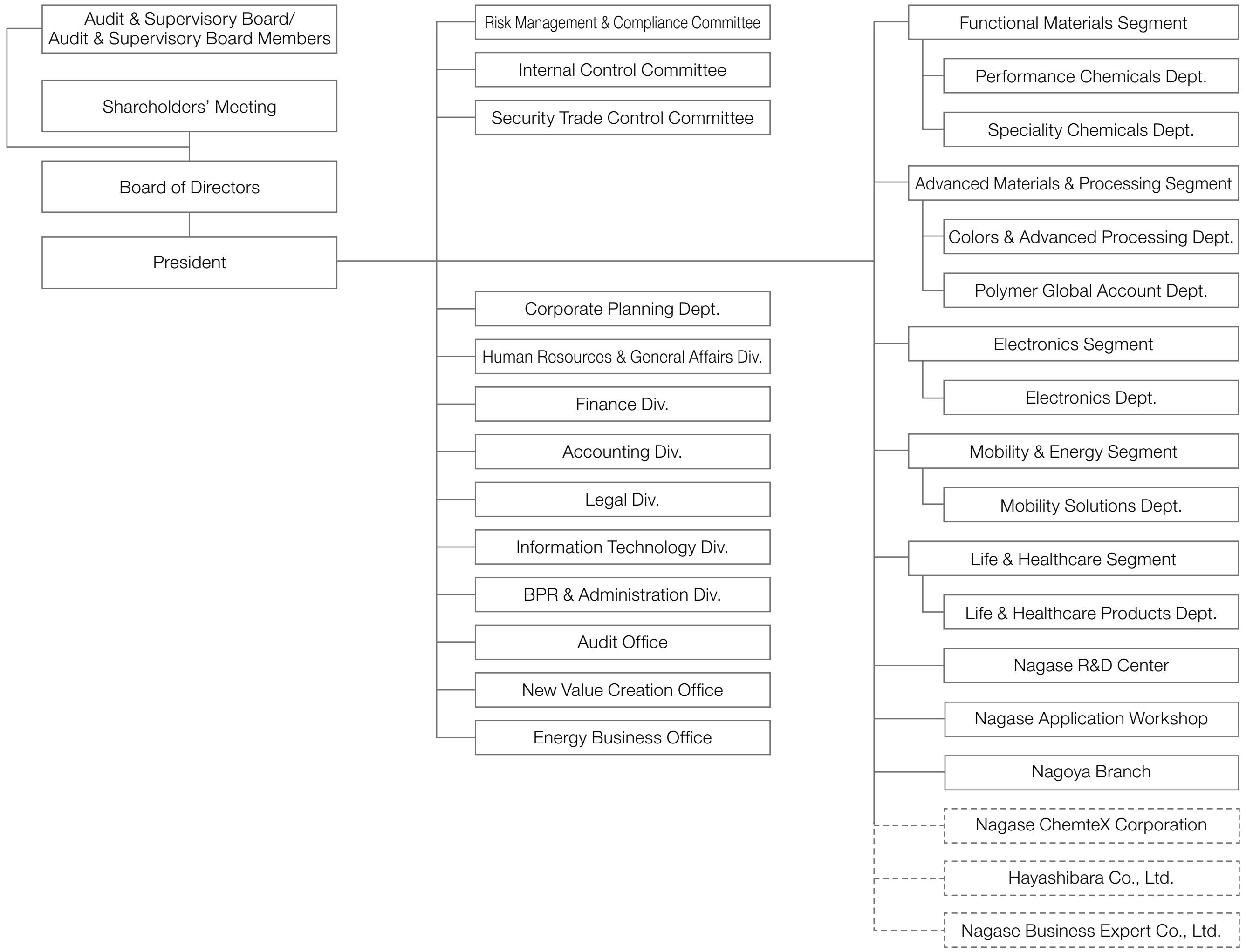
Overview

Company Name	NAGASE & CO., LTD.
Founded	June 18, 1832
Establishment	December 9, 1917
Capital	¥9,699 million
Employees	851 (Consolidated: 6,143)
Main Business	Import/export and domestic sales of chemicals, plastics, electronics materials, cosmetics and health foods
Main Banks	Sumitomo Mitsui Banking Corporation, The Bank of Tokyo-Mitsubishi UFJ, Ltd.*, Mizuho Bank, Ltd., Sumitomo Mitsui Trust Bank, Limited
Main Offices	Osaka Head Office : 1-1-17, Shinmachi, Nishi-ku, Osaka City, Osaka 550-8668, Tel: (81) 6-6535-2114
	Tokyo Head Office : 5-1, Nihonbashi-Kobunacho, Chuo-ku, Tokyo 103-8355, Tel: (81) 3-3665-3021
	Nagoya Branch Office : 3-14-18, Marunouchi, Naka-ku, Nagoya City, Aichi 460-8560, Tel: (81) 52-963-5615
	Nagase R&D Center : Kobe High Tech Park, 2-2-3, Murotani, Nishi-ku, Kobe City, Hyogo 651-2241, Tel: (81) 78-992-3162
	Nagase Application Workshop : 2-4-45, Higashitsukaguchicho, Amagasaki City, Hyogo 661-0011, Tel: (81) 6-4961-6730


