Integrated Report 2019

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https://www.nagase.co.jp/english/
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 and involve 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.

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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.

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.

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

NAGASE Way
We “Identify, Develop and Expand” new businesses:
- 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

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

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

- 1832 Founded in Kyoto as a dyestuff trading concern
- 1898 Head office moved to Osaka
- 1900 Established business ties with BASF 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
- 1936 Established Takelki Chemical Industries Co., Ltd.
- 1934 Listed Company shares on the Osaka Securities Exchange
- 1938 Concluded an exclusive distributorship agreement with General Electric Co. of the United States

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.
- 1971 Established Nagase (Hong Kong) Ltd. and Nagase America Corporation
- 1972 Established Engineering Plastics, Ltd. jointly with General Electric Co.
- 1973 Established Nagase Medicals Co., Ltd.
- 1974 Established Nagase Singapore (Pte) Ltd.
- 1977 Established Nagase Biochemicals, Ltd.
- 1980 Established Nagase Chemicals, Ltd.
- 1985 Established Seoul branch office
- 1988 Established Nagase (Taiwan) Co., Ltd.
- 1989 Established Nagase (Thailand) Co., Ltd.
- 1990 Established Nagase Science and Technology Foundation

Tokyo branch office became a head office; adoption of Osaka/Tokyo two head office system

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

- 1990 Established Sofica Corporation, a U.S.-based color former production joint venture
- 1991 Set up the Nagase R&D Center in Kobe
- 1992 Established joint ventures Nagase Wahlee Plastics Corporation (Taiwan)
- 1993 Established Nagase Philippines Corporation
- 1994 Established Shanghai Nagase Trading Co., Ltd.
- 1996 Established PT. Nagase Impor-Export Indonesia
- 1997 Established Shanghai Hua Chang Trading Co., Ltd.
- 1998 Changed the name of Nagase-CIBA, Ltd. to Nagase ChemteX Corporation
- 2001 Nagase ChemteX, Nagase Chemicals, Takelki Chemical Industries, and Nagase Biochemicals merge to Nagase ChemteX Corporation
- 2002 Established Guangzhou Nagase Trading Ltd.
- 2003 Established Guangzhou Nagase Chemicals, Ltd.
- 2004 Established NWP International Trading (Shenzhen) Co., Ltd.
- 2005 Established Takelki Industries Suzhou Co., Ltd.
- 2006 Acquired stock of semiconductors manufacturing equipment maker Pac-Tech Packaging Technologies GmbH
- 2007 Established Nagase India Private Ltd.
- 2008 Established Nagase Application Workshop
- 2009 Established Sakal Sales Office
- 2010 Established Nagase Vietnam Co., Ltd.
- 2017 Established local entity in Brazil
- 2018 Completion of NAGASE Global HR Development Center

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
- 2018 Converted Interim Oy into a subsidiary
- 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

Net Sales (FY2018)

807.7 Billion Yen

Financial and Corporate Information

- Total Assets
- Operating Income
- Net Sales (FY2018)

1898 Oslo head office at incorporation in December 1917

Left: Nagase head office at incorporation

Right: Nagase-CIBA Ltd. in 1971

Left: Newly completed Tokyo branch office building October 1968

General Electric Co. of the United States

NAGASE Group Integrated Report 2019

NAGASE Group Integrated Report 2019
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.

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**Consolidated Net Sales**
- 807.7 billion yen

**Overseas Sales to Net Sales**
- 48.9%

**Number of Bases**
- 27 Countries and Areas

**Number of Manufacturing Companies**
- 14 Countries and Areas

**Number of Sales and Servicing Companies**
- 25 Countries and Areas

**Number of Employees (Consolidated)**
- 6,143
At a Glance

### Functional Materials

<table>
<thead>
<tr>
<th>Japan</th>
<th>Overseas</th>
</tr>
</thead>
<tbody>
<tr>
<td>179.6</td>
<td>472</td>
</tr>
<tr>
<td>5.4</td>
<td>1,542</td>
</tr>
<tr>
<td>914</td>
<td>646</td>
</tr>
</tbody>
</table>

**Net sales ratio**
- Japan: 67%
- Overseas: 33%

**Valuable Products and Services**
- Coating Raw Materials
  - Coating raw materials sold by NAGASE are used in automobile bodies and other applications.

### Advanced Materials & Processing

<table>
<thead>
<tr>
<th>Japan</th>
<th>Overseas</th>
</tr>
</thead>
<tbody>
<tr>
<td>275.2</td>
<td>8.0</td>
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<tr>
<td>1,848</td>
<td>3,201</td>
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<tr>
<td>1,474</td>
<td>1,316</td>
</tr>
</tbody>
</table>

**Net sales ratio**
- Japan: 38%
- Overseas: 62%

**Valuable Products and Services**
- 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 phenoxy A, a suspected hormone disruptor, it is expected to find uses as a substitute for glass (tableware, etc.) and medical applications.

### Electronics

<table>
<thead>
<tr>
<th>Japan</th>
<th>Overseas</th>
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<tbody>
<tr>
<td>122.3</td>
<td>100</td>
</tr>
<tr>
<td>2,497</td>
<td>3,206</td>
</tr>
<tr>
<td>343</td>
<td>1,122</td>
</tr>
</tbody>
</table>

**Net sales ratio**
- Japan: 39%
- Overseas: 61%

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

<table>
<thead>
<tr>
<th>Japan</th>
<th>Overseas</th>
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</thead>
<tbody>
<tr>
<td>139.2</td>
<td>3.0</td>
</tr>
<tr>
<td>90.7</td>
<td>2,018</td>
</tr>
<tr>
<td>1,042</td>
<td>1,042</td>
</tr>
</tbody>
</table>

**Net sales ratio**
- Japan: 38%
- Overseas: 62%

**Valuable Products and Services**
- 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 energEase™ compact home energy management system (HEMS) set.

### Life & Healthcare

<table>
<thead>
<tr>
<th>Japan</th>
<th>Overseas</th>
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<tbody>
<tr>
<td>90.7</td>
<td>4.6</td>
</tr>
<tr>
<td>782</td>
<td>2,018</td>
</tr>
<tr>
<td>1,042</td>
<td>1,042</td>
</tr>
</tbody>
</table>

**Net sales ratio**
- Japan: 84%
- Overseas: 16%

**Valuable Products and Services**
- 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.

### Others

<table>
<thead>
<tr>
<th>Japan</th>
<th>Overseas</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>8,493</td>
</tr>
<tr>
<td>25.2</td>
<td>10,612</td>
</tr>
<tr>
<td>6,143</td>
<td>6,143</td>
</tr>
</tbody>
</table>

**Net sales ratio**
- Japan: 807.7
- Overseas: 1,493

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

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NAGASE Group Integrated Report 2019
### 13-Year Financial Highlights

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

#### Mid-Term Management Plan

<table>
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</thead>
<tbody>
<tr>
<td><strong>Net Sales</strong></td>
<td>¥ 1,351,327</td>
<td>¥ 1,544,715</td>
<td>¥ 1,729,238</td>
<td>¥ 1,608,642</td>
<td>¥ 1,753,123</td>
<td>¥ 1,831,344</td>
<td>¥ 1,865,272</td>
<td>¥ 1,932,212</td>
<td>¥ 2,092,113</td>
<td>¥ 2,184,194</td>
<td>¥ 2,282,364</td>
<td>¥ 2,407,893</td>
</tr>
<tr>
<td><strong>Operating Income</strong></td>
<td>¥ 10,000</td>
<td>¥ 15,000</td>
<td>¥ 20,000</td>
<td>¥ 25,000</td>
<td>¥ 30,000</td>
<td>¥ 35,000</td>
<td>¥ 40,000</td>
<td>¥ 45,000</td>
<td>¥ 50,000</td>
<td>¥ 55,000</td>
<td>¥ 60,000</td>
<td>¥ 65,000</td>
</tr>
<tr>
<td><strong>Net Assets</strong></td>
<td>¥ 1,597,271</td>
<td>¥ 1,559,971</td>
<td>¥ 1,435,881</td>
<td>¥ 1,519,614</td>
<td>¥ 1,568,041</td>
<td>¥ 1,592,871</td>
<td>¥ 1,608,041</td>
<td>¥ 1,624,200</td>
<td>¥ 1,686,563</td>
<td>¥ 1,755,194</td>
<td>¥ 1,820,671</td>
<td>¥ 1,943,371</td>
</tr>
<tr>
<td><strong>Net Assets/ROA</strong></td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
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#### Performance (Accounting Fiscal Year)

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<tbody>
<tr>
<td><strong>Debt Equity Ratio (Times)</strong></td>
<td>0.10</td>
<td>0.17</td>
<td>0.17</td>
<td>0.11</td>
<td>0.13</td>
<td>0.43</td>
<td>0.43</td>
<td>0.38</td>
<td>0.35</td>
<td>0.32</td>
<td>0.28</td>
<td>0.28</td>
</tr>
<tr>
<td><strong>Return on Equity (ROE)</strong></td>
<td>6.8</td>
<td>4.9</td>
<td>3.0</td>
<td>4.0</td>
<td>5.1</td>
<td>4.6</td>
<td>4.3</td>
<td>3.7</td>
<td>3.5</td>
<td>3.4</td>
<td>3.4</td>
<td>3.4</td>
</tr>
<tr>
<td><strong>(Operating Income/Net Sales)</strong></td>
<td>3.1</td>
<td>3.0</td>
<td>1.8</td>
<td>2.2</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
</tr>
<tr>
<td><strong>Manufacturing Ratio (Operating Income)</strong></td>
<td>22.3</td>
<td>24.4</td>
<td>35.4</td>
<td>53.1</td>
<td>53.7</td>
<td>45.4</td>
<td>45.4</td>
<td>53.5</td>
<td>53.5</td>
<td>53.5</td>
<td>53.5</td>
<td>53.5</td>
</tr>
<tr>
<td><strong>Overseas Sales to Net Sales</strong></td>
<td>41.4</td>
<td>43.4</td>
<td>44.8</td>
<td>43.0</td>
<td>41.0</td>
<td>42.0</td>
<td>42.0</td>
<td>42.0</td>
<td>42.0</td>
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#### Per Share Data

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<tbody>
<tr>
<td><strong>Net Income</strong></td>
<td>¥ 105,846</td>
<td>¥ 77,864</td>
<td>¥ 66,899</td>
<td>¥ 58,764</td>
<td>¥ 56,764</td>
<td>¥ 47,189</td>
<td>¥ 41,189</td>
<td>¥ 36,784</td>
<td>¥ 33,385</td>
<td>¥ 29,986</td>
<td>¥ 26,587</td>
<td>¥ 23,188</td>
</tr>
<tr>
<td><strong>Cash Dividends</strong></td>
<td>¥ 26</td>
<td>¥ 26</td>
<td>¥ 26</td>
<td>¥ 26</td>
<td>¥ 26</td>
<td>¥ 26</td>
<td>¥ 26</td>
<td>¥ 26</td>
<td>¥ 26</td>
<td>¥ 26</td>
<td>¥ 26</td>
<td>¥ 26</td>
</tr>
<tr>
<td><strong>Payout Ratio (%)</strong></td>
<td>17.0</td>
<td>21.9</td>
<td>36.4</td>
<td>37.3</td>
<td>32.1</td>
<td>36.0</td>
<td>36.0</td>
<td>33.7</td>
<td>33.3</td>
<td>30.4</td>
<td>29.3</td>
<td>29.3</td>
</tr>
<tr>
<td><strong>Net Income/Net Assets (%)</strong></td>
<td>1.15</td>
<td>1.08</td>
<td>1.07</td>
<td>1.06</td>
<td>1.04</td>
<td>1.52</td>
<td>1.52</td>
<td>1.44</td>
<td>1.39</td>
<td>1.41</td>
<td>1.41</td>
<td>1.41</td>
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</tbody>
</table>

#### Ratios

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<tr>
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<td><strong>Overseas Sales to Net Sales</strong></td>
<td>41.4</td>
<td>43.4</td>
<td>44.8</td>
<td>43.0</td>
<td>41.0</td>
<td>42.0</td>
<td>42.0</td>
<td>42.0</td>
<td>42.0</td>
<td>42.0</td>
<td>42.0</td>
<td>42.0</td>
</tr>
<tr>
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<td>1.15</td>
<td>1.08</td>
<td>1.07</td>
<td>1.06</td>
<td>1.04</td>
<td>1.52</td>
<td>1.52</td>
<td>1.44</td>
<td>1.39</td>
<td>1.41</td>
<td>1.41</td>
<td>1.41</td>
</tr>
</tbody>
</table>

#### Footnotes

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.

2. At the beginning of fiscal 2012, the NAGASE Group has introduced new business segments in order 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.

3. The Partial Amendments to Accounting Standards 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.”
Our Value Creation Process and Long-Term Management Policy

### Investment of Management Resources

<table>
<thead>
<tr>
<th>Financial capital</th>
<th>Manufacturing capital</th>
<th>Human capital</th>
<th>Social and related capital</th>
<th>Intellectual capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Investment</td>
<td>Capital Investment</td>
<td>Employees</td>
<td>Group Companies</td>
<td>R&amp;D Expenses</td>
</tr>
<tr>
<td>100 billion yen</td>
<td>32.2 billion yen</td>
<td>6,143</td>
<td>27 Countries and Areas</td>
<td>17.7 billion yen</td>
</tr>
</tbody>
</table>

### Business Portfolio

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

**Advanced Materials**
- Supporting beauty and health
- Supporting industry through materials and finished products

**Life & Healthcare**
- Establishment of multinational management system
  - Normalization of profit more than tripled of the fiscal year ended March 31, 2015

### Long-Term Management Policy

**Summary of the Long-Term Management Policy**
- 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

**Challenges for Growth**
- Increase flexibility in HR management
- Enhance safety and assurance

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

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

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

**NAGASE Vision**
- Identify: Find needs and seeds
- Develop: Grow seeds into businesses
- Expand: Ongoing business growth
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.

**Business Designer: 8 Case Studies**

### 5G, IoT, Semiconductors

**Target Market**

**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.

### Mobility

**Target Market**

**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.

### Food Ingredients

**Target Market**

**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.

### Markets in Need of New Materials

**Target Market**

**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.

### 3D Printers

**Target Market**

**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.)

### LCD and Semiconductors in China

**Target Market**

**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.

### Region-Specific Markets Overseas

**Target Market**

**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.

### Next-Generation Displays

**Target Market**

**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.
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

Transcending 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.

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 P12, “Our Value Creation Process and Long-Term Management Policy”
See P14, “Business Designer: 8 Case Studies”
See P15-43, 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, some segments had higher profit and others lower. As a result, the weak performance of one of our focus areas, 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.

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!” 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.

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.

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 P22, “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.
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.

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.

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

Masaya Ikemoto
Director

Numerical Targets under ACE-2020

<table>
<thead>
<tr>
<th>Financial and Corporate Information</th>
<th>22</th>
<th>23</th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-tax ROIC = Pre-tax profit ÷ Sales amount</td>
<td>4.0%</td>
<td>4.0%</td>
<td>4.0%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Invested Capital Turnover Ratio</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

**All measures that efficiently increase profit by reduced cost**
- Sales of new and added-value products
- Logistics efficiency
- Utilization of shared service
- Withdrawal from unprofitable business
- Rationalization

**All measures that efficiently increase sales with limited assets**
- Increase growth investment
- M&A
- Reduce slow-moving, long-term inventory
- Utilization of group cash management system
- Life assets liquidation

**Equity Capital/Interest-Bearing Debt/Net Worth Ratio**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>NAGASE Group</th>
<th>Integrated Report 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017/3</td>
<td>1,080,620</td>
<td>307,674</td>
</tr>
<tr>
<td>2018/3</td>
<td>1,307,674</td>
<td>415</td>
</tr>
</tbody>
</table>

**Investment**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>NAGASE Group</th>
<th>Integrated Report 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017/3</td>
<td>14,400</td>
<td>44</td>
</tr>
<tr>
<td>2018/3</td>
<td>18,375</td>
<td>42</td>
</tr>
<tr>
<td>2019/3</td>
<td>20,000</td>
<td>44</td>
</tr>
</tbody>
</table>

**Dividends**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>NAGASE Group</th>
<th>Integrated Report 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017/3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2018/3</td>
<td>26.6</td>
<td>26.8</td>
</tr>
<tr>
<td>2019/3</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

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.

