

# Delivering next.

# Business Portfolio

Accelerate the shift of resources to focus and development areas

## Reconstruction of our business portfolio

Until September 30, 2023

<b>Functional Materials Segment</b>
Performance Chemicals Department
Speciality Chemicals Department
<b>Advanced Materials &amp; Processing Segment</b>
Colors & Advanced Processing Department
Polymer Global Account Department
<b>Electronics &amp; Energy Segment</b>
Electronics Department
Information & Communication and Energy Office
Functional Resin Department
Precision Process Materials Department
<b>Mobility Segment</b>
Mobility Solutions Department
<b>Life &amp; Healthcare Segment</b>
Food Ingredients Department
Life & Healthcare Products Department

From October 1, 2023

<b>Functional Materials Segment</b>
Performance Chemicals Department
Speciality Chemicals Department
<b>Advanced Materials &amp; Processing Segment</b>
Polymer Global Account Department
<b>Electronics &amp; Energy Segment</b>
Electronics Department
Advanced Functional Materials Department
<b>Mobility Segment</b>
Mobility Solutions Department
<b>Life &amp; Healthcare Segment</b>
Life & Healthcare Products Department

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**Masatoshi Kamada**

Director and Executive Officer

## Combining real-world and digital technologies to enhance our marketing quality and deliver unique NAGASE solutions

### Shifting our mindset from a trading company centered on sales and distribution to a marketing-oriented business

I consider the "Pursuit of Quality" at the heart of medium-term management plan **ACE 2.0** to mean using the value that only NAGASE can provide to lead our customers to solutions. For us to do this, we must once again strengthen the horizontal integration of our marketing capabilities and business divisions. The NAGASE Group is shifting its focus away from a single standard trading company model of product sales and distribution to a model that also has marketing-driven business in which every employee is a "Business Designer" creating new businesses and diverse value in our sales activities. The reason we are making this transition is because of the increasing challenges our customers are facing are management-level issues that are difficult to resolve with a single product, service, or area of specialization. For us, this is an opportunity to expand our business. That is because we are more than a trading company specializing in chemicals, we

offer integrated high-level research, manufacturing, biotechnology, digital transformation, and other functions that enable us to provide a wide range of solutions beyond the reach of other companies. As our projects grow in scale and profits in turn grow with it, I believe we will be able to develop our business in line with the **ACE 2.0** basic policies.

To embody this scenario, however, we will need to strengthen the marketing capabilities that I mentioned earlier. More specifically, we will need to listen carefully to the concerns of our customers to draw out the issues, inspect and examine them, and then have the ability to harness the whole NAGASE Group to deliver value with our solutions. This mindset is spreading among our employees, and our marketing activities that have started from "uncovering potential issues" that NAGASE can address are becoming more noticeable. When I visit the business divisions, each year I see more employees who are eager to become Business Designers with the ability to find seeds for new businesses when talking with customers and to nurture the seeds and deliver multifaceted value.

### Strengthening Group collaboration with horizontal integration across business divisions

The NAGASE Group is strengthening cooperation among our internal organizations so we can better address the management-level issues our clients are facing. Our organizational structure was formed to leverage our high level of expertise in each field. But while this independence was a strength in the past, it can become a weakness in the future. The reason is that we cannot effectively address client problems on the management level unless we have full knowledge of all of our business's products and services, overseas networks, and examples of solutions. We therefore need to use digital marketing to broaden our customer base. One way we will do this is by planning an approach integrating digital information into our operations in countries and regions with potential for economic growth, such as Africa and South America, where cost restraints or lack of real-world data inhibited business development.

Digital technology will make this approach possible. Our Group often has multiple divisions working for a single client and even now several business negotiations are underway. Still, our performance was hindered by insufficient coordination among our organizations. We have now introduced cloud-based marketing automation (MA)\* and customer relationship management (CRM)\* tools enabling Group-wide access to centrally managed individual customer information obtained during marketing activities and on the status of business negotiations. These tools give us a comprehensive understanding of issues being faced by each customer's divisions. The deeper analysis that these systems have enabled has raised the quality of our business negotiations and increased the opportunities to propose solutions to managers.

We are strengthening cooperation across business divisions to accelerate information sharing and business exploration within the Group. We reformulated the organizational structure and business divisions in October 2023 to increase our operating efficiency and productivity and lower barrier between our divisions with the aim of creating new businesses. We have also started consciously creating opportunities for general managers and middle managers to bring together NAGASE's various functions and apply the Group's comprehensive strength to client account planning.\*

### Applying the management principles to business activities and to provide employees with growth opportunities

The focus of **ACE 2.0** is primarily focused on the semiconductor-related and food-related businesses. Semiconductor-related business sales have roughly doubled since we instituted the integrated group structure in 2021. In the food-related business, the Prinova Group is the main growth driver and is highly competitive in the European and American markets. We are planning to actively develop business in the Asian market. We are positioning the biotechnology business to be at the center of our Group operations. We will continue investing management resources in our unique materials to establish us as NAGASE, "the Biotechnology Company." We will continue consolidating our earnings foundations to generate Group synergies as we apply our business to address global environmental issues.

Human resources will be the key element to continuing our growth as we approach the 200th anniversary of the Company's founding. Project leaders lead by example in the sales process and make a conscious effort to provide employees with opportunities to think and act on their own. I myself have worked in the synthetic resin and mobility businesses and have had three assignments overseas. The variety of experiences I have had is one of the reasons I am where I am today. New businesses are more likely to arise out of a heterogenous culture than a homogeneous culture. We would like to provide an environment of diversity to develop our human resources.

Lastly, the NAGASE Group has a universal management philosophy of "maintaining the highest standards of integrity." Integrity is consistency in words and actions. With this shared principle throughout the Group, we are using our business activities to help build a better society.

\* MA is a tool or platform for organizational marketing activities providing visualization and streamlining of the process of acquiring information about prospective customers, negotiating business, and tracking orders and contracts.

\* CRM is a system for implementing measures to build and maintain good relationships with customers.

\* Account planning is our basic concept for strategically deepening and expanding our business by fully understanding each customer's business and external environment, and building long-term, continuing partnerships.



Business segments

Department

Main products and services

Functional Materials



For more details, see P.67

Performance Chemicals Department

Provides high-performance materials for a wide range of industries, including paint, inks, urethane, printing and film, and LCD. Also responding to customers' needs by developing sustainable products, demand for which is rapidly increasing, based on the key words "environment" and "bio," and by effectively utilizing the functions of the Nagase Group as a whole, including manufacturing, R&D, and processing.

Speciality Chemicals Department

Having established businesses over many years in a diversity of industries, now handles more than 10,000 products. Is also expanding into new fields with a focus on business partners' elemental technologies.