Osaka Head Office


Tokyo Head Office

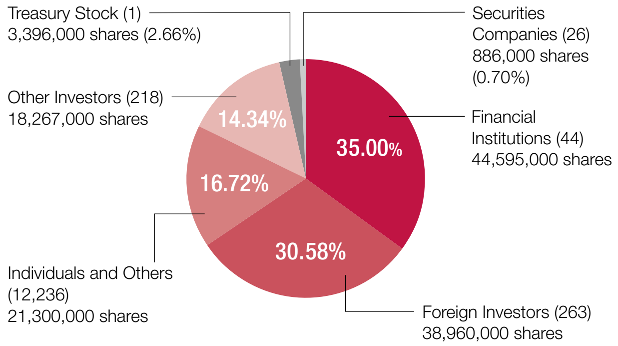
Organization (as of April 1, 2019)



Investor Information (As of March 31, 2019)

Stock Exchange	Tokyo (First Section)
Code	8012
Stock Status	Issued Number of Shares 346,980,000 shares Issued Number of Shares 127,408,285 shares
Number of Shareholders	12,788

Composition of Shareholders

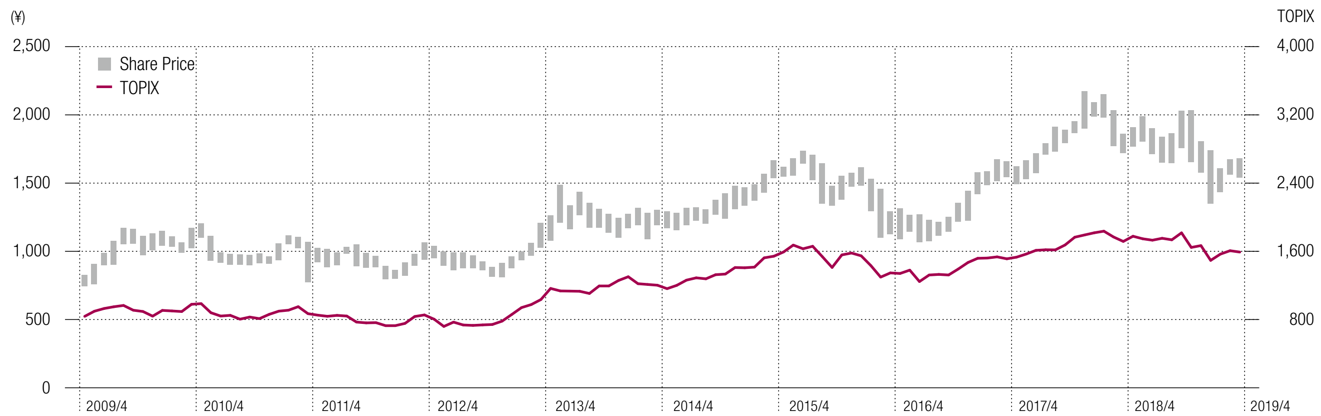


Principal Shareholders

Name	Number of Shares Held (Thousands)	Percentage of Total Shares Outstanding (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	7,290	5.88
Japan Trustee Services Bank, Ltd. (Trust Account)	6,319	5.10
NORTHERN TRUST CO. (AVFC) RE SILCHESTER INTERNATIONAL INVESTORS INTERNATIONAL VALUE EQUITY TRUST	5,888	4.75
Sumitomo Mitsui Trust Bank, Limited	5,776	4.66
Sumitomo Mitsui Banking Corporation	4,377	3.53
Nippon Life Insurance Company	3,589	2.89
Reiko Nagase	3,541	2.86
NORTHERN TRUST CO. (AVFC) RE U.S. TAX EXEMPTED PENSION FUNDS	3,122	2.52
Nagase Shunzo Co., Ltd.	2,688	2.17
Nagase Employee's Stockholding	2,414	1.95

Note: Voting share ratios are calculated excluding treasury stock (3,396 thousands of shares).

Monthly Share Price Range of NAGASE



Monthly Trading Volume