Investment Activities under ACE-2020

Investment activities accompany optimization of our business portfolio. After reflecting on past experiences, we 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.

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.

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.

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 P12, “Our Value Creation Process and Long-Term Management Policy”
See P15, “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 P34, “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. 

Portfolio Optimization

<table>
<thead>
<tr>
<th>KGI (Key Goal Indicator)</th>
<th>FY2016</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019 (planned)</th>
<th>FY2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consolidated Net Sales</td>
<td>792.3 Billion Yen</td>
<td>762.5 Billion Yen</td>
<td>807.7 Billion Yen</td>
<td>865.0 Billion Yen</td>
<td>1.0 Trillion Yen or more</td>
</tr>
<tr>
<td>Consolidated Operating Income</td>
<td>15.1 Billion Yen</td>
<td>24.1 Billion Yen</td>
<td>25.2 Billion Yen</td>
<td>26.0 Billion Yen</td>
<td>30.0 Billion Yen or more</td>
</tr>
</tbody>
</table>

KPI (Key Performance Indicator) Factor index to achieve KGI

- Revenue Base
- Mindset
- Portfolio Optimization
- Product Area
- Reform Business Structure
- Reform Corporate Culture
- Strengthen Management Platform

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

Strategic Management Platform

- Mindset
- Infrastructure
- Improvement Area
- Focus Area

- Base Areas
- Growth/Emerging Areas
- Electronics
- Life & Healthcare

Portfolio Optimization
Categorizes businesses into four areas (Growth, Focus, Base, Improvement) to drive growth and maximize resource efficiencies.

Focus Areas
- Electronics
- Life & Healthcare

Growth/Emerging Areas
- Invested venture capital, especially in Silicon Valley in the United States
- Established Huizhou Sanso Taiwan 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 (ML)
- Entered the self-driving technology field (LiDAR-related)
- Established Infiniti 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)

Baseline Areas
- Acquired U.S. specialty chemical distributor Firz Chem LLC
- Acquired DATAI KAIKOU 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

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

Support Base
- Pursue efficiencies, human resource development

Financial and Corporate Information
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 Wakahayashi
5. Director and Executive Officer
   Masaya Ikemoto
   Corporate Administration Group Companies
6. Outside Director
   Hidenori Nishi
   1975 Joined Kagome Co., Ltd.
   2001 Director, NAGASE & CO., LTD.
   2002 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.
   2016 Chairman of Rio Board, Kagome Co., Ltd.
   2019 Retired from Kagome Co., Ltd.
7. Outside Director
   Nobumasa Kemori
   1983 Joined Sumitomo Metal Mining Co., Ltd.
   2006 Managing Executive Officer and Director, Sumitomo Metal Mining Co., Ltd.
   2017 Representative Director and President, Sumitomo Metal Mining Co., Ltd.
   2019 Representative Director and Chairman, Sumitomo Metal Mining Co., Ltd.
   2019 Director and Chairman, Sumitomo Metal Mining Co., Ltd.
   2019 Director, NAGASE & CO., LTD.
   2017 Executive Advisor, Sumitomo Metal Mining Co., Ltd.

Audit & Supervisory Board Members

Outside Audit & Supervisory Board Member
Nobuyuki Shrafuji
1964 Joined the Sumitomo Bank, Ltd. (currently Sumitomo Mitsui Banking Corporation)
2003 General Head of the London Office of Sumitomo Mitsui Banking Corporation and Sumitomo Mitsui Banking Corporation Europe Limited
2006 General Manager of Credit Review Dept. of Sumitomo Mitsui Banking Corporation
2016 Retired from Sumitomo Mitsui Banking Corporation and Nagase & CO., LTD.

Outside Audit & Supervisory Board Member
Gak Matsui
1980 Prosecutor, Tokyo District Public Prosecutors Office
1990 Prosecutor, Tokyo District Public Prosecutors Office (Special Investigation Department)
2005 Director, Special Trial Department, Tokyo District Public Prosecutors Office
2010 Assistant Public Prosecutor, Osaka High Public Prosecutors Office
2012 Chief, Criminal Investigation, Supreme Public Prosecutors Office
2014 Chief Prosecutor, Yokohama District Public Prosecutors Office
2015 Senior Managing Prosecutor, Fukuoka High Public Prosecutors Office
2016 Japan Federation of Bar Associations (Member: Tokyo Bar Association)
2018 Senior Vice Lawyer Office
2018 Audit & Supervisory Board Member, NAGASE & CO., LTD.

Outside Audit & Supervisory Board Member
Reiji Nagase
1960 Member of the House of Representatives
1984 Director, NAGASE & CO., LTD.
2017 Executive Officer, NAGASE & CO., LTD.

Outside Audit & Supervisory Board Member
Mitsuji Yoshihara
1983 Director, NAGASE & CO., LTD.
1984 Director, NAGASE & CO., LTD.
1985 Director, NAGASE & CO., LTD.
1990 Director, NAGASE & CO., LTD.
2005 Executive Officer, NAGASE & CO., LTD.
2006 Director, NAGASE & CO., LTD.
2008 Managing Executive Officer, NAGASE & CO., LTD.
2010 Managing Executive Officer, NAGASE & CO., LTD.

Outside Audit & Supervisory Board Member
Hidenori Nishi
1975 Joined Kagome Co., Ltd.
2001 Director, NAGASE & CO., LTD.
2002 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.
2016 Chairman of Rio Board, Kagome Co., Ltd.
2019 Retired from Kagome Co., Ltd.

Outside Audit & Supervisory Board Member
Mitsunori Furukawa
1970 Director, NAGASE & CO., LTD.
2006 Director, NAGASE & CO., LTD.
2010 Director, NAGASE & CO., LTD.

Outside Audit & Supervisory Board Member
Nobuyuki Shrafuji
1964 Joined the Sumitomo Bank, Ltd. (currently Sumitomo Mitsui Banking Corporation)
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2006 General Manager of Credit Review Dept. of Sumitomo Mitsui Banking Corporation
2016 Retired from Sumitomo Mitsui Banking Corporation and Nagase & CO., LTD.

Outside Audit & Supervisory Board Member
Gak Matsui
1980 Prosecutor, Tokyo District Public Prosecutors Office
1990 Prosecutor, Tokyo District Public Prosecutors Office (Special Investigation Department)
2005 Director, Special Trial Department, Tokyo District Public Prosecutors Office
2010 Assistant Public Prosecutor, Osaka High Public Prosecutors Office
2012 Chief, Criminal Investigation, Supreme Public Prosecutors Office
2014 Chief Prosecutor, Yokohama District Public Prosecutors Office
2015 Senior Managing Prosecutor, Fukuoka High Public Prosecutors Office
2016 Japan Federation of Bar Associations (Member: Tokyo Bar Association)
2018 Senior Vice Lawyer Office
2018 Audit & Supervisory Board Member, NAGASE & CO., LTD.

Outside Audit & Supervisory Board Member
Reiji Nagase
1960 Member of the House of Representatives
1984 Director, NAGASE & CO., LTD.
1984 Director, NAGASE & CO., LTD.
1985 Director, NAGASE & CO., LTD.
1990 Director, NAGASE & CO., LTD.
2005 Executive Officer, NAGASE & CO., LTD.
2006 Director, NAGASE & CO., LTD.
2008 Managing Executive Officer, NAGASE & CO., LTD.
2010 Managing Executive Officer, NAGASE & CO., LTD.

Outside Audit & Supervisory Board Member
Mitsuji Yoshihara
1983 Director, NAGASE & CO., LTD.
1984 Director, NAGASE & CO., LTD.
1985 Director, NAGASE & CO., LTD.
1990 Director, NAGASE & CO., LTD.
2005 Executive Officer, NAGASE & CO., LTD.
2006 Director, NAGASE & CO., LTD.
2008 Managing Executive Officer, NAGASE & CO., LTD.
2010 Managing Executive Officer, NAGASE & CO., LTD.

Executive Officers

Naoki Yasuda
Managing Executive Officer
Hayakawa Co., Ltd.
Nagase NBO Center
Takahiro Okumura
Executive Officer
Energy Business Office
New Value Creation Office
Kusuo Ota
Executive Officer
GM, Color & Advanced Processing Department
Nagase Application Workshop
Hiroto Yoshida
Executive Officer
GM, Mobility Solutions Department
Nagase Research Branch
Koichi Sagawa
Managing Executive Officer
GM, Corporate Planning Department
Akira Takami
Executive Officer
GM, Finance Division
GM, Accounting Division
Takayuki Masuda
Executive Officer
GM, Specials Chemicals Department
Yasumasa Otsu
Executive Officer
GM, New Value Creation Office
Akira Sakata
Executive Officer
GM, Specialty Chemicals Department
Masatoshi Kamada
Executive Officer
CEO, Group Cofa
CEO & Cofa, Nagaoka Chemicals Co., Ltd.
Yasuo Mizuhara
Executive Officer
GM, Corporate Planning Department
Reiji Nagase
1. Representative Director and Chairman
2. Director and Vice Chairman
3. Representative Director, President and CEO
4. Representative Director and Managing Executive Officer
5. Director and Executive Officer
6. Outside Director
7. Outside Director
NAGASE Group Integrated Report 2019
NAGASE Group Integrated Report 2019

Institutional Format
Customer 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
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.

Initiatives to Strengthen Corporate Governance

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<tr>
<td>President</td>
<td>Hiroshi Nagase</td>
<td>Kenji Asakura</td>
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<td>Chairman of the Board of Directors</td>
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<tr>
<td>Separation of Management and Business Execution</td>
<td>1 (Whole-time)</td>
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<td>10</td>
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<td>Advisory Board</td>
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<td>Outside Directors</td>
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<td>Outside Audit &amp; Supervisory Board Members</td>
<td>1994-1 Individual, 1998-2 Individuals</td>
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<td>Risk Management &amp; Compliance Committee</td>
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<td>Director Compensation Committee</td>
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<td>Board Member Appointment</td>
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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

Executive officers attend General Managers’ Meetings, where each department provides a status report. Meeting attendees discuss and formulate specific measures.

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 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.
### Compensations

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 members therein to sustainability, 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 Corporate Reconciliation 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.

<table>
<thead>
<tr>
<th>Breakdown of Compensation and Total Amounts</th>
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<tbody>
<tr>
<td><strong>Title</strong></td>
</tr>
<tr>
<td>Directors (excluding Outside Directors)</td>
</tr>
<tr>
<td>Audit &amp; Supervisory Board Members (excluding Outside Audit &amp; Supervisory Board Members)</td>
</tr>
<tr>
<td>Outside Directors and Audit &amp; Supervisory Board Members</td>
</tr>
</tbody>
</table>

### 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 meetings 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 Audit Offices of the Group.

While independent auditors perform on-site audits of subsidiaries and on-site asset inspections, Audit & Supervisory members monitor auditors of affiliates in corporate groups. This is done through on-site audits of domestic performance of directors’ duties through hearings from directors, executive hearings, review important accounting documents, and audit the performance of directors’ duties through hearings from directors, executive offices, 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 Audit Offices of the Group.

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### 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 endeavor to ensure that all corporate activities remain within the bounds of socially accepted norms.

#### Major Investor Relations Activities during Fiscal 2018

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

### Reason for Appointment of Outside Directors and Attendance Rates

<table>
<thead>
<tr>
<th>Category</th>
<th>Name</th>
<th>Reason for Appointment</th>
<th>Attendance at FY2018 Board Meetings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outside Directors</td>
<td>Hidemori Nishi</td>
<td>Experience and knowledge in the management of Kajima Co., Ltd. for many years and possesses advanced knowledge and expertise concerning 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.</td>
<td>16/16</td>
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<tr>
<td></td>
<td>Nobumasa Kemori</td>
<td>Involved in the management of Sumitomo Metal Mining Co., Ltd. for many years and possesses advanced knowledge and experience concerning 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.</td>
<td>16/16</td>
</tr>
<tr>
<td></td>
<td>Hideki Shidou</td>
<td>Possesses a wide range of knowledge based on his 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 &amp; Supervisory Board Member.</td>
<td>16/16</td>
</tr>
<tr>
<td>Outside Audit &amp; Supervisory Board Members</td>
<td>Gen Matsui</td>
<td>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 &amp; Supervisory Board Member.</td>
<td>13/12</td>
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</table>

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

### Status of Audit by Independent Auditor

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

<table>
<thead>
<tr>
<th>Certified Public Accountants</th>
<th>Auditing Firm</th>
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<tbody>
<tr>
<td>Takeshi Takada</td>
<td>Ernst &amp; Young ShinNihon LLC</td>
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</table>

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

### 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 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 independence of 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.
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 aligning 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 multidisciplined 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

- Internal controls (including financial reporting)
- Compliance
- Data security
- BCPs/Disaster 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 ensure 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

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 wherein directors, officers, employees and others, including those from Group companies, can report or discuss issues directly.

Compliance Regulation System

Management Philosophy
- Basic Compliance Policy
- Code of Conduct

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 Utiaritum Competition Prevention Act. To ensure strict compliance with anticorruption measures, we are also educating employees worldwide regarding bribery prevention regulations, reflecting considerations of extra-territorial application of the U.S. Foreign Corrupt Practices Act and the UK Bribery Act.

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 inestimable. 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 Guidelines 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 procedures 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.
Sustainability

Manufacturing Practices, and product delivery. These acceptance of raw materials and manufacturing to quality assurance in the management of everything from the accep-

Responsibility to Maintain the Stability of Business Operations and Minimize Stakeholder Losses Under the Crisis Management Guidelines

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 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.

Business Crisis Management

We have prepared a crisis prevention system and business continuity planning system for our business operations. We have also designed measures to mitigate the effects of unexpected business operations, such as the transfer of head office functions. As for BCPs, each department has formulated a recovery plan to ensure delivery to major business partners.

Crisis Prevention and Business Continuity Planning

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.

Ensuring Satellite Office Functions during Crisis

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 this office cannot be used, this facility will function as a satellite office with a 150-person capacity.

Crisis Prevention Activities

• Prevent damage from disasters (earthquakes and tsunami, flood, flood damage, etc.)
• Ensure rapid first response to unexpected (Crisis Prevention Head Office)
• Prevent collateral disaster damage
• Direct measures for stranded employees
• Recover safety

BCPs

• Ensure steady operations
• Maintain the value chain
• Prevent the loss of vital departments
• Prevent loss of vital departments
• Restore power generation and cooling systems
• Choose an alternative site

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.

Environmental Policy

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

2. 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.

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

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

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


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.

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

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.

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 set 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.

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 2018, 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 products. This achievement was one of the citations for the award.

The ceremony for the Fukui Governor’s Award
Sustainability

Strategy

Business Portfolio

Sustainability Strategy

The NAGASE Group believes that human resource development strengthens the business foundations underlying 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

Promote globalization
- Assign employees to overseas entities
- Send employees to overseas business school
- Provide cross-cultural training
- Offer English language training support
- Assign employees to overseas entities
- Provide cross-cultural training
- Offer English language training support
- Improve awareness in competitive environment (send employees to business school or MBA basic training, etc.)

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

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.