Performance Chemicals Department

Resin raw materials (various types of monomers), resins, solvents, pigments, dyestuffs, coloring matter, dispersion processing materials, paint and ink additives, urethane materials, flame retardants, release agents, conductive materials, functional sheets, films, adhesives, endotoxin removal services, and sanitary materials

Speciality Chemicals Department

Petrochemical products, raw materials for industrial metalworking oil solutions, surfactants and surfactant raw materials, environmental equipment and chemicals (wastewater, exhaust gas, energy conservation), resin raw materials and additives, electronics chemicals, UV curing agent materials, chemical outsourcing coordination



Advanced Materials & Processing



For more details, see P.69

Polymer Global Account Department

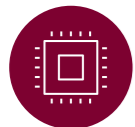
With a well-developed sales network and experienced local staff in the Asia Pacific region, the department works with global companies to sell synthetic resins for a wide range of industries, including office equipment and the electrical and electronics industries. It is also focusing on eco-friendly businesses, providing environmentally-friendly materials and services such as recycled material and biomass plastics.

Polymer Global Account Department

Engineering plastics, commodity plastics, packaging materials and other plastics-related products, and service



Electronics & Energy



For more details, see P.71

Electronics Department

In addition to providing functional materials and their constituent components to the silicon wafer, semiconductor, electronic components and display industries, is working with partner companies to develop products that align with market and customer needs.

Advanced Functional Materials Department

Nagase ChemteX Corporation's modified epoxy resins, developing fluid, stripping agent recovery solutions, high-performance materials for 3D printing, etc., which are developed based on the company's formulation, compounding, precision cleaning, surface finishing and photosensitive materials design technologies, are sold both in and outside Japan, with key fields including the electrical/electronics industry, mobility, the environment, energy, semiconductors (photolithography and encapsulant materials), 3D printing and displays.

Electronics Department

Fine polishing abrasives, optical materials for displays, touch panel components, functional paints, conductive and insulating materials, adhesive and encapsulating materials, high-heat-resistant films, optical lenses, high-frequency devices, low dielectric materials, sensing modules, optical materials for XR, semiconductor and electronic device-related equipment

Advanced Functional Materials Department

Formulated epoxy resins and related materials, photolithography materials for flat panel displays and semiconductors, 3D printing-related materials



Mobility



For more details, see P.73

Mobility Solutions Department

We will contribute to the realization of a safe, secure and comfortable mobility society by grasping the needs of the mobility industry, including automobiles, agricultural machinery, construction machinery and aircraft, and by offering diverse solutions through pursuing new technological innovations.

Mobility Solutions Department

Automotive interior/exterior and functional components: Various resins, functional paints, adhesives, lightweight components, decorative components, HMI components CASE-related: xEV-related components, heat management components, battery materials, sensors, LiDAR devices, autonomous driving technologies



Life & Healthcare



For more details, see P.75

Life & Healthcare Products Department

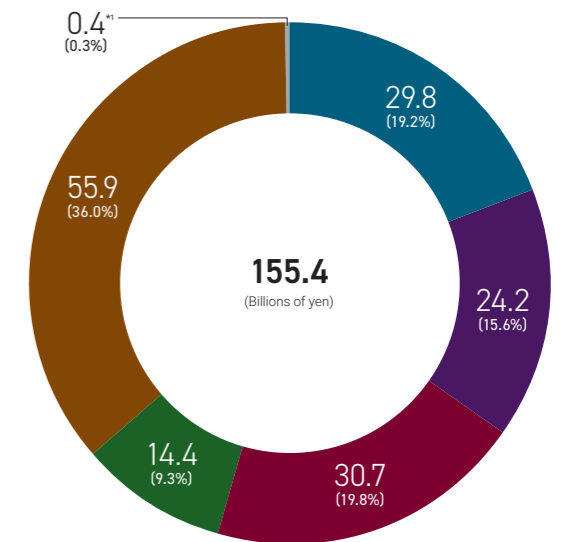
In the pharmaceutical, medical, cosmetics, household goods, and food products (processed foods and nutrition) sectors, we provide a wide range of solutions throughout the world through the Nagase Group's manufacturing, processing, procurement, logistics, research, application development and regulatory-related functions. We are striving to contribute toward the realization of healthy, enriched lifestyles.

Life & Healthcare Products Department

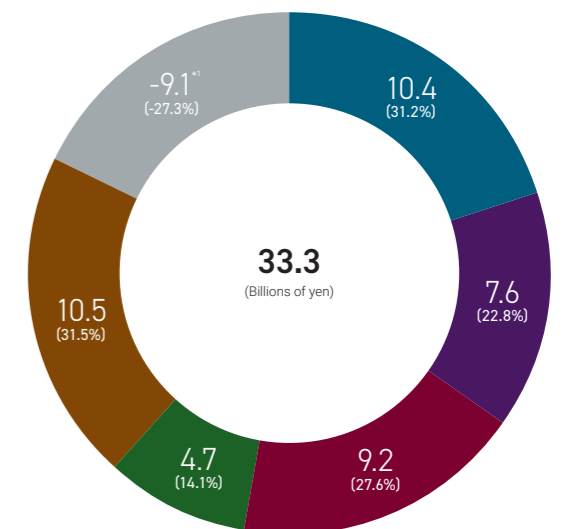
Pharmaceuticals products (APIs, additives, intermediates, and other materials), materials for In Vitro diagnostics, raw materials for cosmetics and household goods (active ingredients, additives, emulsifiers and fragrances), food ingredients (nutrition materials, functional saccharides such as TREHA™, glycosides, enzymes and other processing aids), premix (OEM/ODM), and materials for agriculture (including livestock raising) and fisheries



Gross Profit



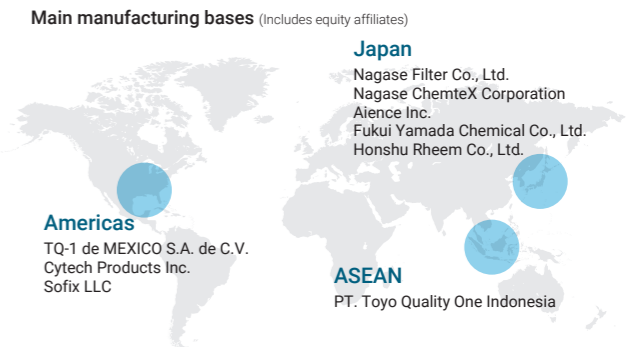
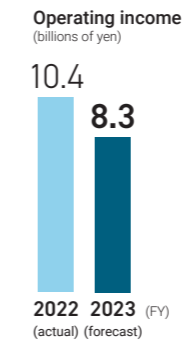
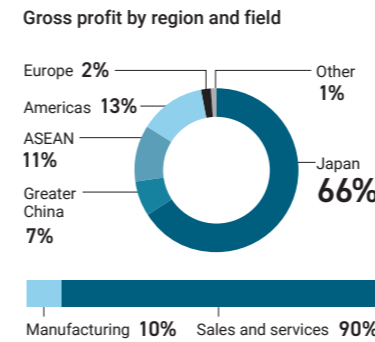
Operating Income



\*1 ■ Other/Corporate: Includes businesses not included in reported segments and eliminated inter-segment transactions, etc.