Our Benefit Programs for Promoting Work-Life Balance

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

Basic Stance on Diversity

The NAGASE Group believes that diversity is an important part of our corporate strategy. To promptly 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
   - Periodic messages from top management and broadcasts of related information
   - Instill the NAGASE Management Philosophy, NAGASE Vision, and NAGASE Way deeply into NAGASE Group employees

2. Diversity in organizations and individuals
   - Improve global communications
   - Support employees’ career development
   - Continuously employing non-Japanese people and women as main career track staff and improve our corporate culture

3. Develop good places to work
   - Instill awareness and activate initiatives for continuity and productivity improvements
   - Support employees who are dealing with home care or other challenges

4. Discussions among Employees who Have Various Backgrounds
   - Frank Exchanges of Opinions
   - Sharing New, Value-Added Ideas
   - New Proposals to Customers
   - Company Growth and Contribution to Society
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.

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.

Community Involvement

Health and Productivity Management

The Group aims to realize a sustainable world where people live in 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.

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.

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 forms. 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 historic resource of Osaka City. Every year, NAGASE participates in the Living Architecture Museum Festival in Osaka, helping the City’s promotion attract tourists.

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

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 “PatinaLock™” 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 (specialty 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.

Business Scope and Operating Performance

Net Sales Ratio by Region and Field

Main Manufacturing Bases

Risks & Opportunities
- Global reorganization of the petrochemical and paint industries
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Advanced Materials & Processing

Performance by Segment

Customer Industries

Colors & Advanced Processing Business
- Paper manufacturing, thermal paper, printing, printing 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

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 with downstream needs, which is ideal for executing on the NAGASE Vision’s directive to Identify, Link, and Deliver.

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 these relationships still remain 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 these relationships still remain 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 these relationships still remain 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 these relationships still remain one of our strengths.

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

Customer Demands

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

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 2019, 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 grips, musical instruments, and clothing accessories. These proposals highlight doping new possibilities for the material.

Net Sales / Operating Income (Billions of yen)

<table>
<thead>
<tr>
<th>Period</th>
<th>Net Sales</th>
<th>Operating Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>17/3</td>
<td>242.8</td>
<td>6.0</td>
</tr>
<tr>
<td>18/3</td>
<td>262.8</td>
<td>8.7</td>
</tr>
<tr>
<td>19/3</td>
<td>275.2</td>
<td>8.0</td>
</tr>
</tbody>
</table>

Operating Margin (%)

<table>
<thead>
<tr>
<th>Period</th>
<th>Operating Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>17/3</td>
<td>2.1</td>
</tr>
<tr>
<td>18/3</td>
<td>2.5</td>
</tr>
<tr>
<td>19/3</td>
<td>2.9</td>
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Performance by Segment

Colors & Advanced Processing Business
- Customer industries
- Strategoric alliances between manufacturers and users (reorganization of the industry)
- Rise in demand for eco-friendly materials and technologies
- Changes in global production bases

Strengths
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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, 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.
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 in 2019. For households whose buyback programs have ended, it will therefore become necessary to find new uses for their power by way of energy storage systems.

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.

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.

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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 gets disconnected in contingency or interference. Going forward, we will continue working to reduce the energy consumption of the NAGASE Group as a whole.

Performance by Segment

Customer industries

Business Portfolio

Sustainability

Introduction

Financial and Corporate Information

Strategy

Foundation for Value Creation

Business Portfolio

Performance by Segment

Mobility Solutions Business

Automobiles, trains, aircraft, spacecraft, mobility, social infrastructure

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

Energy Business

Batteries, photovoltaic generation, automobiles, electric components, construction, distribution, lighting, commercial facilities, public facilities, etc.

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

Risks & Opportunities

• Transitioning to a next-generation mobility society for people, things, and data

• Responding to global energy- and environment-related issues

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.

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.

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Life & Healthcare Materials

Performance by Segment

Life & Healthcare Products Business

Customer industries

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

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 Medicinals 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 55,000 beauty consultants located nationwide conduct door-to-door sales.

Measure 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.

New Slim Care Brand “NASIGA”

Action Policy: Three Arrows Strategy

- Focusing on sales: Strengthening the training system for sales personnel
- Training the next generation of managers, appealing to younger generations
- Running businesses under the direct control of the head office

Pursuing Total Beauty: The Exercise, Nutrition, and Rest Initiative

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.

In collaboration with Tanita Corp., we opened TANITA x NAGASE Life 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.

Business Scope and Operating Performance

Net Sales Ratio by Region and Field

Main Manufacturing Bases

Life & Healthcare Materials

- Japan
- Greater China

Operating Margin (%)

Net Sales / Operating Income (Billions of yen)

17/3 18/3 19/3

17/3 18/3 19/3

Major Achievements under ACE-2020

- 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 baking 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

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, it has 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 PeptiDone 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.

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NAGASE Group Integrated Report 2019
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.

## Greater China

### 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 capital). These had previously been dispersed across China’s different regions. We set four focus businesses of semiconductors, energy, mobility, and life & health.**

- **We will continue dynamically growing our businesses through active investment.**

#### Focus

- **Clean Labels and White Biotechnology: Addressing Regulations and Customer Demands**
- **We will contribute to a sustainable society through the bioeconomy.**

### ASEAN and the Middle East

### 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.**

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#### Focus

- **Expansion of South Korean communication businesses**
- **We aim to expand business in semiconductors, electronic components, and display devices.**

### Korea

### Aiming to Achieve ACE-2020

- **We will expand sales of our own products in the life and healthcare field.**

#### Focus

- **We will contribute to a sustainable society through the bioeconomy.**

### Europe

### 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.**

#### Focus

- **We will continue expanding our business in new markets, especially in Central and South America.**

### Americas

### Aiming to Achieve ACE-2020

- **In addition to expanding new businesses, we have measures aimed at enhancing the corporate value of the Group companies for Chem LLC and Integra Material Solutions LLC.**

#### Focus

- **We will contribute to a sustainable society through the bioeconomy.**

### NAGASE Group Integrated Report 2019

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

**Breakdown of Net Sales**

<table>
<thead>
<tr>
<th>Region / Main Businesses</th>
<th>FY2019</th>
<th>FY2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life &amp; Healthcare</td>
<td>12%</td>
<td>14%</td>
</tr>
<tr>
<td>Electronics</td>
<td>15%</td>
<td>14%</td>
</tr>
<tr>
<td>Materials &amp; Processing</td>
<td>29%</td>
<td>32%</td>
</tr>
<tr>
<td>Mobility</td>
<td>23%</td>
<td>24%</td>
</tr>
<tr>
<td>Semiconductors</td>
<td>16%</td>
<td>15%</td>
</tr>
<tr>
<td>Founders</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Mobility</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Food Materials</td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Basic information**

<table>
<thead>
<tr>
<th>Region / Main Businesses</th>
<th>FY2019</th>
<th>FY2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of employees</td>
<td>1,934</td>
<td>1,871</td>
</tr>
<tr>
<td>Number of employees</td>
<td>1,985</td>
<td>1,914</td>
</tr>
</tbody>
</table>

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**Clean Labels and White Biotechnology: Addressing Regulations and Customer Demands**

- **Clean Labels and White Biotechnology: Addressing Regulations and Customer Demands**
- **We will contribute to a sustainable society through the bioeconomy.**

---

**Expansion of South Korean communication businesses**

- **Expanding South Korean communication businesses**
- **We aim to expand our range of NAGASE Group products and products that South Korean companies excel in producing, including OLED-related materials, semiconductor processing materials, battery materials, and cosmetic materials.**

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**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.**

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- **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.**
Sustainability

Bio Chemicals businesses.

Photolithography Materials, Performance Chemicals, and to create unique product lineups in the Functional Resins, we have infused innovation synthesis technologies (organic and polymerization), formu-
ggies based on our core technologies, which encompass a competitive production system with a view to global markets.

Japan, the United States, and devices. We have established a
friendly energy, mobility, and mobile
ficcially in the fields of environmentally
mulated epoxy resins and other
products enhance functionality,
are promoting this
It works well with whole-wheat and
bread soft and melt-in-your-mouth.

The epichlorohydrin-derivatives
Denzacryl™ is a resin for use in
printing and coating materials. It is used in
printing, packaging, and pharmaceuticals.

DENABAKE™ EXTRA is a bread-
making enzyme jointly developed with Hayashibara Co., Ltd. It is a
food ingredient and a pharmaceutical

Next-Generation Manufacturing and Biomaterials

As for new businesses, we have entered the fields of next-generation manufacturing and bioma-
terials. In the next-generation manufacturing field, we have expanded our lineup of resins for 3D printing and begun sales of samples for low-temperature sintering 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.

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 technolo-
gies based on our core technologies, which encompass
synthesis technologies (organic and polymerization), formu-
ggies, technologies, and evaluation tech-
nologies. Into these technologies that we have nurtured and
down and passed over many years, we have infused innovation
to create unique product lineups in the Functional Resins, Photolithography Materials, Performance Chemicals, and Bio Chemicals businesses.

Functional Resins Business

We develop and manufacture for-
mulational, high-value-added products, espe-
cially in the fields of organically 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, PHV), highly heat-resistant potting materials for car electron-
s, and encapsulating materials for semiconductor packaging used in 5G communications and data pro-
cessing. 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 displays and three-dimensional processes of semiconductors. We are serving customers for developing new products for end-use pro-
cesses of semiconductors. We are also developing new photoreceiv-
ents for use in the lithography field for next-generation devices.

Performance Chemicals Business

We are developing new applications for 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 businesses by developing new materials, acquiring new technologies, and developing new applications.

Bio Chemicals Business

This business serves as the core of the Life Science field and develops food and industrial applications for enzymes derived from microorgan-
isms 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 enzymes.

We work in concert with customers to develop new applications and expand existing businesses by developing new materials, acquiring new technologies, and developing new applications.

Denzacryl™ is a resin for use in
printing and coating materials. It is used in
printing, packaging, and pharmaceuticals.

DENABAKE™ EXTRA is a bread-
making enzyme jointly developed with Hayashibara Co., Ltd. It is a
food ingredient and a pharmaceutical

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 tech-
nology, substance production technology using microor-
garns and enzymes, and technologies for discovering new 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 synthe-
sis 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 agents.

Next-Generation Manufacturing and Biomaterials

As for new businesses, we have entered the fields of next-generation manufacturing and bioma-
terials. In the next-generation manufacturing field, we have expanded our lineup of resins for 3D printing and begun sales of samples for low-temperature sintering 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.

NAGASE Group Integrated Report 2019

NAGASE Group Integrated Report 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.

**General Affairs 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**

This division works to enhance the productivity of the entire Group using a unique system to manage credit, including domestic and overseas operations related to sales activities, and automatic operations using robotic process automation (RPA).

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

**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 invoice coverage. It also takes actions aimed at optimizing and reducing logistics costs, such as revising transportation routes and inventory bases.

**HR & General Affairs Services Department**

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.

**New Value Creation (NVC) Office**

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

**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 AI and IoT, 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.

**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 develop a platform with IBM Japan using AI to analyze and systematize big data from material-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 by using AI to learn the relationships between chemical structures and physical properties from big data about substances.

**Our Advantage**

This 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.

**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, past vacation that can be taken in one-hour units, and reduced working hours without the need for childcare and care giving as measures. 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.

**Technology Overview**

Axonervo™ is a data search algorithm developed by NAGASE and domestic research organizations. NAGASE developed an AI 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**

SG, which will start from 2012, will enable many simultaneous connections for high-voltage traffic and ultra-low latency. For telecommunication infrastructure that will support SG and for edge services that are expected to provide low-latency services, FPGAs’ ability to accelerate services 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.

**Examples of Projects**

**Project 1: Predicting and offering new materials sought by users**

**Materials Informatics**

**Technology Overview**

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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 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.

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.

Producers of Polymeric Materials

We develop technologies that set us apart from competitors in regard to various elemental technologies indispensable to bio-related manufacturing.

Breakthrough in Fermentation Technology for Producing Functional Ingredient “Ergothioneine”

Ergothionine 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 microorganism metabolic systems. The R&D Center discovered an important factor related to the highly efficient production of ergothionine 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.

Plastics and Coatings

Plastic material analysis using thin-slice extrudates, injection molding machines, and various analytic equipment, compound formulation, prototypes of formed products, and materials analysis

Equipment:
-\item Dry coating booths
-\item Dispensing machines (pump type, vented type bead mill)
-\item UV irradiation machines
-\item Drying ovens
-\item Various environmental testing machines

Products Developed in the Plastics Field

- Polymer materials for molding (collaboration with automotive part makers)
- High sliding polymer/fluorocarbon superfine coating or processing characteristics
- Transparent, high impact plastics for use in consumer medical products, and food applications

Topics

Ergothioneine

Breakthrough in Fermentation Technology for Producing Functional Ingredient “Ergothioneine”

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Functions and Roles of NAW

-\item Material manufacturers
-\item Processing companies
-\item General engineering and processing technology
-\item Marketing, in-house application development

Main Function 1: Plastics

Plastic material analysis using thin-slice extrudates, injection molding machines, and various analytic equipment, compound formulation, prototypes of formed products, and materials analysis

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:
-\item Dry coating booths
-\item Dispensing machines (pump type, vented type bead mill)
-\item UV irradiation machines
-\item Drying ovens
-\item Various environmental testing machines

Products Developed in the Coating Materials Field

-\item Polyethylene wax (PEW), a reactive paint that suppresses rust using rust
-\item A carbon hybrid coating system that dramatically reduces volatile organic compounds (VOCs) in paints
-\item New coating materials that enable new design offerings to meet industry needs

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.

NAW Established: 1990

Nagase Application Workshop

NAGASE Group Integrated Report 2019
### 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

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Net Sales (¥ million)</th>
<th>Operating Income (¥ million)</th>
<th>Profit Attributable to Owners of the Parent (¥ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>807,756</td>
<td>24,118</td>
<td>17,175</td>
</tr>
</tbody>
</table>

The Company recorded profit before income taxes of ¥28.2 billion (+17.1% 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.

#### 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 ¥25.23 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.
The Functional Materials segment recorded higher sales in both domestic and overseas markets. The Performance Chemicals business reported higher sales, mainly due to increased sales of coating raw materials and urethane materials, spurred by strong automotive production in Japan and overseas, as well as narcotic price increases. Another contributing factor was the additional sales of the U.S. distributor acquired in the second quarter as well as naphtha price increases. Another contributing factor was the strong performance in our resins business in Japan, Greater China, and ASEAN. Sales of TREHA™ and other products in the food ingredients field increased in sales in Japan and overseas. Some products in the food ingredients field saw strong performance in the domestic market.

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, the automotive business recorded higher sales compared to the prior fiscal year. The Beauty Care Products business, which includes sales of cosmetics and healthcare foods, reported 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.

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

<table>
<thead>
<tr>
<th>Segment</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales to Customers</td>
<td>¥173,922</td>
<td>¥177,627</td>
</tr>
<tr>
<td>Segment Income</td>
<td>¥8,917</td>
<td>¥7,400</td>
</tr>
<tr>
<td>Segment Assets</td>
<td>66,176</td>
<td>87,156</td>
</tr>
<tr>
<td>Depreciation and Amortization</td>
<td>456</td>
<td>444</td>
</tr>
<tr>
<td>Amortization of Goodwill</td>
<td>62</td>
<td>110</td>
</tr>
<tr>
<td>Goodwill</td>
<td>3,013</td>
<td>3,012</td>
</tr>
<tr>
<td>Investments in Equity Affiliates</td>
<td>2,478</td>
<td>2,396</td>
</tr>
<tr>
<td>Increase in Property, Plant, and Intangible Fixed Assets</td>
<td>243</td>
<td>314</td>
</tr>
</tbody>
</table>

The Functional Materials segment recorded higher sales in both domestic and overseas markets. The Performance Chemicals business reported higher sales, mainly due to increased sales of coating raw materials and urethane materials, spurred by strong automotive production in Japan and overseas, as well as narcotic price increases. Another contributing factor was the additional sales of the U.S. distributor acquired in the second quarter as well as naphtha price increases. Another contributing factor was the strong performance in our resins business in Japan, Greater China, and ASEAN.

As a result, the Advanced Materials & Processing segment recorded higher 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

<table>
<thead>
<tr>
<th>Segment</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales to Customers</td>
<td>¥129,254</td>
<td>¥122,319</td>
</tr>
<tr>
<td>Segment Income</td>
<td>¥8,917</td>
<td>¥4,460</td>
</tr>
<tr>
<td>Segment Assets</td>
<td>70,149</td>
<td>95,022</td>
</tr>
<tr>
<td>Depreciation and Amortization</td>
<td>2,454</td>
<td>2,511</td>
</tr>
<tr>
<td>Amortization of Goodwill</td>
<td>112</td>
<td>136</td>
</tr>
<tr>
<td>Goodwill</td>
<td>1,516</td>
<td>1,218</td>
</tr>
<tr>
<td>Investments in Equity Affiliates</td>
<td>2,751</td>
<td>3,765</td>
</tr>
<tr>
<td>Increase in Property, Plant, and Intangible Fixed Assets</td>
<td>1,884</td>
<td>3,301</td>
</tr>
</tbody>
</table>

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 internal 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

<table>
<thead>
<tr>
<th>Segment</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales to Customers</td>
<td>¥275,203</td>
<td>¥275,203</td>
</tr>
<tr>
<td>Segment Income</td>
<td>¥2,415</td>
<td>¥4,057</td>
</tr>
<tr>
<td>Segment Assets</td>
<td>134,377</td>
<td>135,453</td>
</tr>
<tr>
<td>Depreciation and Amortization</td>
<td>345</td>
<td>692</td>
</tr>
<tr>
<td>Amortization of Goodwill</td>
<td>357</td>
<td>597</td>
</tr>
<tr>
<td>Goodwill</td>
<td>3,013</td>
<td>3,012</td>
</tr>
<tr>
<td>Investments in Equity Affiliates</td>
<td>1,482</td>
<td>1,549</td>
</tr>
<tr>
<td>Increase in Property, Plant, and Intangible Fixed Assets</td>
<td>2,817</td>
<td>3,042</td>
</tr>
</tbody>
</table>

The Automotive & Energy 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 businesses were higher overall, driven by growth in Japan, Greater China, and ASEAN.

As a result, the Advanced Materials & Processing segment recorded segment reported 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.

Life & Healthcare

<table>
<thead>
<tr>
<th>Segment</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales to Customers</td>
<td>¥86,517</td>
<td>¥90,794</td>
</tr>
<tr>
<td>Segment Income</td>
<td>4,201</td>
<td>4,648</td>
</tr>
<tr>
<td>Segment Assets</td>
<td>90,396</td>
<td>97,627</td>
</tr>
<tr>
<td>Depreciation and Amortization</td>
<td>1,552</td>
<td>1,569</td>
</tr>
<tr>
<td>Amortization of Goodwill</td>
<td>22,150</td>
<td>20,636</td>
</tr>
<tr>
<td>Goodwill</td>
<td>8,917</td>
<td>7,400</td>
</tr>
<tr>
<td>Investments in Equity Affiliates</td>
<td>1,234</td>
<td>3,301</td>
</tr>
<tr>
<td>Increase in Property, Plant, and Intangible Fixed Assets</td>
<td>2,617</td>
<td>2,795</td>
</tr>
</tbody>
</table>

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 healthcare foods, reported 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.

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 ¥2.82 billion in profit before income taxes and cash reserves of ¥3.32 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 ¥9.13 billion. These outlays exceeded net proceeds from commercial paper of ¥7.0 billion.

Cash Flow Summary

<table>
<thead>
<tr>
<th>Year Ended March 31</th>
<th>Fiscal Year</th>
<th>Fiscal Year</th>
<th>Fiscal Year</th>
<th>Fiscal Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash Flows from Operating Activities</td>
<td>¥15,474</td>
<td>¥15,474</td>
<td>¥16,013</td>
<td>¥17,375</td>
</tr>
<tr>
<td>Cash Flows from Investing Activities</td>
<td>(7,712)</td>
<td>(12,060)</td>
<td>(8,518)</td>
<td>(14,442)</td>
</tr>
<tr>
<td>Cash Flows from Financing Activities</td>
<td>(3,205)</td>
<td>(12,822)</td>
<td>(10,592)</td>
<td>(9,909)</td>
</tr>
</tbody>
</table>
Net Assets
Net assets amounted to ¥131.6 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 ¥25.13 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 at the end of the prior fiscal year.

Summary of the Consolidated Balance Sheet

Net Assets
As of March 31, 2019, current assets amounted to ¥635.7 billion. This represents an increase of ¥2.56 billion compared to the end of the prior fiscal year, mainly due to increases in accounts receivable and inventories. Non-current assets amounted to ¥201.5 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 ¥567.3 billion as of the end of the fiscal year.

Liabilities
Liabilities amounted to ¥524.7 billion, a ¥5.9 billion decrease compared to the end of the prior fiscal year. This decrease was mainly due to repayments of long-term loans.

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 pulullum and enzyme wing of the Okuyama 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.

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 required for edge servers, which are anticipated after realizing next-generation telecommunication standards.

The Nagase R&D Center conducts 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 bioclean economy for society through process innovation (changeable Feedstock 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 core technologies (Nagase’s technologie for breeding and forming actinomycotes) 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 [talin]), unusual antioxidative amino acids (ergothioneine) contained in mushrooms and wheat varieties, biodegradable 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 and expert staff capable of conducting new 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 produces 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 Chemtoy 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 3D printing 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.

Outlook for the Year Ending March 31, 2020
Improving employment and payments 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 govern-
ance in response to increasing overseas business opportunities,
and the need for stronger compliance structures at our manufactur-
ing businesses.
For the fiscal year ending March 31, 2020, we forecast consolidated
net sales of ¥850.0 billion (+5.2% year on year), operating income of
¥20.5 billion (+1.8%), 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 con-
version rate of ¥110 to the U.S. dollar.
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 and in the rarest of cases as published. 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 seg-
ments 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 discus-
sion of the major risks below.
Any forward-looking statements are based on management deci-
sions 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 com-
mercial chemicals industry could affect the NAGASE Group’s earn-
ings 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 are 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
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 pric-
es are converted to yen. While the Group executes exchange con-
tract hedges for these transactions to minimize exchange rate risk to
the greatest extent possible, currency exchange rate fluctuations
could have a significant impact on our performance and financial condi-
tions. The NAGASE Group owns foreign-domestic 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 activi-
ties 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 manage-
ment 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 continu-
ously 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 pur-
chasers in connection with various transactions. As a matter of policy,
the NAGASE Group reduces credit risk by obtaining guarantees, col-
lateral, 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 bankrupt-
cy 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 subsidiar-
ies, 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 earn-
ings 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 manufac-
turing subsidiaries to offer high-value-added products to our custom-
ners. 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 manu-
factured 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 condition.
(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 the Security Control System. The Group
keeps a close eye on local trends and conditions in order to
conduct business across a great number of countries and regions,
however, even greater regulatory changes may be incurred as a result of
adverse regulations on businesses or other factors in the future, which
may have an impact on Group business performance and financial condition.
(12) Risks of Natural Disasters
The NAGASE Group has established 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-related measures, disaster response training,
and other measures to deal with natural disasters. However, as we
do 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 chains. Such disruptions could prevent us
from selling our products or damage the manufacturing capabilities of
important Group facilities. Such disruptions would result in
opportunity loss, and could have a significant impact on Group earn-
ings and financial condition.
### Consolidated Balance Sheet

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

#### ASSETS

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>Thousands of U.S. dollars (Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current assets:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash and time deposits (Notes 15 and 22)</td>
<td>¥4,046,085</td>
<td>¥3,230,604</td>
<td>$397,045</td>
</tr>
<tr>
<td>Notes and accounts receivable (Note 15)</td>
<td>230,459</td>
<td>225,999</td>
<td>2,076,394</td>
</tr>
<tr>
<td>Inventories (Note 5)</td>
<td>81,003</td>
<td>73,671</td>
<td>729,823</td>
</tr>
<tr>
<td>Other current assets</td>
<td>10,651</td>
<td>10,953</td>
<td>95,964</td>
</tr>
<tr>
<td>Less allowance for doubtful accounts</td>
<td>(305)</td>
<td>(802)</td>
<td>(3,198)</td>
</tr>
<tr>
<td><strong>Total current assets</strong></td>
<td>365,287</td>
<td>353,325</td>
<td>3,259,036</td>
</tr>
</tbody>
</table>

#### Property, plant and equipment, at cost (Note 6 and 7):

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Land (Note 20)</td>
<td>20,456</td>
<td>21,154</td>
<td>184,305</td>
</tr>
<tr>
<td>Buildings and structures</td>
<td>57,846</td>
<td>58,016</td>
<td>521,182</td>
</tr>
<tr>
<td>Machinery, equipment and vehicles</td>
<td>82,397</td>
<td>82,437</td>
<td>742,382</td>
</tr>
<tr>
<td>Leased assets</td>
<td>247</td>
<td>530</td>
<td>2,225</td>
</tr>
<tr>
<td>Construction in progress</td>
<td>3,704</td>
<td>784</td>
<td>34,993</td>
</tr>
<tr>
<td><strong>Less accumulated depreciation</strong></td>
<td>(98,264)</td>
<td>(95,697)</td>
<td>(885,341)</td>
</tr>
<tr>
<td>Property, plant and equipment, net (Note 23)</td>
<td>164,732</td>
<td>162,922</td>
<td>1,484,206</td>
</tr>
</tbody>
</table>

#### Investments and other assets:

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Investments in securities (Notes 8 and 15):</td>
<td>9,556</td>
<td>8,116</td>
<td>86,098</td>
</tr>
<tr>
<td>Unconsolidated subsidiaries and affiliates</td>
<td>80,706</td>
<td>82,287</td>
<td>727,147</td>
</tr>
<tr>
<td>Other</td>
<td>90,353</td>
<td>100,403</td>
<td>813,253</td>
</tr>
<tr>
<td>Long-term loans receivable</td>
<td>243</td>
<td>109</td>
<td>2,189</td>
</tr>
<tr>
<td>Goodwill (Note 23)</td>
<td>23,866</td>
<td>25,478</td>
<td>215,028</td>
</tr>
<tr>
<td>Technology-based assets</td>
<td>10,639</td>
<td>12,215</td>
<td>95,855</td>
</tr>
<tr>
<td>Asset for retirement benefits (Note 11)</td>
<td>109</td>
<td></td>
<td>982</td>
</tr>
<tr>
<td>Deferred tax assets (Notes 3 and 12)</td>
<td>2,090</td>
<td>2,409</td>
<td>20,382</td>
</tr>
<tr>
<td>Other assets (Note 7)</td>
<td>7,733</td>
<td>8,389</td>
<td>69,664</td>
</tr>
<tr>
<td>Less allowance for doubtful accounts</td>
<td>(92)</td>
<td>(101)</td>
<td>(829)</td>
</tr>
<tr>
<td><strong>Total investments and other assets</strong></td>
<td>135,051</td>
<td>148,904</td>
<td>1,216,785</td>
</tr>
</tbody>
</table>

#### Total assets (Note 23)

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>¥567,346</td>
<td>¥569,456</td>
<td>¥5,111,686</td>
<td></td>
</tr>
</tbody>
</table>

#### LIABILITIES AND NET ASSETS

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>Thousands of U.S. dollars (Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current liabilities:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes and accounts payable (Note 15)</td>
<td>¥117,256</td>
<td>¥118,028</td>
<td>$1,056,456</td>
</tr>
<tr>
<td>Short-term loans (Notes 9 and 15)</td>
<td>34,964</td>
<td>31,934</td>
<td>315,019</td>
</tr>
<tr>
<td>Current portion of long-term loans and finance lease obligations (Notes 9, 15 and 20)</td>
<td>972</td>
<td>11,126</td>
<td>8,758</td>
</tr>
<tr>
<td>Commercial papers (Note 15)</td>
<td>12,000</td>
<td>5,000</td>
<td>108,118</td>
</tr>
<tr>
<td>Current portion of bonds (Notes 9 and 15)</td>
<td>10,000</td>
<td></td>
<td>90,098</td>
</tr>
<tr>
<td>Accrued income taxes (Note 12)</td>
<td>3,594</td>
<td>1,738</td>
<td>32,381</td>
</tr>
<tr>
<td>Accrued expenses</td>
<td>3,005</td>
<td>3,250</td>
<td>27,075</td>
</tr>
<tr>
<td>Accrued bonuses for employees</td>
<td>5,355</td>
<td>5,451</td>
<td>48,248</td>
</tr>
<tr>
<td>Accrued bonuses for directors and executive officers</td>
<td>287</td>
<td>274</td>
<td>2,586</td>
</tr>
<tr>
<td>Other current liabilities</td>
<td>14,429</td>
<td>16,191</td>
<td>130,003</td>
</tr>
<tr>
<td><strong>Total current liabilities</strong></td>
<td>201,866</td>
<td>192,956</td>
<td>1,918,776</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>Thousands of U.S. dollars (Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Long-term liabilities:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bonds (Notes 9 and 15)</td>
<td>10,000</td>
<td>20,000</td>
<td>90,098</td>
</tr>
<tr>
<td>Long-term loans and finance lease obligations (Notes 9, 15 and 20)</td>
<td>17,683</td>
<td>18,112</td>
<td>159,321</td>
</tr>
<tr>
<td>Deferred tax liabilities (Notes 3 and 12)</td>
<td>12,075</td>
<td>14,420</td>
<td>108,794</td>
</tr>
<tr>
<td>Liability for retirement benefits (Note 11)</td>
<td>12,461</td>
<td>14,518</td>
<td>112,271</td>
</tr>
<tr>
<td>Other long-term liabilities</td>
<td>650</td>
<td>603</td>
<td>5,856</td>
</tr>
<tr>
<td><strong>Total long-term liabilities</strong></td>
<td>52,870</td>
<td>67,655</td>
<td>476,349</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>Thousands of U.S. dollars (Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contingent liabilities (Note 19)</td>
<td>250,278</td>
<td>232,534</td>
<td>2,368,610</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>Thousands of U.S. dollars (Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net assets:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shareholders’ equity (Note 13):</td>
<td>262,892</td>
<td>250,278</td>
<td>2,368,610</td>
</tr>
<tr>
<td>Authorized – 348,980,000 shares</td>
<td>9,699</td>
<td>9,699</td>
<td>87,386</td>
</tr>
<tr>
<td>Issued – 127,408,285 shares in 2019 and 2018</td>
<td>10,647</td>
<td>11,158</td>
<td>95,928</td>
</tr>
<tr>
<td>Capital surplus</td>
<td>247,617</td>
<td>230,534</td>
<td>2,230,385</td>
</tr>
<tr>
<td>Retained earnings (Notes 21 and 24)</td>
<td>(11,194)</td>
<td>(3,784)</td>
<td>(45,680)</td>
</tr>
<tr>
<td><strong>Total shareholders’ equity</strong></td>
<td>262,892</td>
<td>250,278</td>
<td>2,368,610</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>Thousands of U.S. dollars (Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accumulated other comprehensive income:</td>
<td>44,781</td>
<td>53,358</td>
<td>403,669</td>
</tr>
<tr>
<td>Net unrealized holding gain on securities (Note 8)</td>
<td>41,857</td>
<td>50,773</td>
<td>377,124</td>
</tr>
<tr>
<td>Deferred loss on hedges (Note 16)</td>
<td>(7)</td>
<td>(15)</td>
<td>(63)</td>
</tr>
<tr>
<td>Translation adjustments</td>
<td>3,224</td>
<td>2,917</td>
<td>29,048</td>
</tr>
<tr>
<td>Retirement benefit liability adjustments (Note 11)</td>
<td>(282)</td>
<td>(317)</td>
<td>(2,631)</td>
</tr>
<tr>
<td><strong>Total accumulated other comprehensive income</strong></td>
<td>44,781</td>
<td>53,358</td>
<td>403,669</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>Thousands of U.S. dollars (Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-controlling interests</td>
<td>4,934</td>
<td>5,168</td>
<td>44,454</td>
</tr>
<tr>
<td><strong>Total net assets</strong></td>
<td>312,609</td>
<td>308,804</td>
<td>2,816,551</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>Thousands of U.S. dollars (Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total liabilities and net assets</td>
<td>¥567,346</td>
<td>¥569,456</td>
<td>$5,111,686</td>
</tr>
</tbody>
</table>