# Functional Materials Segment



## Performance Chemicals Department

<p><b>S</b> Strength</p> <ul style="list-style-type: none"> <li>High market share in Japan</li> <li>Strong relationships of trust with suppliers</li> <li>A global network based on the high negotiating ability, ability to respond effectively to new developments in technology, and problem-solving ability, of individual unit</li> <li>An extensive product line-up and cross-business solutions</li> </ul>	<p><b>W</b> Weakness</p> <ul style="list-style-type: none"> <li>Vulnerability to changes in the external environment, including economic indicators (oil prices, exchange rates, and automotive sector production volume)</li> <li>Reduced need for the general-purpose chemical trading company function, and lower profitability</li> <li>Unsatisfactory ability to generate new business models, due to operating in a mature market with restricted talent flow</li> <li>Unpreparedness for developing e-commerce and digital marketing</li> </ul>
<p><b>O</b> Opportunity</p> <ul style="list-style-type: none"> <li>Launching services aimed at improving social value and economic value throughout the entire industry</li> <li>Submitting proposals to other firms in the upstream and downstream segments</li> <li>Expanded utilization of imported materials due to the consolidation or closure of many chemical businesses in Japan</li> </ul>	<p><b>T</b> Threat</p> <ul style="list-style-type: none"> <li>The assumption that a stable supply can be realized for all products is being called into question in a business environment with a strong emphasis on sustainability and carbon neutrality</li> <li>Emergence of new competitors due to the widespread implementation of DX (digital transformation)</li> <li>Geopolitical risks (risk of conflict over Taiwan, risk to stable supply of products from China, etc.)</li> </ul>

## Speciality Chemicals Department

<p><b>S</b> Strength</p> <ul style="list-style-type: none"> <li>Strong relationships with suppliers built on trust</li> <li>In-depth knowledge of the industry and chemicals, and information capabilities that leverage the Group's capabilities</li> </ul>	<p><b>W</b> Weakness</p> <ul style="list-style-type: none"> <li>Portfolio optimization and acceleration of global expansion</li> </ul>
<p><b>O</b> Opportunity</p> <ul style="list-style-type: none"> <li>Ability to contribute to carbon neutrality, within a business environment that requires sustainability</li> <li>Further strengthening of human talent cultivation, and effective talent utilization</li> </ul>	<p><b>T</b> Threat</p> <ul style="list-style-type: none"> <li>Environmental impact of businesses centered on chemicals</li> </ul>

### Making an in-depth contribution precisely because of being a business with a heavy environmental impact

The second year of implementation of the **ACE 2.0** Plan saw a steady improvement in numerical terms, partly because of a favorable external environment. However, with excessively high inventory of intermediate goods leading to a slowdown in freight movement in the electronics market, and with China's recovery in the post-COVID period being slower than expected, there were still some causes for concern going into fiscal 2023.

As regards the areas that we focused on in the past year, we began to implement surveys and analysis of the semiconductor supply chain from a trading company perspective, to help maintain the competitive advantage of our business partners in Japan (from the point of view of economic security). Having set our sights on realizing global expansion for the business, we are strengthening our partnerships with suppliers. We have also been promoting digital marketing within our business division, and have been making smooth progress in securing leads and new projects.

However, there is room for further improvement in terms of optimizing our business portfolio, shifting resources to areas that we want to focus on, and achieving a clear division between functions. To achieve results at an early stage in key areas and R&D, we have established a planning and marketing office to facilitate close collaboration with the sales team.

Building the foundations needed for a sustainable business is vital for realizing growth over the medium and long term. This is a shared goal in this division, and we are employing diverse methods to make forward progress, while not being influenced by short-term economic fluctuations.

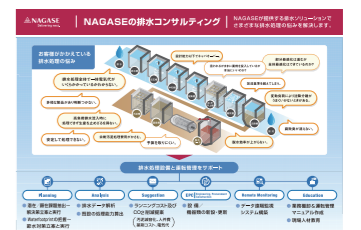


**Noriaki Arashima**  
Executive Officer  
GM, Speciality Chemicals Department

### Sustainability Topic

#### Wastewater consulting as an environmental solutions provider supporting customers' manufacturing operations

Responding to problems affecting our customers, including changes in wastewater treatment requirements resulting from product diversification, and the resulting need to overhaul facilities, as well as a shortage of operatives with related expertise at factory sites and difficulty in ensuring the transfer of wastewater treatment knowhow to a new generation of employees, NAGASE is leveraging its diverse product network, understanding of related issues and ability to offer solutions as a trading company to provide wastewater consulting services. From the identification of problems to operational improvements, we provide diverse solutions tailored to meet the needs and circumstances of individual customers.



### Enhancing social and environmental value through technological expertise and agility

In the second year of the **ACE 2.0** Plan, in numerical terms, results were favorable, partly due to the external environment.

We are proceeding with strategies to reduce the burden on the environment and enhance industry value, and although more time will be needed to fully disseminate these measures from a quantitative perspective, nevertheless, the past year has been one in which steady progress could be felt.

In fiscal 2022, we focused on safeguarding the environment and realizing carbon neutrality. This year saw the development of biodegradable superabsorbent polymers (SAPs), the adoption of TIMELESS™\*1 by major customers to drive the shift away from plastic, expanded adoption of greenhouse gas (GHG) visualization solutions, and initiatives aimed at realizing joint distribution for chemicals. Going forward, we will continue to take on the challenge of addressing environmental issues through a wide-ranging network that extends beyond our own supply chain.

Business-wide issues that need to be addressed include the adjustment of our business portfolio, allocation of resources to key business areas and related investment, and the need to spread awareness of the importance of an emphasis on return on invested capital (ROIC) in management, all of which should help to achieve enhanced efficiency. Going forward, we will be striving to implement efficient business development, including through business reorganization.

\*1 TIMELESS: A gas control technology that has applications in film and paper packaging materials, developed jointly by MIB Co., Ltd. and NAGASE.



**Tamotsu Isobe**  
Executive Officer  
GM, Performance Chemicals Department

### Sustainability Topic

#### Plastic reduction technology adopted by leading Japanese coffee manufacturers

NAGASE is the exclusive distributor for coffee-related applications for TIMELESS™, which has already been adopted by several leading Japanese coffee manufacturers.