See notes to consolidated financial statements.
NAGASE & CO., LTD. and Consolidated Subsidiaries (Years ended March 31, 2019 and 2018)

### Consolidated Statement of Income

<table>
<thead>
<tr>
<th></th>
<th>2019 Millions of yen</th>
<th>2018 Millions of yen</th>
<th>Thousands of U.S. dollars (Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net sales (Note 23)</strong></td>
<td>¥807,755</td>
<td>¥783,633</td>
<td>$7,277,728</td>
</tr>
<tr>
<td><strong>Cost of sales</strong></td>
<td>702,313</td>
<td>681,258</td>
<td>6,327,714</td>
</tr>
<tr>
<td><strong>Gross profit</strong></td>
<td>105,441</td>
<td>102,675</td>
<td>950,005</td>
</tr>
<tr>
<td><strong>Selling, general and administrative expenses (Notes 17 and 18)</strong></td>
<td>¥80,215</td>
<td>¥78,557</td>
<td>¥722,723</td>
</tr>
<tr>
<td><strong>Operating income (Note 23)</strong></td>
<td>252,266</td>
<td>24,118</td>
<td>2,277,282</td>
</tr>
<tr>
<td><strong>Other income (expenses):</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest and dividend income</td>
<td>1,994</td>
<td>1,791</td>
<td>17,966</td>
</tr>
<tr>
<td>Interest expense (1,702)</td>
<td>(1,294)</td>
<td>(15,335)</td>
<td></td>
</tr>
<tr>
<td>Equity in earnings of affiliates</td>
<td>538</td>
<td>921</td>
<td>4,847</td>
</tr>
<tr>
<td>Gain on sales of shares of subsidiaries and affiliates</td>
<td>84</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td>Gain on sales of investments in securities (Note 8)</td>
<td>4,355</td>
<td>8</td>
<td>39,238</td>
</tr>
<tr>
<td>Loss on sales of shares of a subsidiary and affiliates</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Loss on devaluation of investments in securities (208)</td>
<td>(12)</td>
<td>(1,874)</td>
<td></td>
</tr>
<tr>
<td>Gain on sales of property, plant and equipment</td>
<td>282</td>
<td>50</td>
<td>2,541</td>
</tr>
<tr>
<td>Loss on sales of property, plant and equipment (78)</td>
<td>(419)</td>
<td>(703)</td>
<td></td>
</tr>
<tr>
<td>Loss on disposal of property, plant and equipment (275)</td>
<td>(168)</td>
<td>(2,478)</td>
<td></td>
</tr>
<tr>
<td>Loss on impairment of fixed assets (Notes 7 and 23)</td>
<td>(2,294)</td>
<td>(847)</td>
<td>(20,669)</td>
</tr>
<tr>
<td>Loss on reduction of property, plant and equipment (205)</td>
<td>(212)</td>
<td>(1,847)</td>
<td></td>
</tr>
<tr>
<td>Gain on bargain purchase</td>
<td>0</td>
<td>229</td>
<td></td>
</tr>
<tr>
<td>Subsidy income 205</td>
<td>298</td>
<td>1,847</td>
<td></td>
</tr>
<tr>
<td>Loss on discontinued operation (194)</td>
<td>(462)</td>
<td>(1,748)</td>
<td></td>
</tr>
<tr>
<td>Loss on step acquisitions</td>
<td>0</td>
<td>(294)</td>
<td></td>
</tr>
<tr>
<td>Other net (556)</td>
<td>369</td>
<td>5,099</td>
<td></td>
</tr>
<tr>
<td><strong>Profit before income taxes</strong></td>
<td>28,204</td>
<td>24,049</td>
<td>264,113</td>
</tr>
<tr>
<td><strong>Income taxes (Note 12):</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current income 6,400</td>
<td>5,358</td>
<td>57,663</td>
<td></td>
</tr>
<tr>
<td>Deferred 1,395</td>
<td>1,098</td>
<td>12,569</td>
<td></td>
</tr>
<tr>
<td><strong>Profit</strong></td>
<td>20,408</td>
<td>17,592</td>
<td>183,872</td>
</tr>
</tbody>
</table>

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 Changes in Net Assets

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>Thousands of U.S. dollars (Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Balance at April 1, 2017</strong></td>
<td>¥9,659</td>
<td>¥11,930</td>
<td>$104,874</td>
</tr>
<tr>
<td><strong>Non-controlling interests</strong></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Profit attributable to owners of parent</strong></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Cash dividends</strong></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Purchases of treasury stock</strong></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Changes in parent's ownership interest due to transactions with non-controlling interests</strong></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Decrease in related earnings resulting from changes in scope of consolidation</strong></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Increase in retained earnings resulting from changes in scope of consolidation</strong></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Other changes</strong></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Balance at March 31, 2019</strong></td>
<td>¥9,699</td>
<td>¥10,647</td>
<td>$104,874</td>
</tr>
</tbody>
</table>

### Consolidated Statement of Comprehensive Income

<table>
<thead>
<tr>
<th></th>
<th>2019 Millions of yen</th>
<th>2018 Millions of yen</th>
<th>Thousands of U.S. dollars (Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Profit</strong></td>
<td>¥20,408</td>
<td>¥17,592</td>
<td>$183,872</td>
</tr>
<tr>
<td><strong>Other comprehensive income (Note 10):</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net unrealized holding (loss) gain on securities</td>
<td>(8,907)</td>
<td>(3,083)</td>
<td>(80,250)</td>
</tr>
<tr>
<td>Deferred gain (loss) on hedges</td>
<td>7</td>
<td>(19)</td>
<td>63</td>
</tr>
<tr>
<td>Translation adjustments 298</td>
<td>(14)</td>
<td>2,685</td>
<td></td>
</tr>
<tr>
<td>Retirement benefit liability adjustments 25</td>
<td>(43)</td>
<td>225</td>
<td></td>
</tr>
<tr>
<td>Share of other comprehensive income (loss) of affiliates accounted for by the equity method</td>
<td>(29)</td>
<td>(50)</td>
<td>(261)</td>
</tr>
<tr>
<td><strong>Comprehensive income</strong></td>
<td>¥11,640</td>
<td>¥20,101</td>
<td><strong>$104,874</strong></td>
</tr>
</tbody>
</table>

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 Cash Flows

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Net cash provided by operating activities</th>
<th>Millions of yen</th>
<th>Thousands of dollars (Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td></td>
<td>21,981</td>
<td>207</td>
</tr>
<tr>
<td>2018</td>
<td></td>
<td>21,872</td>
<td>207</td>
</tr>
</tbody>
</table>

**Investing activities:**

- Purchases of property, plant and equipment: 2019, 13,284; 2018, 13,664
- Proceeds from sales of property, plant and equipment: 2019, 10,000; 2018, 7,000
- Proceeds from sales of investments in securities: 2019, 10,000; 2018, 7,000
- Proceeds from sales of intangible fixed assets included in other assets: 2019, 1,000; 2018, 1,000
- Proceeds from sales of investments in subsidiaries: 2019, 10,000; 2018, 7,000
- Proceeds from sales of subsidiaries resulting in change in scope of consolidation: 2019, 10,000; 2018, 7,000
- Proceeds from sales of shares of subsidiaries resulting in change in scope of consolidation: 2019, 10,000; 2018, 7,000
- Decrease in property, plant and equipment: 2019, 100; 2018, 100
- Other, net: 2019, 100; 2018, 100

**Financing activities:**

- Net cash used in investing activities: 2019, 14,442; 2018, 14,442
- Net cash provided by operating activities: 2019, 21,981; 2018, 21,872
- Net cash used in investing activities: 2019, 12,000; 2018, 12,000

**Notes to Consolidated Financial Statements**

#### 1. BASIS OF PREPARATION

The accompanying consolidated financial statements of NAGASE & Co., Ltd. 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 adjustments and reorganizations 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.

#### 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.

##### (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, net of the applicable income taxes, reported as a separate component of other comprehensive income or loss.

##### (c) Cash and Cash Equivalents

Cash and cash equivalents consist of cash on hand, demand deposits, and short-term investments of three months or less in duration. The effect of changes in foreign currency forward exchange contracts is 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 cash translation is reported as a separate component of other comprehensive income or loss.

##### (d) Inventories

Inventories are stated at the lower of cost or net realizable 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 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 other comprehensive income or loss.

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

Property, plant and equipment are stated at cost. Depreciation and amortization are calculated using the straight-line method over the estimated useful lives of the respective assets.

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

- Buildings: 15 to 50 years
- Machinery and equipment: 2 to 20 years

---

**See notes to consolidated financial statements.**
(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 the 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. Computation of deferred tax assets and liabilities is 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 certain domestic consolidated subsidiaries have adopted the consolidated balance sheet as of March 31, 2018 decreased ¥2,783 million, while deferred tax liabilities under long-term 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”) manages 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 and hedged items of interest-rate swaps are identified by individual contracts, which unrealized gain or loss is deferred as a component of net income. Derivatives positions are categorized by the credit risk of the counterparty and the foreign currency risk.

The Company and certain consolidated subsidiaries assess the effectiveness of the hedging activities based on a comparison of the actual and notional cash flows of the hedged items. If the differences are considered to be effective, the hedge is classified as a cash flow hedge. If the differences are considered to be ineffective, the hedge is classified as an economic hedging relationship. In the latter case, the gains and losses of the hedging relationship are recognized in income. Where the gains and losses related to the hedging relationship are reclassified from other comprehensive income to income, the gains and losses are recognized in income at the time such gains or losses are realized.

(k) 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.

(l) 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.

(m) 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 attributable 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 present value of projected benefits is determined at the end of each fiscal year using the appropriate interest rate and assumed mortality rate. The interest rate used is based on the estimated future benefit payments.

3. CHANGES IN PRESENTATION METHOD

Changes in Conjunction with the Application of Partial Amendments to Accounting Standards on 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 (AISB Statement No.29, February 14, 2019). 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 statement of the 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 AISB issued “Accounting Standard for Revenue Recognition” (AISB Statement No.29) and “Implementation Guidance on Accounting Standard for Revenue Recognition” (AISB 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 AISB 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.

5. INVENTORIES

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

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merchandise and finished goods</td>
<td>¥74,471</td>
<td>¥97,681</td>
</tr>
<tr>
<td>Work in process</td>
<td>1,847</td>
<td>1,883</td>
</tr>
<tr>
<td>Raw materials and supplies</td>
<td>4,683</td>
<td>4,106</td>
</tr>
<tr>
<td>Total</td>
<td>¥81,003</td>
<td>¥121,667</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buildings and structures</td>
<td>528</td>
<td>528</td>
</tr>
<tr>
<td>Machinery, equipment and vehicles</td>
<td>637</td>
<td>627</td>
</tr>
<tr>
<td>Total</td>
<td>¥1,356</td>
<td>¥1,341</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buildings and structures, machinery, equipment and vehicles (Kinki)</td>
<td>¥1,909</td>
<td>¥18,011</td>
</tr>
<tr>
<td>Buildings and structures, machinery, equipment and vehicles (Kansai)</td>
<td>217</td>
<td>1,955</td>
</tr>
<tr>
<td>Machinery, equipment and vehicles (Tokai)</td>
<td>22</td>
<td>198</td>
</tr>
<tr>
<td>Machinery, equipment and vehicles, and intangible assets included in other assets (Jiangsu, China)</td>
<td>4</td>
<td>36</td>
</tr>
<tr>
<td>Machinery, equipment and vehicles, and intangible assets included in other assets (Kinki)</td>
<td>50</td>
<td>450</td>
</tr>
<tr>
<td>Total</td>
<td>¥2,294</td>
<td>¥20,869</td>
</tr>
</tbody>
</table>
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 for business use principally based on its business management segment. 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, 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.

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.

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 deals 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:

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

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:

"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 ¥160 million ($1,469 thousand) for the year ended March 31, 2019. For the year ended March 31, 2018, the Company and its consolidated subsidiaries did not recognize any impairment losses on valuation of marketable securities.
10. OTHER COMPREHENSIVE (LOSS) INCOME

Recapitalization 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:

<table>
<thead>
<tr>
<th>Component</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unrealized holding gain/loss on securities</td>
<td>(8,348)</td>
<td>4,413</td>
<td>(75,214)</td>
</tr>
<tr>
<td>Recapture adjustments for gains and losses realized in the statement of income</td>
<td>(4,168)</td>
<td>441</td>
<td>37,553</td>
</tr>
<tr>
<td>Amount before tax effect</td>
<td>12,516</td>
<td>4,891</td>
<td>112,767</td>
</tr>
<tr>
<td>Tax effect</td>
<td>3,609</td>
<td>(1,325)</td>
<td>32,516</td>
</tr>
<tr>
<td>Unrealized holding gain/loss on securities</td>
<td>(8,007)</td>
<td>3,063</td>
<td>(60,250)</td>
</tr>
<tr>
<td>Deferral (gain) on hedges</td>
<td>28</td>
<td>(54)</td>
<td>252</td>
</tr>
<tr>
<td>Recapture adjustments for gains and losses realized in the statement of income</td>
<td>(17)</td>
<td>25</td>
<td>(153)</td>
</tr>
<tr>
<td>Amount before tax effect</td>
<td>11</td>
<td>(28)</td>
<td>99</td>
</tr>
<tr>
<td>Tax effect</td>
<td>(3)</td>
<td>6</td>
<td>(27)</td>
</tr>
<tr>
<td>Deferral (loss) on hedges</td>
<td>7</td>
<td>(19)</td>
<td>63</td>
</tr>
<tr>
<td>Translation adjustments</td>
<td>298</td>
<td>(14)</td>
<td>2,685</td>
</tr>
<tr>
<td>Recapture adjustments for gains and losses realized in the statement of income</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Amount before tax effect</td>
<td>298</td>
<td>(14)</td>
<td>2,685</td>
</tr>
<tr>
<td>Tax effect</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Translation adjustments</td>
<td>298</td>
<td>(14)</td>
<td>2,685</td>
</tr>
</tbody>
</table>

Retirement benefit liability adjustments:

| Amount arising during the year | (304) | 576 | (2,739) |
| Recapture adjustments for gains and losses realized in the statement of income | 341    | 317 | 3,072  |
| Amount before tax effect       | 36     | (99) | 324    |
| Tax effect                     | (10)   | 16   | (90)   |
| Retirement benefit liability adjustments | 26    | (43) | 225    |
| Share of other comprehensive (loss) income of affiliates accounted for by the equity method: | Amount arising during the year | (29)   | 90    | (261)  |
| Total other comprehensive (loss) income | (8,604) | 4,050 | (77,520) |

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

<table>
<thead>
<tr>
<th>Component</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. dollars</td>
<td>$306,613</td>
<td>$213,451</td>
<td>$34,031</td>
</tr>
<tr>
<td>JPY (millions)</td>
<td>¥34,031</td>
<td>¥34,031</td>
<td>¥310,298</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Component</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. dollars</td>
<td>$306,613</td>
<td>$213,451</td>
<td>$34,031</td>
</tr>
<tr>
<td>JPY (millions)</td>
<td>¥34,031</td>
<td>¥34,031</td>
<td>¥310,298</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Component</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. dollars</td>
<td>$306,613</td>
<td>$213,451</td>
<td>$34,031</td>
</tr>
<tr>
<td>JPY (millions)</td>
<td>¥34,031</td>
<td>¥34,031</td>
<td>¥310,298</td>
</tr>
</tbody>
</table>
The assumptions used in accounting for the above plans were as follows:

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discount rate</td>
<td>0.8%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Expected long-term rate of return on plan assets</td>
<td>2.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>

(c) Defined contribution plans

<table>
<thead>
<tr>
<th></th>
<th>Millions of yen</th>
<th>Thousands of U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributions to defined contribution plans by the Company and its consolidated subsidiaries</td>
<td>¥2,825</td>
<td>$128,039</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statutory tax rates</td>
<td>30.6%</td>
<td>30.9%</td>
</tr>
<tr>
<td>Adjustments for:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expenses not deductible for income tax purposes</td>
<td>2.0</td>
<td>3.1</td>
</tr>
<tr>
<td>Dividends and other income deductible for Income tax purposes</td>
<td>(9.3)</td>
<td>(9.3)</td>
</tr>
<tr>
<td>Net adjustment resulting from elimination of dividend income upon consolidation</td>
<td>8.9</td>
<td>8.3</td>
</tr>
<tr>
<td>Different tax rates applied at overseas subsidiaries</td>
<td>(3.1)</td>
<td>(3.8)</td>
</tr>
<tr>
<td>Tax credit</td>
<td>(1.8)</td>
<td>(1.4)</td>
</tr>
<tr>
<td>Amortization of goodwill</td>
<td>2.0</td>
<td>2.2</td>
</tr>
<tr>
<td>Valuation allowance</td>
<td>(1.8)</td>
<td>(5.0)</td>
</tr>
<tr>
<td>Other</td>
<td>0.2</td>
<td>1.9</td>
</tr>
<tr>
<td>Effective tax rates</td>
<td>27.6%</td>
<td>26.8%</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th></th>
<th>Millions of yen</th>
<th>Thousands of U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deferred tax assets:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accrued bonuses for employees</td>
<td>¥1,448</td>
<td>$13,046</td>
</tr>
<tr>
<td>Allowance for doubtful accounts</td>
<td>88</td>
<td>793</td>
</tr>
<tr>
<td>Unrealized gain on inventories</td>
<td>477</td>
<td>4,298</td>
</tr>
<tr>
<td>Accrued enterprise taxes</td>
<td>283</td>
<td>2,550</td>
</tr>
<tr>
<td>Tax loss carryforwards</td>
<td>3,187</td>
<td>28,714</td>
</tr>
<tr>
<td>Liability for retirement benefits</td>
<td>3,630</td>
<td>32,706</td>
</tr>
<tr>
<td>Investments in securities</td>
<td>973</td>
<td>8,767</td>
</tr>
<tr>
<td>Loss on impairment of fixed assets</td>
<td>1,653</td>
<td>14,893</td>
</tr>
<tr>
<td>Tax goodwill</td>
<td>4,214</td>
<td>37,967</td>
</tr>
<tr>
<td>Other</td>
<td>2,519</td>
<td>22,696</td>
</tr>
<tr>
<td>Gross deferred tax assets</td>
<td>18,477</td>
<td>166,474</td>
</tr>
<tr>
<td>Valuation allowance</td>
<td>(4,265)</td>
<td>(38,427)</td>
</tr>
<tr>
<td>Total deferred tax assets</td>
<td>¥14,211</td>
<td>¥128,039</td>
</tr>
</tbody>
</table>

Deferred tax liabilities:

<table>
<thead>
<tr>
<th></th>
<th>Millions of yen</th>
<th>Thousands of U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology-based assets</td>
<td>¥9,240</td>
<td>$81,723</td>
</tr>
<tr>
<td>Deferred capital gain on property</td>
<td>(1,233)</td>
<td>(11,109)</td>
</tr>
<tr>
<td>Reserve for special depreciation</td>
<td>(251)</td>
<td>(2,361)</td>
</tr>
<tr>
<td>Undistributed earnings of subsidiaries and affiliates</td>
<td>(655)</td>
<td>(5,901)</td>
</tr>
<tr>
<td>Revaluation of land</td>
<td>(290)</td>
<td>(2,613)</td>
</tr>
<tr>
<td>Net unrealized holding gain on securities</td>
<td>(17,651)</td>
<td>(159,032)</td>
</tr>
<tr>
<td>Other</td>
<td>(578)</td>
<td>(5,064)</td>
</tr>
<tr>
<td>Total deferred tax liabilities</td>
<td>(23,396)</td>
<td>(215,206)</td>
</tr>
<tr>
<td>Net deferred tax liabilities</td>
<td>(¥9,786)</td>
<td>(¥88,161)</td>
</tr>
</tbody>
</table>

Deferred tax assets:

<table>
<thead>
<tr>
<th></th>
<th>Millions of yen</th>
<th>Thousands of U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross deferred tax assets</td>
<td>18,477</td>
<td>166,474</td>
</tr>
<tr>
<td>Valuation allowance</td>
<td>(4,265)</td>
<td>(38,427)</td>
</tr>
<tr>
<td>Total deferred tax assets</td>
<td>¥14,211</td>
<td>¥128,039</td>
</tr>
</tbody>
</table>

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 the 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:

<table>
<thead>
<tr>
<th></th>
<th>April 1, 2018</th>
<th>Increase</th>
<th>Decrease</th>
<th>March 31, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common stock</td>
<td>127,408,285</td>
<td>—</td>
<td>—</td>
<td>127,408,285</td>
</tr>
</tbody>
</table>

14. TREASURY STOCK

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

<table>
<thead>
<tr>
<th></th>
<th>April 1, 2018</th>
<th>Increase</th>
<th>Decrease</th>
<th>March 31, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treasury stock</td>
<td>2,195,866</td>
<td>1,200,386</td>
<td>—</td>
<td>3,396,252</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Financial Instruments</th>
<th>Carrying Value</th>
<th>Fair Value</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash and time deposits</td>
<td>¥44,068</td>
<td>¥44,068</td>
<td>¥</td>
</tr>
<tr>
<td>Notes and accounts receivable</td>
<td>230,459</td>
<td>230,459</td>
<td></td>
</tr>
<tr>
<td>Investments in securities</td>
<td>75,991</td>
<td>75,991</td>
<td></td>
</tr>
<tr>
<td><strong>Liabilities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes and accounts payable</td>
<td>¥117,256</td>
<td>¥117,256</td>
<td>¥</td>
</tr>
<tr>
<td>Short-term loans</td>
<td>34,964</td>
<td>34,964</td>
<td>¥</td>
</tr>
<tr>
<td>Current portion of long-term loans</td>
<td>949</td>
<td>949</td>
<td></td>
</tr>
<tr>
<td>Commercial papers</td>
<td>12,000</td>
<td>12,000</td>
<td>¥</td>
</tr>
<tr>
<td>Current portion of bonds</td>
<td>10,000</td>
<td>10,012</td>
<td>12</td>
</tr>
<tr>
<td>Bonds</td>
<td>10,000</td>
<td>10,110</td>
<td>¥110</td>
</tr>
<tr>
<td>Long-term loans</td>
<td>17,577</td>
<td>17,664</td>
<td>¥87</td>
</tr>
<tr>
<td><strong>Total liabilities</strong></td>
<td>¥202,747</td>
<td>¥202,957</td>
<td>¥209</td>
</tr>
<tr>
<td><strong>Derivatives</strong></td>
<td>¥30,019</td>
<td>¥30,019</td>
<td>¥</td>
</tr>
<tr>
<td>Not subject to hedge accounting</td>
<td>(12)</td>
<td>(12)</td>
<td></td>
</tr>
<tr>
<td>Subject to hedge accounting</td>
<td>(43)</td>
<td>(43)</td>
<td></td>
</tr>
</tbody>
</table>
| **Total derivative transactions** | ¥29,997 | ¥29,997 | ¥

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 with indeterminable market value at March 31, 2019 and 2018 is presented as follows:

<table>
<thead>
<tr>
<th>Financial Instruments</th>
<th>Carrying value</th>
<th>Fair value</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash and time deposits</td>
<td>¥397,045</td>
<td>¥397,045</td>
<td>¥</td>
</tr>
<tr>
<td>Notes and accounts receivable</td>
<td>2,076,394</td>
<td>2,076,394</td>
<td>¥</td>
</tr>
<tr>
<td>Investments in securities</td>
<td>684,665</td>
<td>684,665</td>
<td>¥</td>
</tr>
<tr>
<td><strong>Liabilities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes and accounts payable</td>
<td>¥1,056,456</td>
<td>¥1,056,456</td>
<td>¥</td>
</tr>
<tr>
<td>Short-term loans</td>
<td>315,019</td>
<td>315,019</td>
<td>¥</td>
</tr>
<tr>
<td>Current portion of long-term loans</td>
<td>8,550</td>
<td>8,550</td>
<td></td>
</tr>
<tr>
<td>Commercial papers</td>
<td>108,118</td>
<td>108,118</td>
<td>¥</td>
</tr>
<tr>
<td>Current portion of bonds</td>
<td>90,098</td>
<td>90,098</td>
<td>108</td>
</tr>
<tr>
<td>Bonds</td>
<td>158,366</td>
<td>159,149</td>
<td>¥784</td>
</tr>
<tr>
<td><strong>Total liabilities</strong></td>
<td>¥3,158,113</td>
<td>¥3,158,113</td>
<td>¥</td>
</tr>
<tr>
<td><strong>Derivatives</strong></td>
<td>¥1,826,714</td>
<td>¥1,828,606</td>
<td>¥1,883</td>
</tr>
<tr>
<td>Not subject to hedge accounting</td>
<td>(270)</td>
<td>(270)</td>
<td></td>
</tr>
<tr>
<td>Subject to hedge accounting</td>
<td>(106)</td>
<td>(106)</td>
<td></td>
</tr>
</tbody>
</table>
| **Total derivative transactions** | ¥387 | ¥387 | ¥

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

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Carrying Value</th>
<th>Fair Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 year and less than 5 years</td>
<td>¥44,028</td>
<td>¥44,028</td>
</tr>
<tr>
<td>Notes and accounts receivable</td>
<td>230,459</td>
<td>¥230,459</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>¥274,488</td>
<td>¥274,488</td>
</tr>
</tbody>
</table>

**Unlimited equity securities**

<table>
<thead>
<tr>
<th>Equity Securities</th>
<th>Carrying value</th>
<th>Fair value</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>¥4,714</td>
<td>¥4,275</td>
<td>¥437</td>
</tr>
</tbody>
</table>

**Investments in unconsolidated subsidiaries and affiliates**

<table>
<thead>
<tr>
<th>Investments</th>
<th>Carrying value</th>
<th>Fair value</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>¥9,556</td>
<td>¥8,116</td>
<td>¥1,440</td>
</tr>
</tbody>
</table>

**Total**

<table>
<thead>
<tr>
<th></th>
<th>Carrying value</th>
<th>Fair value</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>¥14,271</td>
<td>¥13,397</td>
<td>¥874</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>¥128,579</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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:

#### 2019

<table>
<thead>
<tr>
<th>Classification</th>
<th>Transaction</th>
<th>Contract value (notional principal amount)</th>
<th>Contract value (notional principal amount over one year)</th>
<th>Fair value</th>
<th>Valuation gain (loss)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign currency forward exchange contracts:</td>
<td>Selling: U.S. dollars</td>
<td>¥4,802</td>
<td>¥ —</td>
<td>¥(21)</td>
<td>¥(21)</td>
</tr>
<tr>
<td></td>
<td>Selling: Yen</td>
<td>1,851</td>
<td>—</td>
<td>(15)</td>
<td>(15)</td>
</tr>
<tr>
<td></td>
<td>Selling: Euro</td>
<td>775</td>
<td>—</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Selling: RMB</td>
<td>957</td>
<td>—</td>
<td>(18)</td>
<td>(18)</td>
</tr>
<tr>
<td></td>
<td>Selling: Others</td>
<td>130</td>
<td>—</td>
<td>(2)</td>
<td>(2)</td>
</tr>
<tr>
<td></td>
<td>Buying: U.S. dollars</td>
<td>1,591</td>
<td>—</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Buying: Yen</td>
<td>1,009</td>
<td>—</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Buying: Euro</td>
<td>96</td>
<td>—</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Buying: Others</td>
<td>129</td>
<td>—</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>¥11,342</td>
<td>¥ —</td>
<td>¥30</td>
<td>¥30</td>
</tr>
</tbody>
</table>

#### 2018

<table>
<thead>
<tr>
<th>Classification</th>
<th>Transaction</th>
<th>Contract value (notional principal amount)</th>
<th>Contract value (notional principal amount over one year)</th>
<th>Fair value</th>
<th>Valuation gain (loss)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign currency forward exchange contracts:</td>
<td>Selling: U.S. dollars</td>
<td>¥4,707</td>
<td>¥ —</td>
<td>¥(36)</td>
<td>¥(36)</td>
</tr>
<tr>
<td></td>
<td>Selling: Yen</td>
<td>2,062</td>
<td>—</td>
<td>(9)</td>
<td>(9)</td>
</tr>
<tr>
<td></td>
<td>Selling: Euro</td>
<td>845</td>
<td>—</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Selling: RMB</td>
<td>740</td>
<td>—</td>
<td>(6)</td>
<td>(6)</td>
</tr>
<tr>
<td></td>
<td>Selling: Others</td>
<td>105</td>
<td>—</td>
<td>(3)</td>
<td>(3)</td>
</tr>
<tr>
<td></td>
<td>Buying: U.S. dollars</td>
<td>2,019</td>
<td>—</td>
<td>(18)</td>
<td>(18)</td>
</tr>
<tr>
<td></td>
<td>Buying: Yen</td>
<td>955</td>
<td>—</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Buying: Euro</td>
<td>86</td>
<td>—</td>
<td>(0)</td>
<td>(0)</td>
</tr>
<tr>
<td></td>
<td>Buying: Others</td>
<td>99</td>
<td>—</td>
<td>(0)</td>
<td>(0)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>¥11,827</td>
<td>¥ —</td>
<td>¥29</td>
<td>¥29</td>
</tr>
</tbody>
</table>

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:

#### 2019

<table>
<thead>
<tr>
<th>Classification</th>
<th>Transaction</th>
<th>Major hedged item</th>
<th>Contract value (notional principal amount)</th>
<th>Contract value (notional principal amount over one year)</th>
<th>Fair value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deferral hedge accounting</td>
<td>Selling: U.S. dollars</td>
<td>Accounts receivable</td>
<td>¥16</td>
<td>¥ —</td>
<td>¥(3)</td>
</tr>
<tr>
<td></td>
<td>Selling: Euro</td>
<td></td>
<td>3</td>
<td>—</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Selling: RMB</td>
<td></td>
<td>759</td>
<td>—</td>
<td>(6)</td>
</tr>
<tr>
<td></td>
<td>Selling: Others</td>
<td></td>
<td>17</td>
<td>—</td>
<td>(0)</td>
</tr>
<tr>
<td></td>
<td>Buying: U.S. dollars</td>
<td>Accounts payable</td>
<td>200</td>
<td>—</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Buying: Euro</td>
<td></td>
<td>72</td>
<td>—</td>
<td>(1)</td>
</tr>
<tr>
<td></td>
<td>Buying: RMB</td>
<td></td>
<td>56</td>
<td>10</td>
<td>(6)</td>
</tr>
<tr>
<td></td>
<td>Buying: Others</td>
<td></td>
<td>9</td>
<td>—</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>¥1,540</td>
<td>¥10</td>
<td>¥12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Classification</th>
<th>Transaction</th>
<th>Major hedged item</th>
<th>Contract value (notional principal amount)</th>
<th>Contract value (notional principal amount over one year)</th>
<th>Fair value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allocation method for foreign currency forward exchange contracts (Note 2(p))</td>
<td>Selling: Euro</td>
<td>Accounts receivable</td>
<td>56</td>
<td>—</td>
<td>(1)</td>
</tr>
<tr>
<td></td>
<td>Selling: Others</td>
<td></td>
<td>4</td>
<td>—</td>
<td>(1)</td>
</tr>
<tr>
<td></td>
<td>Buying: Euro</td>
<td>Accounts payable</td>
<td>85</td>
<td>—</td>
<td>(1)</td>
</tr>
<tr>
<td></td>
<td>Buying: THB</td>
<td></td>
<td>47</td>
<td>—</td>
<td>(1)</td>
</tr>
<tr>
<td></td>
<td>Buying: Others</td>
<td></td>
<td>23</td>
<td>—</td>
<td>(1)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>¥1,540</td>
<td>¥10</td>
<td>¥12</td>
</tr>
</tbody>
</table>
The interest-related derivatives positions outstanding for which hedge accounting has been applied at March 31, 2019 and 2018 are as follows.