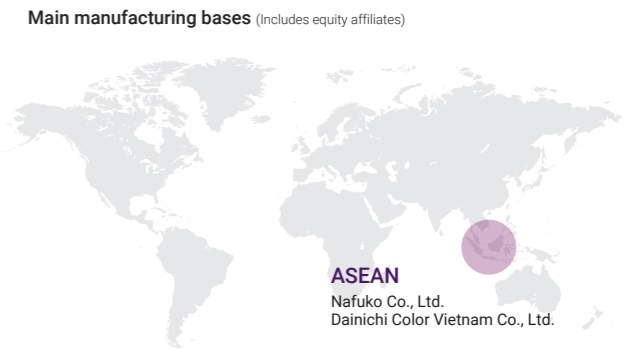
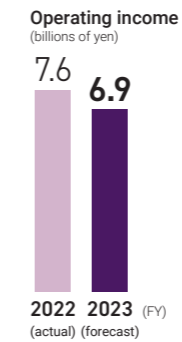
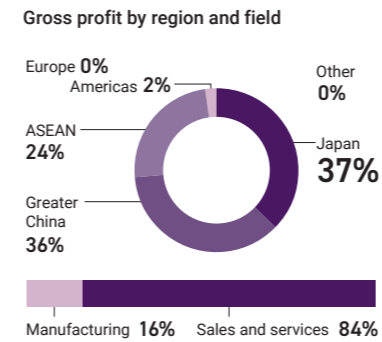
TIMELESS™ contributes toward cost reduction and also helps to protect the environment by reducing plastic usage; it is a "win-win" technology that creates both economic value and social value. Going forward, we will be aiming to roll out this technology more widely, with the aim of achieving full-scale dissemination and adoption both within and outside Japan.







# Advanced Materials & Processing Segment



## Polymer Global Account Department

S  
Strength

- Sound supplier and customer base, technical expertise and information as well as know-how, and a supply chain network in the Asia-Pacific area
- Effective global governance, and transparent business operation

- Relocation of invested capital in order to maximize business profitability
- Enhancement of systems in those business areas not directly linked to Japanese companies

W  
Weakness

O  
Opportunity

- Management efficiency support in relation to the business restructuring being undertaken by our global suppliers
- Advantageous position as customers diversify production bases and duties are increasingly divided internationally

T  
Threat

- From a sustainability standpoint, ensuring traceability in such ways as through a chemical information network

### Ensure a competitive position by leveraging the supply chain network capabilities

Although not matching our highest-ever annual profits, we have achieved a level of profitability that exceeds our target for the final year of implementation of the ACE 2.0 Medium-Term Management Plan, and the restructuring of our business portfolio is proceeding smoothly. In particular, in fiscal 2022, we almost completed our withdrawal from non-key, unprofitable business areas, and as a result, we have been able to realize the reallocation of invested resources from these businesses to new areas that we want to focus on.

We are also now operating the plaplat™ online platform, which represents the effective utilization of digital tools to strengthen our contact points with customers. Through this platform, we can help customers involved with the plastics and manufacturing sectors by proposing solutions for issues such as those relating to sustainability, and by disseminating information to support initiatives aimed at addressing these issues.

There is a need to build efficient operational systems in key areas, both within and outside Japan. We are working on building up our sales and marketing systems and strengthening relevant systems in relation to business activities undertaken for specific customers where production has been relocated to China, the ASEAN region, India, or North America, starting with making our business operations in China more efficient.

In recent years, the restructuring of the global chemical industry has accelerated, and there has been a diversification of our customers' production sites. To respond to these changes, we are considering more M&A activity, strengthening risk management, and implementing operations that are oriented toward greater efficiency through the integration of digital technology, as we aim to realize truly global business operation.



**Koji Yoshida**  
GM, Polymer Global Account Business Department



### plaplat™ – Integrating plastics and sustainability

On the plaplat™ platform, information collected through the NAGASE Group's specialist knowhow, superior sales capabilities, and global network is classified into six categories – materials, processing, facilities, logistics, regulatory, and industry trends – and used to offer sustainability solutions that can help our customers to address their problems, with new information being disseminated every working day.

This platform also provides the Plastics Pictorial Book, which is intended to let people learn about plastics in detail in an enjoyable manner, and which has been widely used both by industry insiders and people outside the plastics industry.

### Sustainability Topic

#### Proposals that integrate green materials with solutions

We have begun providing Ultibatch™, a high-concentration filler masterbatch product that will help to drive the transition to environmentally friendly "green materials" while also enhancing productivity and strengthening environment, health and safety (EHS) performance.

This new product will contribute toward the realization of a reduction in the usage of petroleum-derived resin, and toward a reduction in greenhouse gas emissions. An environmental solution material that also improves the working environment, Ultibatch™ is supplied in pellet form in unprecedentedly high concentrations, providing a filler material that meets users' needs. We are also proceeding with related processing technology licensing.

At Nagase Plastics Corporation's environmental solutions development center, we are undertaking further technology development with this material, and we are rolling out services tailored to the Japanese market.

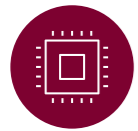


### Sustainability Topic

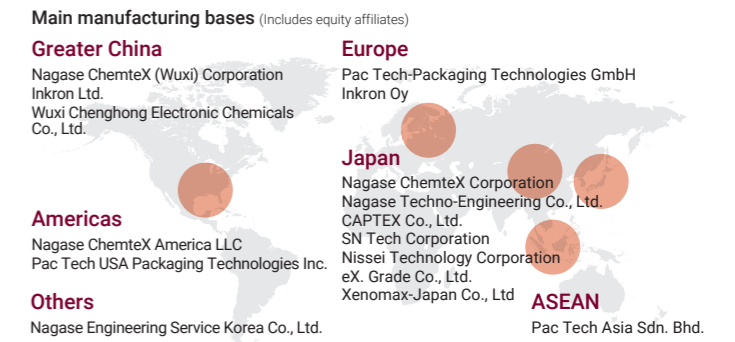
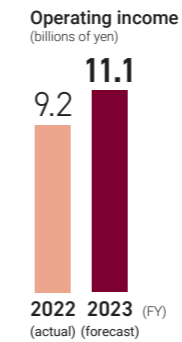
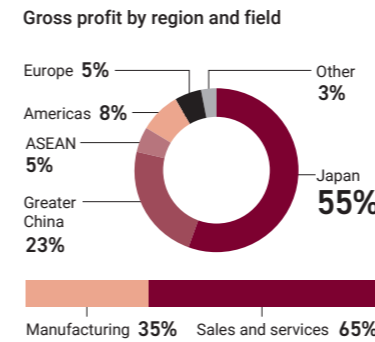
#### Taking the next step forward together with society – Participating in the UMIGOMI Zero WEEK project

The Polymer Global Account Business department handles around 500,000 tons of plastic per year. Plastic is a material that enriches our lives, but it also has a serious impact on the environment, and we need to keep in mind that the plastic our company sells is a contributing factor to the pollution of the oceans by plastic. We are constantly thinking about what form the continued operation of our plastics business should take in the future. With the aim of taking a first step forward by contributing toward improving the environment in the vicinity of our own business locations, and of realizing team-building, we have organized marine waste clean-up activities undertaken by employees and their family members. Aiming to be part of a sustainable society, we will continue to think carefully about what we can do in this area.





# Electronics & Energy Segment



## Electronics Department

<p><b>S</b> Strength</p> <ul style="list-style-type: none"> <li>Global network</li> <li>A diverse range of partners focused on the electronics sector</li> <li>Being able to gather information through sales activities throughout the supply chain, and to develop products in collaboration with business partners</li> <li>The knowhow, technology and strategies needed to contribute toward the realization of the "smart society"</li> </ul>	<p><b>W</b> Weakness</p> <ul style="list-style-type: none"> <li>Formulation and implementation of a future-oriented regional strategy that takes into account our current excessive focus on East Asia</li> <li>Development of technologies and materials that can be supplied to new markets</li> <li>Timely investment in new markets and technologies, and related judgements regarding manpower allocation</li> </ul>
<p><b>O</b> Opportunity</p> <ul style="list-style-type: none"> <li>Opportunities to expand into markets deriving from the development of the IoT-supported society and the effective utilization of AI</li> <li>Enhancement and diversification of devices, accompanying the increase in data processing volume</li> <li>Increasing demand for renewable energy and environmental value</li> <li>The growth of the 5G, 6G, EV, AI, semiconductor and AR markets</li> </ul>	<p><b>T</b> Threat</p> <ul style="list-style-type: none"> <li>Impact of environmental regulations and the UN SDGs on existing materials and technologies</li> <li>Negative impact of intensified tension between the US and China on business oriented toward the Greater China region</li> <li>Increase in the time needed to recoup investments, and sluggish market growth that can be difficult to predict in advance</li> </ul>

## Advanced Functional Materials Department

<p><b>S</b> Strength</p> <ul style="list-style-type: none"> <li>Providing solutions based on technology and R&amp;D capabilities through an integration of NAGASE's trading and manufacturing functions.</li> <li>Processing technologies and specialist knowhow in the field of electronic devices, among others</li> <li>A strong track record in raw materials recycling and reuse</li> <li>A wealth of business experience, and the technologies needed to contribute to society</li> </ul>	<p><b>W</b> Weakness</p> <ul style="list-style-type: none"> <li>A revenue base that is too dependent on specific areas</li> <li>Technologies that have been our strength in the past becoming so widely adopted as to cease to be a major source of competitive advantage for us</li> <li>Collaborative co-creation initiatives with manufacturers of process equipment and related materials</li> </ul>
<p><b>O</b> Opportunity</p> <ul style="list-style-type: none"> <li>Expansion into new business areas through effective use of technology</li> <li>Strong demand for network infrastructure that provides safety, stability and peace of mind</li> <li>Growing demand for environmentally friendly products that support the response to climate change</li> <li>The revival of the Japanese semiconductor industry</li> <li>The growth of the compound semiconductor market</li> <li>Geopolitical changes and the restructuring of the value chain</li> </ul>	<p><b>T</b> Threat</p> <ul style="list-style-type: none"> <li>The shrinking of the domestic LCD industry, and domestic production in China by Chinese companies.</li> <li>The negative impact on earnings of fluctuations in oil prices and in exchange rates</li> <li>Changes in consumer behavior during and after the COVID-19 pandemic</li> </ul>

### Building a more robust team by strengthening networks and exercising perceptiveness

The Electronics Department is working hard to develop new technologies and materials that meet customers' needs. In the semiconductor business, we experienced growth (particularly in China, Taiwan, and South Korea), and in the last few years we have been adding new suppliers and strengthening our overseas sales system. However, taking geopolitical considerations into account, we are now aiming to achieve further growth by developing business oriented toward the US and Indian markets. In line with government policy, the Japanese semiconductor industry is likely to bring production back to Japan, and so we will adjust our regional strategy and systems to restructure our supply chain, both within and outside Japan.

In the display sector, while we are proceeding with the adoption of new materials and the forging of partnerships with start-ups, the shift away from existing materials may require more time due to the weak demand for smartphones and intensified price competition. Having said that, with the growing focus on sustainability in line with the UN SDGs when selecting materials, and with the outlook for development of new technologies and materials that contribute toward sustainability (by reducing electric power consumption, for example) looking bright, we will continue to add new suppliers.

Despite the turbulent business environment, we will proceed with R&D activity that looks ahead to the period after **ACE 2.0**, and we will develop a stronger organizational structure, so that a renewed Electronics Department can contribute toward decarbonization.



**Kazuyuki Sato**  
GM, Electronics Department

#### Sustainability Topic

#### Utilizing CMS in TFT and semiconductor photolithography processes

Photolithography processes, which need rigorous quality management, require large quantities of chemical agents and generate large amounts of waste liquid. We provide a Chemical Management System (CMS) for these processes which realizes effective chemical agent quality management, efficient agent use, and reduced waste. Our CMS has a strong track record of successful performance dating back to the dawn of LCD panel mass production in the early 1990s. It also helps to reduce manufacturing costs, and to reduce the burden on the environment.



### Strengthening human talent and technology capabilities is an urgent task to realize further business expansion

We are proceeding with many new initiatives aimed at transforming our business portfolio and developing new markets. In addition to the adoption of materials used in front-end to back-end manufacturing processes and encapsulating materials in advanced packaging for the major customers in the semiconductor market, we have also newly entered the medical-related market and are making progress in the evaluation of developed products in the electronic components and metal processing industries.

While we are promoting these various initiatives, the current situation in regard to the recruitment and cultivation of human talent possessing the necessary specialist skills is less than satisfactory, and we intend to address this issue as speedily as possible. Other issues that we face are the need to continuously play catch-up in relation to constantly evolving and increasingly complex technologies, and the need to strengthen technology alliances with other companies.

With the aim of becoming the core of the NAGASE Group's business, we will promote the penetration of our activity policy and roles across all areas of the Group, with a view to establishing new de facto standards, and will also focus on creating new businesses. In addition, we are accelerating our overseas business expansion and contributing toward the realization of a decarbonized society.



**Ryuhei Tashima**  
GM, Advanced Functional Materials Department

#### Sustainability Topic

#### Expanding our circular economy business

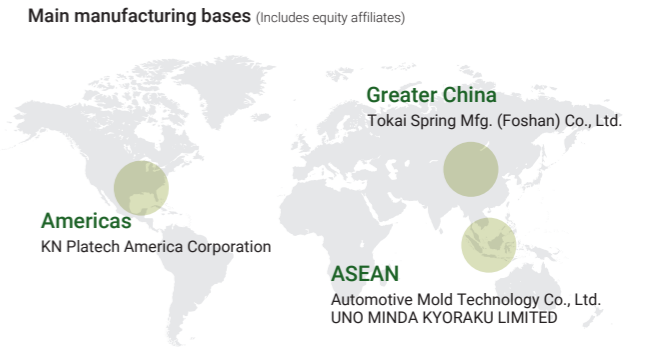
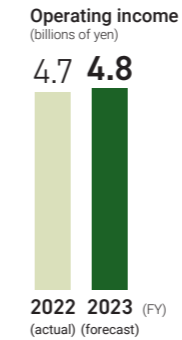
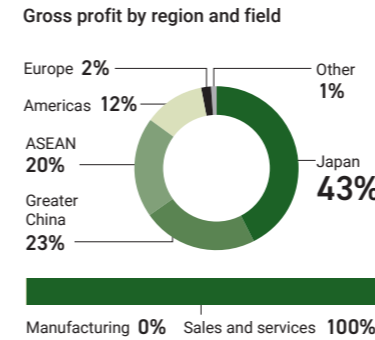
In regard to circular economy demand, which is expected to increase in relation to various different applications, we will leverage our extensive experience and strong track record that has been cultivated in our display business in the recycling and reuse business, which covers a range of items from waste chemical agents to active ingredients, in order to expand the scope of the solutions that we provide for the semiconductor industry. We will be promoting the development of the circular economy across a wider range of areas.