<table>
<thead>
<tr>
<th>Method for hedge accounting</th>
<th>Transaction</th>
<th>Hedged item</th>
<th>Contract value (notional principal amount)</th>
<th>Contract value (notional principal amount over one year)</th>
<th>Fair value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swap rates applied to Long-term loans</td>
<td>Interest-rate swap transactions (pay-fixed, receive-variable)</td>
<td>Accounts receivable</td>
<td>$18,000,000</td>
<td>$18,000,000 (**)</td>
<td>$18,000,000 (*)</td>
</tr>
<tr>
<td>Swap rates applied to Long-term loans</td>
<td>Accounts payable</td>
<td>$11,079,000</td>
<td>$11,079,000</td>
<td>$11,079,000 (**)</td>
<td>$11,079,000 (**)</td>
</tr>
</tbody>
</table>

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 ¥6,490 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:

<table>
<thead>
<tr>
<th>Year ending March 31,</th>
<th>Millions of yen</th>
<th>Thousands of U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>¥453</td>
<td>$4,892</td>
</tr>
<tr>
<td>2025 and thereafter</td>
<td>¥510</td>
<td>4,595</td>
</tr>
<tr>
<td>Total</td>
<td>¥1,064</td>
<td>$9,486</td>
</tr>
</tbody>
</table>

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 ¥1,279 million ($14,415 thousand), and as guarantors of loans of employees in the amount of ¥90 million ($9 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:

<table>
<thead>
<tr>
<th>Period</th>
<th>Cash and cash equivalents</th>
<th>Long-term loans</th>
<th>Current portion of long-term loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>¥44,017</td>
<td>¥7,600</td>
<td>¥7</td>
</tr>
<tr>
<td>2018</td>
<td>¥41,021</td>
<td>¥7,108</td>
<td>¥28</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Period</th>
<th>Amounts in U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>¥5,847</td>
</tr>
<tr>
<td>2018</td>
<td>¥5,600</td>
</tr>
</tbody>
</table>

21. AMOUNTS PER SHARE
Amounts per share at March 31, 2019 and 2018 and for the years then ended are as follows:

<table>
<thead>
<tr>
<th>Period</th>
<th>Basic</th>
<th>Diluted</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>¥161.30</td>
<td>¥136.34</td>
</tr>
<tr>
<td>2018</td>
<td>¥136.34</td>
<td>¥111.78</td>
</tr>
</tbody>
</table>

Net assets

<table>
<thead>
<tr>
<th>Period</th>
<th>Basic</th>
<th>Diluted</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>¥2,481.01</td>
<td>¥2,424.97</td>
</tr>
<tr>
<td>2018</td>
<td>¥2,424.97</td>
<td>¥2,390.39</td>
</tr>
</tbody>
</table>

Cash dividends applicable to the year

<table>
<thead>
<tr>
<th>Period</th>
<th>Basic</th>
<th>Diluted</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>¥42.00</td>
<td>¥40.00</td>
</tr>
<tr>
<td>2018</td>
<td>¥40.00</td>
<td>¥38.00</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Period</th>
<th>Basic</th>
<th>Diluted</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>¥20,136</td>
<td>¥17,175</td>
</tr>
<tr>
<td>2018</td>
<td>¥17,175</td>
<td>¥15,175</td>
</tr>
</tbody>
</table>

Weighted-average number of shares

<table>
<thead>
<tr>
<th>Period</th>
<th>Basic</th>
<th>Diluted</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>124,842,824</td>
<td>125,977,181</td>
</tr>
<tr>
<td>2018</td>
<td>125,977,181</td>
<td>133,000,000</td>
</tr>
</tbody>
</table>

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, fluorochromes, 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, automotive refinishing 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,

(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 as follows:

<table>
<thead>
<tr>
<th>Period</th>
<th>Functional Materials &amp; Processing</th>
<th>Advanced Materials &amp; Processing</th>
<th>Electronics</th>
<th>Automotive &amp; Energy</th>
<th>Life &amp; Healthcare</th>
<th>Total</th>
<th>Others</th>
<th>Total</th>
<th>Corporate Adjustments</th>
<th>Consolidated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>¥179,627</td>
<td>¥275,203</td>
<td>¥122,319</td>
<td>¥139,235</td>
<td>¥92,704</td>
<td>¥987,181</td>
<td>¥574</td>
<td>¥982,755</td>
<td>¥15,791</td>
<td>¥998,546</td>
</tr>
<tr>
<td>2018</td>
<td>¥203,059</td>
<td>¥373,006</td>
<td>¥176,042</td>
<td>¥190,235</td>
<td>¥99,799</td>
<td>¥1,041,705</td>
<td>¥7,385</td>
<td>¥1,048,865</td>
<td>¥15,731</td>
<td>¥1,064,596</td>
</tr>
<tr>
<td>Net sales</td>
<td>182,620</td>
<td>277,561</td>
<td>124,069</td>
<td>142,009</td>
<td>91,194</td>
<td>817,454</td>
<td>6,033</td>
<td>823,487</td>
<td>(15,731)</td>
<td>807,755</td>
</tr>
<tr>
<td>Segment income</td>
<td>5,494</td>
<td>8,093</td>
<td>7,400</td>
<td>3,051</td>
<td>4,648</td>
<td>28,688</td>
<td>284</td>
<td>28,972</td>
<td>(4,253)</td>
<td>25,225</td>
</tr>
<tr>
<td>Segment assets</td>
<td>87,158</td>
<td>153,403</td>
<td>65,022</td>
<td>56,747</td>
<td>97,627</td>
<td>441,960</td>
<td>4,833</td>
<td>446,794</td>
<td>141,205</td>
<td>506,360</td>
</tr>
</tbody>
</table>

Other items

<table>
<thead>
<tr>
<th>Period</th>
<th>Depreciation and amortization other than amortization of goodwill</th>
<th>Amortization of goodwill</th>
<th>Unamortized balance of goodwill</th>
<th>Investments in affiliates accounted for by the equity method</th>
<th>Increase in property, plant and equipment, net and tangible assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>444</td>
<td>110</td>
<td>2,012</td>
<td>2,388</td>
<td>314</td>
</tr>
<tr>
<td>2018</td>
<td>692</td>
<td>136</td>
<td>1,186</td>
<td>6,849</td>
<td>1,046</td>
</tr>
<tr>
<td></td>
<td>2,511</td>
<td>156</td>
<td>20,636</td>
<td>5,776</td>
<td>3,014</td>
</tr>
<tr>
<td></td>
<td>211</td>
<td>1,659</td>
<td>23,866</td>
<td>11,733</td>
<td>329</td>
</tr>
<tr>
<td></td>
<td>7,660</td>
<td>1,815</td>
<td>23,866</td>
<td>11,733</td>
<td>8,994</td>
</tr>
<tr>
<td></td>
<td>211</td>
<td>1,815</td>
<td>23,866</td>
<td>11,733</td>
<td>130</td>
</tr>
<tr>
<td></td>
<td>7,872</td>
<td>1,815</td>
<td>23,866</td>
<td>11,733</td>
<td>1,067</td>
</tr>
<tr>
<td></td>
<td>1,457</td>
<td>1,815</td>
<td>23,866</td>
<td>11,733</td>
<td>10,612</td>
</tr>
</tbody>
</table>
(8) Geographical information

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

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Million yen 2019</th>
<th>Million yen 2018</th>
<th>Million U.S. dollars 2019</th>
<th>Million U.S. dollars 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>¥1,012,017</td>
<td>¥959,426</td>
<td>$11,507,605</td>
<td>$10,850,689</td>
</tr>
<tr>
<td>Greater China</td>
<td>250,908</td>
<td>207,437</td>
<td>2,970,685</td>
<td>2,570,953</td>
</tr>
<tr>
<td>ASEAN</td>
<td>118,113</td>
<td>110,380</td>
<td>1,446,177</td>
<td>1,359,417</td>
</tr>
<tr>
<td>Americas</td>
<td>39,451</td>
<td>38,564</td>
<td>477,946</td>
<td>473,043</td>
</tr>
<tr>
<td>Europe</td>
<td>15,272</td>
<td>14,178</td>
<td>185,263</td>
<td>169,098</td>
</tr>
<tr>
<td>Other</td>
<td>16,892</td>
<td>19,943</td>
<td>215,194</td>
<td>215,194</td>
</tr>
<tr>
<td>Total</td>
<td>¥807,755</td>
<td>¥783,003</td>
<td>$7,277,728</td>
<td>$7,105,286</td>
</tr>
</tbody>
</table>

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:Across

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

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Million yen 2019</th>
<th>Million yen 2018</th>
<th>Million U.S. dollars 2019</th>
<th>Million U.S. dollars 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>¥60,344</td>
<td>¥61,066</td>
<td>$5,435,689</td>
<td>$5,516,167</td>
</tr>
<tr>
<td>Other</td>
<td>6,123</td>
<td>6,030</td>
<td>716,117</td>
<td>716,117</td>
</tr>
<tr>
<td>Total</td>
<td>¥66,467</td>
<td>¥67,096</td>
<td>$6,151,806</td>
<td>$6,232,284</td>
</tr>
</tbody>
</table>

(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:

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Million yen 2019</th>
<th>Million yen 2018</th>
<th>Million U.S. dollars 2019</th>
<th>Million U.S. dollars 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>¥142,617</td>
<td>¥135,426</td>
<td>$17,317,605</td>
<td>$16,905,689</td>
</tr>
<tr>
<td>Greater China</td>
<td>205,408</td>
<td>207,437</td>
<td>2,604,084</td>
<td>2,570,953</td>
</tr>
<tr>
<td>ASEAN</td>
<td>118,113</td>
<td>110,380</td>
<td>1,446,177</td>
<td>1,359,417</td>
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<tr>
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<td>477,946</td>
<td>473,043</td>
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<td>Europe</td>
<td>15,272</td>
<td>14,178</td>
<td>185,263</td>
<td>169,098</td>
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<td>215,194</td>
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<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Million yen 2019</th>
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<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Million yen 2019</th>
<th>Million yen 2018</th>
<th>Million U.S. dollars 2019</th>
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</thead>
<tbody>
<tr>
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<tr>
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<td>¥66,467</td>
<td>¥67,096</td>
<td>$6,151,806</td>
<td>$6,232,284</td>
</tr>
</tbody>
</table>

(d) Geographical information

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

<table>
<thead>
<tr>
<th>Region</th>
<th>Million yen 2019</th>
<th>Million yen 2018</th>
<th>Million U.S. dollars 2019</th>
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<tr>
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<td>250,908</td>
<td>207,437</td>
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<tr>
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</tr>
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</tr>
<tr>
<td>Europe</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>Million yen 2019</th>
<th>Million yen 2018</th>
<th>Million U.S. dollars 2019</th>
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<td>716,117</td>
</tr>
<tr>
<td>Total</td>
<td>¥66,467</td>
<td>¥67,096</td>
<td>$6,151,806</td>
<td>$6,232,284</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Cash dividends (¥24.0 = U.S.$0.22 per share)</th>
<th>Thousands of U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>¥2,976</td>
<td>$26,813</td>
</tr>
</tbody>
</table>

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 acquirer
   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.

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

<table>
<thead>
<tr>
<th>Consideration for acquisition</th>
<th>Millions of U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquisition cost</td>
<td>$621</td>
</tr>
</tbody>
</table>

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.

Hayashibara, which specializes in manufacturing functional food products.

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 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 internal control as management determines to be 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.

Auditors’ 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 resolves 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.
## Consolidated Subsidiaries, Affiliates and Offices

### Japan

- **Category**: Manufacturing and Processing
  - **Company Name**: Nagase Chemtex Corporation
    - Description of business: Research, manufacture, and sale of enzymes, fermented products, pharmaceutical intermediates, disinfecting agents, functional polymers, epitheliohydro derivatives, electronic materials, etc.
    - Location: Osaka Pref. 1970
  - **Company Name**: Haiyusheng Co., Ltd.
    - Description of business: Development, manufacture, and sale of food raw materials, pharmaceutical raw materials, cosmetics raw materials, health foods raw materials, functional dyestuffs, etc.
    - Location: Okinawa Pref. 1932
  - **Company Name**: DATAI KAKO CO., LTD.
    - Description of business: Manufacture and sale of special pattern paint, polyester resin related products and FRP waterproof/fish/corrosion related products
    - Location: Osaka Pref. 1949
  - **Company Name**: Nagase Filter Co., Ltd.
    - Description of business: Planning, production, processing, quality testing and sale of metal fibers
    - Location: Osaka Pref. 2005
  - **Company Name**: Fuku Yamaha Chemical Co., Ltd.
    - Description of business: Manufacture of color former
    - Location: Fuku Pref. 1985
  - **Company Name**: Kotobuki Kasei Corporation
    - Description of business: Molding, processing and sale of plastic products
    - Location: Tochigi Pref. 1972
  - **Company Name**: Isahaku Industries, Inc.
    - Description of business: Manufacture and sale of plastic products
    - Location: Osaka Pref. 1992
  - **Company Name**: Seikunen Kasei Co., Ltd.
    - Description of business: Coloring and sale of plastics
    - Location: Osaka Pref. 1985
  - **Company Name**: Nagase Techno-Engineering Co., Ltd.
    - Description of business: 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
    - Location: Tokyo Pref. 1989
  - **Company Name**: CAPTEX Co., Ltd.
    - Description of business: Manufacture and development of battery power source controllers, battery power sources and power source peripheral equipment
    - Location: Aichi Pref. 2004
  - **Company Name**: Nagase Medicine Co., Ltd.
    - Description of business: Manufacture and sale of pharmaceuticals, animal drugs, health foods, and cosmetics
    - Location: Hyogo Pref. 1972
  - **Company Name**: Honshu Rieh Co., Ltd.
    - Description of business: Manufacture and sale of paper, paper products, printing inks, and other products
    - Location: Kanagawa Pref. 1985
  - **Company Name**: KEI Grako Co., Ltd.
    - Description of business: Development, manufacture and sale of components for electronic equipment
    - Location: Osaka Pref. 2003
  - **Company Name**: SIN Tech Corporation
    - Description of business: Manufacture of developer, recycling business
    - Location: Osaka Pref. 2006
  - **Company Name**: Xinman Japan Co., Ltd.
    - Description of business: Manufacture and sales of high heat-resistant polyimide film KEMORON
    - Location: Fuku Pref. 2016
  - **Company Name**: Sun Delta Corporation
    - Description of business: Development of applications for synthetic plastic products and manufacture and sale of processed products
    - Location: Tokyo Pref. 2005
  - **Company Name**: Niosse Technology Corporation
    - Description of business: Design, development, and manufacture of ultra-precision plastic lenses and optical units, manufacture of precision mechanical components and units
    - Location: Hyogo Pref. 1983
  - **Company Name**: Toyoi Beauty Supply Corporation
    - Description of business: Contract manufacture of cosmetics and health foods
    - Location: Tokyo Pref. 1984