# Mobility Segment



## Mobility Solutions Department

S  
Strength

- A wide range of product lineups, and the ability to develop new high-performance materials, products, and technologies
- A supply chain building capability that enables the stable supply of products across the globe
- Strong relationships with suppliers built on trust

W  
Weakness

- The need to expand business operations targeting overseas automotive manufacturers
- The need for business portfolio expansion tailored to the innovation in materials, products and technologies in line with the acceleration of EVs

O  
Opportunity

- The growth of EVs due to the global trend toward carbon neutrality and the widespread adoption of the Connected, Autonomous, Shared & Services, Electric (CASE)
- The emergence of new mobility and Mobility as a Service (MaaS)
- The rise of emerging countries

T  
Threat

- Industry restructuring accompanying dramatic changes in the business environment

### In an era of transformation, NAGASE is providing value throughout the world

Our core businesses, which include the sale of resins to Japanese automotive manufacturers, have grown in accordance with our original plan, partly due to the market conditions. However, as regards the expansion of our business dealings with overseas automotive manufacturers and the expansion of our business portfolio in line with the acceleration of the trend towards EVs, although we have made progress here, we are aware of the need to further accelerate this.

In 2022, with the adjustment of global supply chains against the background of a deteriorating US-China relationship and the increasing importance of emerging countries, we focused on the expansion of our business in India, which is one of the important strategies for us. India is a market where we expect to see continued growth in the future. We have grown our business there by introducing a variety of commercial materials, and we have also made a real effort to strengthen our relationships with important local partner companies. In addition, we have begun working with an Indian company that newly entered in market to jointly develop the global market for important materials used in EVs.

As regards our strategy for the future, to accelerate the growth of our EV-related business, we will be further increasing the number of partner companies we work with that possess technology on a par with Japanese firms. To meet customer needs, we will also be proceeding with overseas expansion together with Japanese partner firms, focusing on both the sales and overseas-based production aspects. In addition, to expand the scale of our business with overseas automotive manufacturers, we will be strengthening our marketing by making effective use of DX measures.

Working to develop our business in the midst of what has been described as a "once-in-a-century" transformation of the automotive sector, going forward, we will continue to provide value in the way that only NAGASE can, while dealing, on a global basis, with dramatically fast change in terms of technology, market players, and the supply chain.



**Daiji Matsuoka**  
GM, Mobility Solutions Department



### DX acceleration

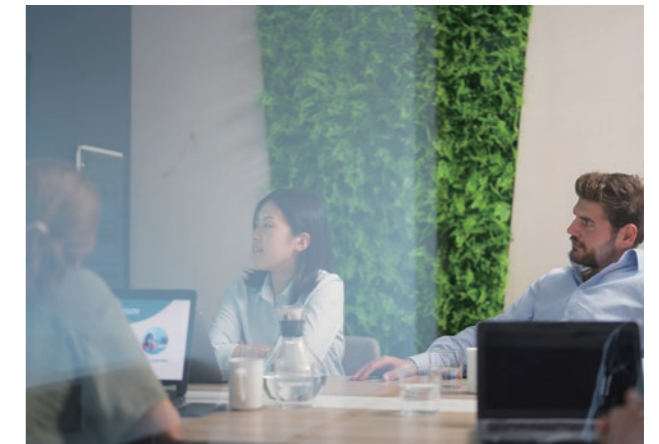
We are speeding up the pace of DX to generate further business opportunities. We have been proceeding with the overhauling of the Mobility Solutions Business website, the utilization of effective digital marketing, the across-the-board implementation of customer relationship management (CRM), and the expansion of operations using robotic process automation (RPA), and these tasks are scheduled for completion during fiscal 2023. In addition, we are spreading awareness of NAGASE's initiatives in a timely manner by disseminating the Mobility Solutions Business's PLUS NAGASE e-mail newsletter, with the aim of familiarizing a wide range of stakeholders with our business's ideas and activities.

### Sustainability Topic

#### Building the framework needed for effective utilization of environmentally friendly materials and technologies

While Europe has been at the forefront of the trend toward carbon neutrality in the global mobility sector, there are also growing calls within Japan to reduce the environment burden.

With Nagase & Co., Ltd., which has extensive recycling technology knowhow thanks to its global supply chain and wide-ranging relationships with suppliers, taking a leading role, we bring together suppliers who handle environmentally friendly materials. We also hold technology exchange meetings with customers, where we exchange information on specific materials and propose recycling technologies for intermediate products to customers.



### Sustainability Topic

#### Using self-driving vehicles to help solve the problem of labor shortages

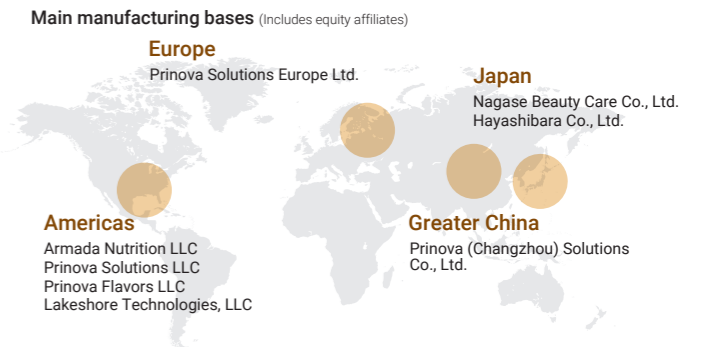
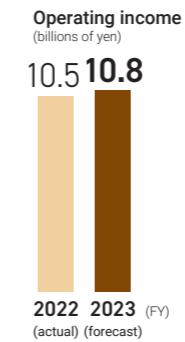
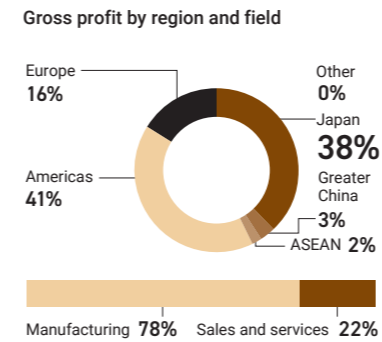
The logistics sector is facing many problems, including the "2024 problem" (the imposition of stricter rules on drivers' working hours, due to come into effect in Japan in 2024). Driver shortages are a particularly pressing problem for the industry. We are providing labor-saving self-driving vehicles to help those industries where delays in corporate activities caused by this issue are a concern.

A key tool for us here is our trading company business model, which enables us to build a single, unified platform for integrating different services. By providing self-driving vehicles of different sizes for different purposes, along with mapping technology for in-house use of these vehicles, and remote operation technology to facilitate self-driving, we can provide the support needed to not only reduce the burden that driver shortages place on companies, but also achieve smooth business operation.





# Life & Healthcare Segment



## Life & Healthcare Products Department

**S**  
Strength

- Industry-leading customer base
- Group companies that have a competitive advantage in their markets, including Hayashibara Co., Ltd. and Prinova Group LLC

- Improving efficiency and optimization of business resources
- Continuous training and securing of human resources

**W**  
Weakness

**O**  
Opportunity

- Expanding overseas businesses by using the knowledge and expertise acquired in domestic businesses.
- Shoring up our bio-related business based on the Group's manufacturing and R&D functions
- Developing new markets in the sustainability area

**T**  
Threat

- Dealing with Pharmaceutical and Medical Device Act, and the laws and other regulations of each country involved in overseas business expansion
- A high percentage of goods purchased from China

### Further strengthening group-wide collaboration globally

In the food business, one of the results achieved in the second year of **ACE 2.0** is that the Prinova business, which the NAGASE Group acquired in 2019, is expanding steadily and has become a major pillar of the Group. In addition to growth in our core business of distribution, in order to expand contract manufacturing of premixes and sports nutritions in the West Coast region of the USA, we have established a new plant in Utah, which began operation in fiscal 2022.

Multiple factors, including yen depreciation, price corrections, robust demand for existing products and launch of new products, led to record-high level profits in the area of pharmaceuticals and cosmetics in fiscal 2022. At the same time, ROIC was also improved through the measures for rationalization of invested capital, such as reducing inventory and eliminating strategic-holding stocks. While firming up our operations base, we also took up the challenge of entering new fields, such as health tech services related to sleep, and a website creation platform for hair stylists.

One of our challenges is to strengthen alliances within the Group in our overseas businesses. We are proceeding to optimize organizational design by revising our comprehensive business strategies, including Hayashibara, Prinova, and other overseas subsidiaries. Also we strengthen our business infrastructure typified by regulatory functions to build an environment which enables our group companies to perform their role even in the regulated markets without intervention of the head office.



**Kenji Okino**  
GM, Life & Healthcare Products Department

### Harnessing the power of the Group to meet growing worldwide healthcare needs

With the graying of Japan and the experience of the COVID-19 pandemic, customers are becoming more health conscious and aware of preventive self-care. In recent years, healthcare-related services have been expanding, not only in the area of therapeutics but also continuous management from preventions, diagnoses, therapies to prognoses. At the same time, technological innovations, most notably computerization, have prompted new players to take an active interest in these fields. The main business domain of this department is pharmaceuticals, foods, and cosmetics that lead directly to improvements in the customer's quality of life. Taking advantage of the materials, sales networks, biotechnology, and other assets that the Group possesses, we contribute to people enjoying better health and fulfillment in their everyday lives.



### Sustainability Topic (healthcare business)

#### Technology development for biopharmaceuticals that can lead to cost reduction

The biopharmaceutical industry has to deal with materials that are expensive and cannot be mass produced, sophisticated and complex manufacturing processes, the need for painstaking quality management, and strict regulations. In order to support the industry, the NAGASE Group provides its technology and services, utilizing its supply chains network.

The NAGASE Group selects its partners on the basis of their ability to create synergy in the areas of current systems, services, and functions, based on the Group's client information and technological information. By providing key technologies and manufacturing functions, it contributes to significant reduction in manufacturing costs in the client company's value chain.



### Sustainability Topic (food ingredients business)

#### Egg Reduction Solutions in Bakery and Confectionery

Egg reduction has been an unavoidable issue around the world, from the perspective of cost and sustainability. NAGASE Group has been presented DENABAKE™ RICH to Western-style bakery and confectionery manufacturers to reduce amount of eggs used for their products, without compromising texture and quality.

DENABAKE™ RICH is an enzyme that acts on lecithin to increase emulsifying properties. It keeps volume, texture and appetizing appearance of bakery and confectionery products with reduced-egg formulations.

NAGASE Group contributes to implementing sustainable product development with customers, by optimizing recipes and applications along with their needs.





# Regional Strategy

Note: Employees in the consolidated group (as of March 31, 2023)

**Built on a foundation of chemistry, the NAGASE Group is engaged in global business across a wide spectrum of industries. Utilizing the wide-ranging expertise accumulated through that network and experience, we provide a fine-tuned response to the needs of each country and region.**

## Greater China

Base established: 1971/Number of employees: 846

### Expanding locally-driven business with the “ONE China” business strategy

We have transitioned away from a region-focused strategy emphasizing the individual business locations to a new business strategy that treats China as a single unit, and we have been working to strengthen our operations in each field. Going forward, we will realize even closer coordination between our seven businesses (Semiconductor, Electronics, Functional Resin, Mobility, Life & Healthcare, Chemicals, and Advanced Materials & Processing), our manufacturing locations – including Nagase ChemteX (Wuxi) Corporation and Prinova (Changzhou) – and our business locations in Taiwan, responding rapidly to changes in each sector, and expanding the scope of locally-originated business within the Greater China region in addition to NAGASE’s technology and product development in Japan, Europe and North America.

#### Main Businesses

- Semiconductors** — We are developing our semiconductor business across the whole supply chain, from front-end processes to back-end processes, and we have built up a strong network in China and Taiwan. Going forward, we will be working to expand our business while exploring the potential of a wide range of materials.
- Mobility** — China’s EV market is one of the world’s most highly developed, and we are utilizing a variety of leading-edge technologies and products to explore high-quality concepts relating to safety and energy saving. Besides China, we are also planning to expand sales in Europe and in other parts of Asia.
- Electronics** — We are focusing on growing our business for both old and new applications, including those relating to electronic devices such as PCs and smartphones, those relating to next-generation devices such as OLED and Micro-LED displays, AR/VR and sensor applications utilizing 5G/6G infrastructure.

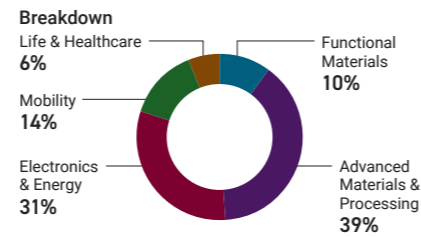
#### Topics

In fiscal 2022, despite the Shanghai lockdown and the rapid spread of infection in China following the easing of COVID-19 restrictions, overall, our business performed solidly. In particular, the semiconductor business, which is a key business area for us, continued to post strong growth. In fiscal 2023, the business environment has become increasingly challenging, with the slow economic recovery in the post-COVID era, and the impact of increased friction in the U.S.-China relationship and uncertainty in the property market. Going forward, we will be aiming to realize steady, balanced, and sustainable growth by placing more emphasis on the Life & Healthcare business, which is less subject to shocks in the external environment, and on bio-derived “green” materials. While continuing to focus on our existing seven business areas, we will also be striving to create new businesses and improve profitability.