- **Category**: Sales and Servicing
  - **Company Name**: Nagase Chemical Co., Ltd.
    - Description of business: Sale of dyestuffs, industrial chemicals, chemicals for manufacturing paper, plastics and machinery
    - Location: Tokyo Pref. 1995
  - **Company Name**: Nagase Chemtex Co., Ltd.
    - Description of business: Sale and technical servicing of chemicals
    - Location: Tokyo Pref. 1976
  - **Company Name**: Nagase Plastics Co., Ltd.
    - Description of business: Sale of raw materials for plastics and plastic products
    - Location: Osaka Pref. 1975
  - **Company Name**: Nagase Techno Service Co., Ltd.
    - Description of business: Sales of logistics/transportation services, online catalog sales, recordable media, and RFID
    - Location: Chiba Pref. 1991
  - **Company Name**: Nagase Els Co., Ltd.
    - Description of business: Sale of raw materials for plastics and plastic products
    - Location: Tokyo Pref. 1979
  - **Company Name**: Nagase Tool Make Co., Ltd.
    - Description of business: Sale of auto models, test production materials, and carbon fiber composites
    - Location: Tokyo Pref. 1985
  - **Company Name**: Nagase Abrasive Materials Co., Ltd.
    - Description of business: Sale of abrasives, inorganic materials and related equipment
    - Location: Osaka Pref. 1985
  - **Company Name**: Mihonohi Nagase Co., Ltd.
    - Description of business: Sale of abrasives, auxiliary, industrial chemicals and plastics
    - Location: Fukuoka Pref. 1983
  - **Company Name**: Nagase Santos Co., Ltd.
    - Description of business: Sale of medicine for agriculture and additives for lifters, feed and food
    - Location: Tokyo Pref. 1987

### Greater China and Korea

- **Category**: Manufacturing and Processing
  - **Company Name**: Nagase Chemtex (Wuxi) Corporation
    - Description of business: Plastic manufacture and sale of adhesives and high-tech chemical products for electronics, technology services
    - Location: China 2002
  - **Company Name**: Nagase Engineering Service Korea Co., Ltd.
    - Description of business: Equipment maintenance service and engineering
    - Location: Korea 1997
  - **Company Name**: Nagase Electronics Technology (Kamex) Co., Ltd.
    - Description of business: Chemical etching of liquid crystal glass panel units
    - Location: China 2010
  - **Company Name**: Guangzhou Ronko Chemicals Co., Ltd.
    - Description of business: Manufacture of metal or organic compounds for automotive parts
    - Location: China 2001
  - **Company Name**: Toyo Quality One (Guangzhou) Co., Ltd.
    - Description of business: Research and development, manufacturing, processing, sale, technology consulting, and after-sale service for major automotive parts
    - Location: China 2004
  - **Company Name**: Toyo Quality One Ningbo Co., Ltd.
    - Description of business: Manufacture and sale of polyurethane foam
    - Location: China 1993
  - **Company Name**: Muii Chenghong Electronic Chemicals Co., Ltd.
    - Description of business: Research, development, manufacture, and sale of electronics chemicals including semiconductor products and flat panel displays (FPDs)
    - Location: China 2013
  - **Company Name**: Toyo Spring Mfg. (Foshan) Co., Ltd.
    - Description of business: Development, manufacture, and sale of precision press products, springs, and standard molds
    - Location: China 2005
  - **Company Name**: ON Textile Chemicals (Shanghai) Co., LTD.
    - Description of business: Manufacture, sales, and export/import of textile-related products, dyeing processing agents
    - Location: China 2003
  - **Company Name**: Moryang Chenghong Electronic Chemicals Co., Ltd.
    - Description of business: Research, development, manufacture, and sale of electronics chemicals for the electronics industry
    - Location: China 2017
  - **Company Name**: Huishou Sanl Three Synergy Precision Co., Ltd.
    - Description of business: Manufacture of precision metal mirror molding parts for automotive, new energy and power industries
    - Location: China 2018

- **Category**: Sales and Servicing
  - **Company Name**: Nippon Chiral Co., Ltd.
    - Description of business: Investment, trade, import/export, processing, logistics, R&D, IT development, and various services
    - Location: China 2019
  - **Company Name**: Nagase Hong Kong Ltd.
    - Description of business: Import/export, domestic sales, marketing
    - Location: China 2017
  - **Company Name**: Shanghai Nagase Trading Co., Ltd.
    - Description of business: Import/export, domestic sales, marketing
    - Location: China 2006
  - **Company Name**: Guangzhou Nagase Trading Co., Ltd.
    - Description of business: Import/export, domestic sales, marketing
    - Location: China 2002
  - **Company Name**: Wuhan Branch Office / Chongqing Branch Office
    - Description of business: Import/export, domestic sales, marketing
    - Location: China
  - **Company Name**: Shanghai Branch Office
    - Description of business: Import/export, domestic sales, marketing
    - Location: China
  - **Company Name**: Guangzhou Nagase Trading Co., Ltd.
    - Description of business: Import/export, domestic sales, marketing
    - Location: China 1997
  - **Company Name**: Tanjin Nagase International Trading Co., Ltd.
    - Description of business: Import/export, domestic sales, marketing
    - Location: China 2003
  - **Company Name**: Dalian Branch Office / Qingdao Branch Office
    - Description of business: Import/export, domestic sales, marketing
    - Location: China
  - **Company Name**: Changzhou Office
    - Description of business: Import/export, domestic sales, marketing
    - Location: China
  - **Company Name**: Nagase (Taiwan) Co., Ltd.
    - Description of business: Import/export trade agency
    - Location: Korea 2001
  - **Company Name**: Dakai (Shanghai) Chemical Trading Co., Ltd.
    - Description of business: Sales of paints
    - Location: China 2013
  - **Company Name**: Nagase Welles Plastic Corporation
    - Description of business: Sale of raw materials and related products
    - Location: Taiwan 1990
  - **Company Name**: Yehhung Office
    - Description of business: Import/export, domestic sales, marketing
    - Location: Taiwan
  - **Company Name**: Gangshan Office
    - Description of business: Import/export, domestic sales, marketing
    - Location: Taiwan
<table>
<thead>
<tr>
<th>Category</th>
<th>Company name</th>
<th>Description of business</th>
<th>Location</th>
<th>Year of establishment</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAGASE Group</td>
<td>NAGASE Group</td>
<td></td>
<td>China</td>
<td>2019</td>
</tr>
<tr>
<td></td>
<td>Nagase America LLC</td>
<td>Import/export, domestic sales, marketing</td>
<td>America</td>
<td>1971</td>
</tr>
<tr>
<td></td>
<td>North India Branch (Gurgaon)</td>
<td></td>
<td>India</td>
<td>2006</td>
</tr>
<tr>
<td></td>
<td>South India Branch (Chennai)</td>
<td></td>
<td>India</td>
<td>2006</td>
</tr>
<tr>
<td></td>
<td>PT. Indonesia Mold Technology</td>
<td>Design changes and maintenance for large-scale plastic automobile component molds</td>
<td>Indonesia</td>
<td>2015</td>
</tr>
<tr>
<td>Americas</td>
<td>Manufacturing and Processing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solle LLC</td>
<td>Manufacture and sale of color formers</td>
<td>America</td>
<td>1990</td>
</tr>
<tr>
<td></td>
<td>Engineered Materials Systems, Inc.</td>
<td>Research and development, manufacture, and sales of materials for commercial adhesives, conductive adhesives</td>
<td>America</td>
<td>1993</td>
</tr>
<tr>
<td></td>
<td>Pac Tech USA Packaging Technologies Inc.</td>
<td>Semiconductor wafer bumping, manufacture and sale of semiconductor manufacturing equipment</td>
<td>America</td>
<td>2001</td>
</tr>
<tr>
<td></td>
<td>TQ-1 de MEXICO S.A. de C.V.</td>
<td>Manufacture and sale of automotive exhaust systems</td>
<td>Mexico</td>
<td>2012</td>
</tr>
<tr>
<td></td>
<td>Cytech Products Inc.</td>
<td>Manufacture and sales of mold release agents for polyurethane, latex, thermal paper additives and adhesive dispersions</td>
<td>America</td>
<td>1988</td>
</tr>
<tr>
<td></td>
<td>3D Glass Solutions, Inc.</td>
<td>Development, manufacture, and sale of processed 3D glass products and contracting of 3D glass processing</td>
<td>America</td>
<td>2016</td>
</tr>
<tr>
<td></td>
<td>KN Plastics America Corporation</td>
<td>Manufacture and sale of blow-formed plastic molding components and products</td>
<td>America</td>
<td>2010</td>
</tr>
<tr>
<td></td>
<td>ProMater Materials, LLC</td>
<td>Development and manufacture of water-activated support materials for 3D printing</td>
<td>America</td>
<td>2018</td>
</tr>
<tr>
<td>Americas</td>
<td>Sales and Servicing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nagase Holdings America Corporation</td>
<td>Regional management, investment and asset management, Professional service</td>
<td>America</td>
<td>2019</td>
</tr>
<tr>
<td></td>
<td>Nagase Americia LLC</td>
<td>Import/export, domestic sales, marketing</td>
<td>America</td>
<td>1971</td>
</tr>
<tr>
<td></td>
<td>Michigan Branch</td>
<td></td>
<td>America</td>
<td></td>
</tr>
<tr>
<td></td>
<td>California Branch</td>
<td></td>
<td>America</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fitz Chem LLC</td>
<td>Sales of raw materials for paints, inks, adhesives, resin compounds, personal care products</td>
<td>America</td>
<td>1985</td>
</tr>
<tr>
<td></td>
<td>Nagase Enterprise Mexico S.A. de C.V.</td>
<td>Import/export sales, intermediates trade, market development, Information collection</td>
<td>Mexico</td>
<td>2010</td>
</tr>
<tr>
<td></td>
<td>Mexico City Branch</td>
<td></td>
<td>Mexico</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nagase de Brasil Comercio de Produtos Chimicos Ltda.</td>
<td>Import/export sales, intermediates trade, market development, Information collection</td>
<td>Brazil</td>
<td>2012</td>
</tr>
<tr>
<td>Europe</td>
<td>Manufacturing and Processing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pac Tech-Packaging Technologies GmbH</td>
<td>Semiconductor wafer bumping, manufacture and sale of semiconductor manufacturing equipment</td>
<td>Germany</td>
<td>1995</td>
</tr>
<tr>
<td></td>
<td>Iranol Oy</td>
<td>Development, manufacture of functional materials for semiconductors and electronic devices</td>
<td>Finland</td>
<td>2013</td>
</tr>
<tr>
<td>Europe</td>
<td>Sales and Servicing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nagase [Europal GmbH</td>
<td>Import/export, domestic sales, marketing</td>
<td>Germany</td>
<td>1980</td>
</tr>
<tr>
<td></td>
<td>Hungarian Branch</td>
<td></td>
<td>Hungary</td>
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<td></td>
<td>London Branch</td>
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<td>England</td>
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<tr>
<td></td>
<td>Lyon Branch</td>
<td></td>
<td>France</td>
<td></td>
</tr>
</tbody>
</table>

**Category** | **Company name** | **Description of business** | **Location** | **Year of establishment**

| NAGIT 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 | |

| Suzhou Branch Office/ Nongbo Branch Office | | China | |
| Chengdu Branch Office/ Chongqing Branch Office | | China | |
| Harbin Branch | | China | |

| DN Colours & 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 |
| Mill Consultant Service (Shanghai) Ltd. | Print quality management consultants | China | 2005 |
| Nagase CAG Technology (Shanghai) Co., Ltd. | Construction and maintenance of chemical supply and management equipment | China | 2006 |

| PT. Toyo Toyo One Indonesia | Manufacture of flame lamination products | Indonesia | 2005 |
| Damich Color Vietnam Co., Ltd. | Manufacture and sale of color masterbatch blend for plastic | Vietnam | 2005 |
| Sankyo Technical Services (Thailand) Ltd. | Manufacture of automobile components | Thailand | 1994 |
| Automotive Mold Technology Co., Ltd. | Manufacture of automotive molds and dies | Thailand | 2000 |
| MINDA KYOKU KU, LTD. | Manufacture of fibre-formed automobile components | India | 2011 |
| Naliko Co., Ltd. | Manufacture, import/export, and sale of packaging materials and related equipment | Thailand | 1996 |

| 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-Brussels Branch | | Turkey | |
| Nagase (Thailand) Co., Ltd. | Import/export, domestic sales, marketing | Thailand | 1969 |
| Eastern Office | | Thailand | |
| Yangon Branch | | Myanmar | |
| Pakistan Liaison Office | | Pakistan | |
| Johor Bahru Office | | Malaysia | |
| Penang Office | | Malaysia | |
| PT. Nagase Impor-Eksport 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 | |
Corporate Information (As of March 31, 2019)

Overview

NAGASE & CO., LTD.

Company Name
NAGASE Group

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) 3-3865-3021
Nagoya Branch Office : 3-14-18, Marunouchi, Naka-ku, Nagoya City, Aichi 460-8560, Tel: (81) 52-9835-5615
Nagase R&D Center : Kobe High Tech Park, 2-2-3, Murotani, Nishi-ku, Kobe City, Hyogo 651-2241, Tel: (81) 78-9923-162
Nagase Application Workshop : 2-4-45, Higashitsukaguchicho, Amagasaki City, Hyogo 661-0011, Tel: (81) 6-4961-6730

Audit & Supervisory Board/ Audit & Supervisory Board Members

Risk Management & Compliance Committee
Internal Control Committee
Security Trade Control Committees

Corporate Planning Dept.
Human Resources & General Affairs Div.
Finance Div.
Accounting Div.
Legal Div.
Information Technology Div.
BPR & Administration Div.
Audit Office
New Value Creation Office
Energy Business Office

Financial and Corporate Information

Introduction
Sustainability
Foundation for Value Creation
Strategy
Business Portfolio

Investor Information (As of March 31, 2019)

Stock Exchange

Tokyo (First Section)

Code
8012

Stock Status
Issued Number of Shares 346,280,000 shares
Issued Number of Shares 127,418,258 shares

Composition of Shareholders

Treasury Stock (1)
3,396,000 shares (2.66%)

Other Investors (27)
16,207,000 shares

Individuals and Others (9)
21,300,000 shares

Foreign Investors (8)
54,356,000 shares

Securities Companies (4)
44,595,000 shares

Financial Institutions (44)
44,356,000 shares

Principal Shareholders

Name
The Master Trust Bank of Japan, Ltd. (Trust Account)
Japan Trustee Services Bank, Ltd. (Trust Account)
NORTHERN TRUST CO. (AVFC) RE SILCHESTER INTERNATIONAL INVESTORS INTERNATIONAL VALUE EQUITY TRUST
Sumitomo Mitsui Trust Bank, Limited
Sumitomo Mitsui Banking Corporation
Nippon Life Insurance Company
Reiko Nagase
NORTHERN TRUST CO. (AVFC) RE U.S. TAX EXEMPTED PENSION FUNDS
Nagase Shunzo Co., Ltd.
Nagase Employee’s Stockholding

Number of Shares Held (Thousands)
7,290
6,319
5,888
5,776
4,377
3,589
3,541
3,122
2,688
2,414

Percentage of Total Shares Outstanding (%)
5.88
5.10
4.75
4.66
3.53
2.89
2.86
2.52
2.17
1.05

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

Monthly Share Price Range of NAGASE

Monthly Trading Volume

(Thousands of shares)

0
3,000
6,000
9,000
12,000
0
2008/4
2009/4
2010/4
2011/4
2012/4
2013/4
2014/4
2015/4
2016/4
2017/4
2018/4
2019/4

0
1,000
2,000
3,000
4,000
2008/4
2009/4
2010/4
2011/4
2012/4
2013/4
2014/4
2015/4
2016/4
2017/4
2018/4
2019/4