**Kusuo Ota**  
Managing Executive Officer  
and Greater China CEO

Gross Profit/22.5 billion yen (FY2022)



## ASEAN

Base established: 1975/Number of employees: 800

### Using successful models and strengthening the local management system to develop new profitable areas

In the resin business, which is our main business area, we are aiming to expand our business throughout the region, across national boundaries, by establishing a trans-national, cross-regional business promotion organization, assigning specialists for each industry category, and strengthening ties with key suppliers. We have also forged a region-wide marketing organization for our Electronics and Life & Healthcare businesses, which had previously been relatively minor business areas for us. By undertaking intra-regional market analysis that covers the strengths and weaknesses of each country, promoting effective utilization of human capital within the region, and maintaining a close collaborative relationship with the relevant business divisions at NAGASE’s head office in Japan, we have put in place the optimal framework for business promotion.

#### Main Businesses

- Electronics Business** — Taking as a foundation the business development model that has proved successful in Malaysia, we are proceeding with analysis of the potential for business expansion in neighboring countries.
- Life & Healthcare Business** — With support from the cross-regional team and from the relevant business divisions in NAGASE’s head office, we are proceeding with the building of the framework needed to implement regulatory services in the future.

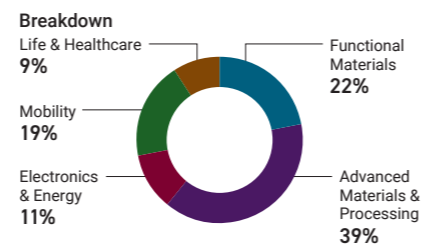
#### Topics

In fiscal 2022, despite the rise in resource prices following the end of the COVID-19 pandemic, demand for office automation applications rose, and we met both our sales and operating profit targets in this segment. Going forward, we anticipate that there will be a shift in business away from China due to heightened U.S.-China trade friction, and we will also consider how to address the issue of how to approach trading in recycled plastic, demand for which is rising due to increased environmental awareness. Due to factors such as semiconductor shortages, our performance in the automotive-related businesses did not meet the original targets. As the automotive market still accounts for a high share of overall resin sales, we are expanding the scope of the materials that we handle, proceeding with a shift toward products relating to vehicle electrification and advance mobility.



**Eiroku Oki**  
Executive Officer and  
ASEAN and India CEO  
Regional Operating Centre  
Leader

Gross Profit/14.9 billion yen (FY2022)



## Americas

Base established: 1971/Number of employees: 1,537

### Strengthening our organizational capabilities to address a wide range of business areas

The Americas region business is highly diverse and spans a wide range of industries. Our focus continues to be led by the food and nutritional ingredient markets with other key verticals such as mobility and chemicals playing a key role in future growth. To better leverage resources, we are focusing on creating market vertical-based leadership in combination with our regional affiliates in order to expedite growth.

Over the last several years, considerable investment has been made in the region to develop expertise in the area of additive manufacturing\*. In 2023, we introduced our additive manufacturing education and showroom resource, Empowr3D. Through Empowr3D we provide end-to-end solutions: from design, material selection, printer selection, validation, all the way through to the production of printed parts. By walking side by side with our customers we hope to expedite user adoption and, by extension, the growth of the additive manufacturing industry.

\* A manufacturing method that utilizes additive manufacturing technologies such as 3D printing

#### Main Businesses

- Food and Nutritional Ingredients** — We will continue to focus on growth through the development and expansion of value added capabilities and services.
- Mobility** — As the automotive landscape rapidly evolves, we are dedicated to providing innovative solutions that drive the transition to cleaner and more sustainable transportation. Our mission is to accelerate the adoption of electrification, enabling manufacturers to realize a new era of eco-friendly and efficient transportation.

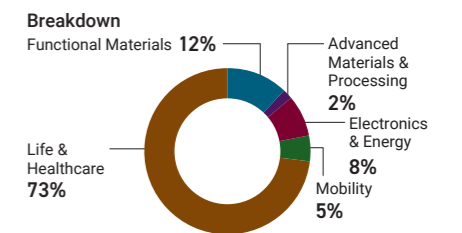
#### Topics

For FY2023, we have implemented three key strategic initiatives across the region: optimizing operations for heightened efficiency, enhancing decision-making by clearly differentiating risk-taking from profitable ventures, and driving our organizational vision through internal alignment and external engagement. These initiatives collectively propel us towards streamlined processes, focused growth, and amplified impact.



**Bradley Hilborn**  
Americas CEO and  
Nagase Holdings  
America Corporation CEO

Gross Profit/33.1 billion yen (FY2022)



## Europe

Base established: 1980/Number of employees: 284

### Exploring new business and investment opportunities against a background of rising environmental consciousness

The volatility in resource and energy procurement resulting from the conflict in Ukraine, and the related price rises, have had a severe impact on the European business environment. At the same time, Europe is leading the way in the global trend toward responding proactively to climate change, and it is becoming necessary for chemical sector products, including cosmetics, to secure certification under Ecovadis and other certification schemes. Changes such as the shift over to clean energy (including wind power) and to bio-derived materials, and particularly the decision in Europe to ban sales of vehicles with internal combustion engines by 2035 so as to boost the adoption of electric vehicles, represent major business opportunities. We offer a variety of solutions to meet the needs of electric vehicle manufacturers who are aiming to realize high-performance batteries and enhanced safety. In regard to our food sector products, we are proceeding with the selection of key products to focus on, so as to enhance our competitiveness by optimizing the operations of the Group as a whole, for example by transferring Hayashibara products to Prinova Europe Limited. Besides strengthening coordination with NAGASE Group companies in Japan, Asia, and the Americas, we will also be actively taking on the challenge of opportunities for investment, etc. in relation to locally originated businesses.

#### Main Businesses

- Pharmaceuticals** — We are proceeding with development of the biomedicine sector, focusing mainly on Hayashibara Co., Ltd. products.
- Mobility** — Batteries represent the core technology for electric vehicles, and for battery applications we offer solutions tailored to customers’ needs, including chemical products and additives to help realize high performance, and fire-resistant materials to enhance safety.
- Chemicals** — Making effective use of the Nagase Group network, we are offering Europe-based global corporations solutions for worldwide procurement functions. We are also proceeding with the development of a variety of solutions for environmentally friendly food product packaging.

#### Topics

In fiscal 2022, we entered into a partnership with HALIX B.V., of the Netherlands, which is strong in biomedicines and pharmaceutical ingredients, such as viral vectors and recombinant proteins, to begin providing contracted development and manufacturing services for the Japan market. As a result, we are now able to provide end-to-end services from process development to GMP manufacturing and final formulation. We have also been focusing on providing environmentally friendly production solutions for electric vehicle batteries, chemical products, and the healthcare sector. In fiscal 2023, we will continue with sustainability-aware product development for the cosmetics sector.



**Kusuo Ota**  
Managing Executive Officer  
and Europe CEO

Gross Profit/11.2 billion yen (FY2022)

