

NAGASE GROUP PROFILE

NAGASE & CO., LTD. – Company Presentation

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At a glance

March, 2021



Consolidated Net Sales

\ **830.2** billion

Profit Attributable to Owners of the Parent

\ **18.8** billion



Number of business partners

Approx. **18,000**
companies



Number of Employees
(Consolidated)

6,940

NAGASE Group's Growing Global Network



※ As of March, 2021

A History of Approximately 190 Years Surpassing the Traditional Trading Firm Framework

From 1832

From 1900

From 1970

From 2010

Established a position as a trading company specializing in chemicals

Story 1

From dye trading to the chemicals field

Drove global expansion of the NAGASE Group

Story 2

Trade with key overseas manufacturers

Strengthened manufacturing, processing and R&D functions

Story 3

Epoxy resin production began

Story 4

R&D base established

Ambitiously developed Next-Generation Business

Next-generation information communications

Materials Informatics (MI)

Sports nutrition

Biotechnology

Stories to Understand NAGASE

Story 1

From dye trading to the chemicals field

In 1832, Denbei Nagase founded Urokogataya in Nishijin, Kyoto. Following trading in natural dyes, the business started to carry synthetic dyes, thereby establishing a foundation in the chemicals industry.



First generation: Denbei Nagase

Story 2

Trade with key overseas manufacturers

The NAGASE Group expanded partnerships with leading manufacturers such as Basel Chemical Co., Eastman Kodak Co., DuPont, and General Electric (GE).



Panoramic view of Ciba in 1893

Story 3

Epoxy resin production began

In 1970, the NAGASE Group established Nagase-CIBA Ltd. (currently Nagase ChemteX Corporation), as a joint venture to manufacture Ciba's epoxy resin. With these steps, the Group laid an even stronger foundation for its manufacturing capabilities.



Nagase-Chiba
(currently Nagase ChemteX)

Story 4

R&D base established

The NAGASE Group established the Nagase R&D Center in 1990 and the Nagase Application Workshop in 2007, so that it could incorporate the voice of customers into its business operations from the R&D stage.



Nagase R&D Center

A sustainable world where people live with peace of mind

The NAGASE Group's vision for society is to realize a sustainable world where people live with peace of mind, as described in the NAGASE Vision. All of our corporate activities aim to realize this vision, while contributing to value propositions for everyone. To achieve this vision, we will seek to engage more deeply in dialogues with our stakeholders, and reflect everyone's opinions in our corporate activities, to take us one step closer to realizing the type of society that we should aim to be.

“We will continuously contribute to the solution of social and environmental problems through our corporate business activities, in order to achieve the sustainable growth of the NAGASE Group and society as a whole.”

This principle is common to our entire corporate philosophy.

Integrity in
business activities

Positive relations
with society

Consideration
for the environment



Integrated Report 2020

This communication tool is designed to help our diverse stakeholders better understand the NAGASE Group's wide-ranging business fields and business activities, as well as its unique value creation process.

https://www.nagase.co.jp/sustainability/environmental_report/



We “Identify, Develop and Expand” new businesses

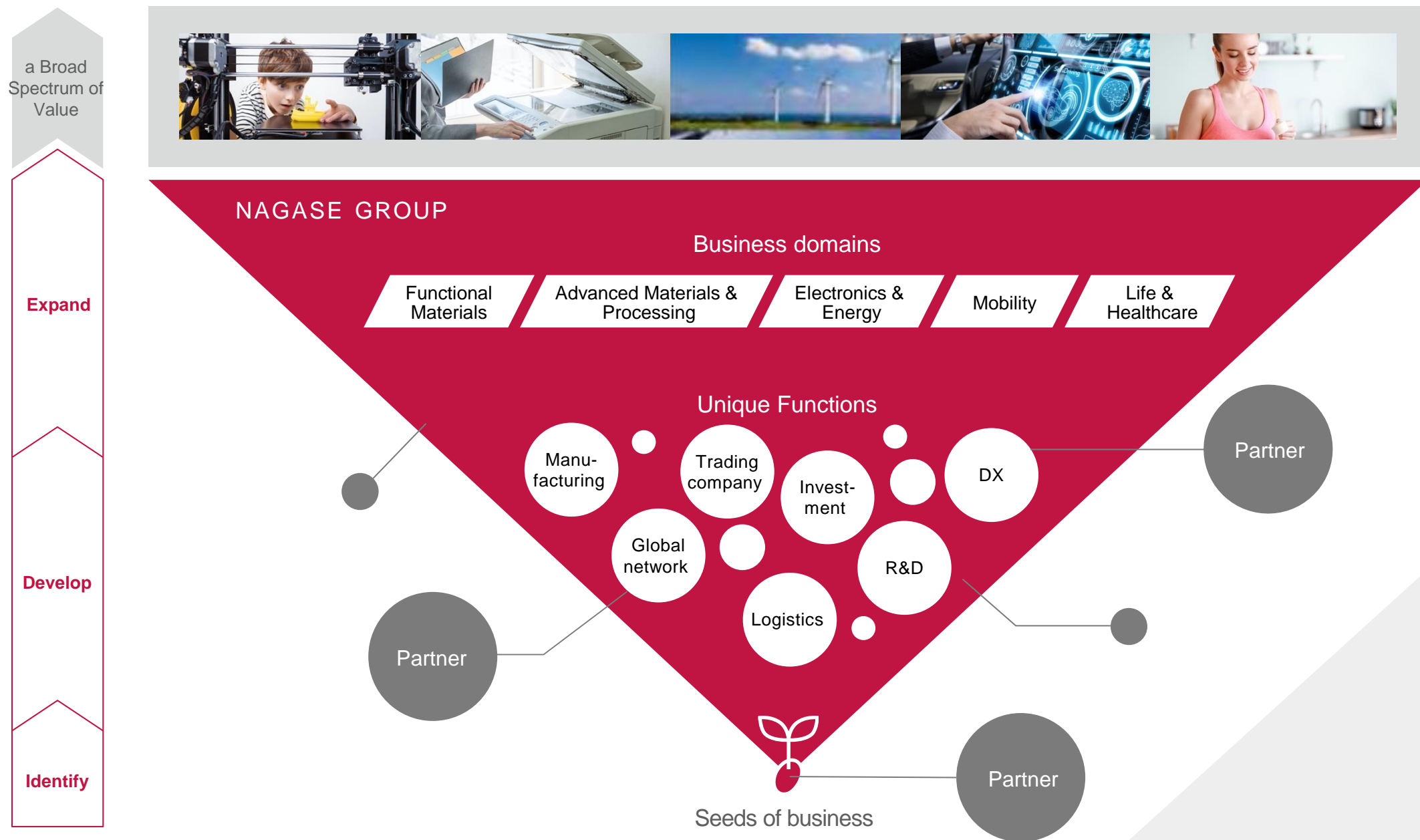


Through the “Identify, Develop and Expand” process, we will serve as

a Business Designer

alongside our partners.






A Business Designer that Generates a Broad Spectrum of Value



Business Segment



Segment Information

	Fiscal 2020 net sales	Percentage of sales	
 Functional Materials	155.1 billion	19%	Performance Chemicals Business Specialty Chemicals Business
 Advanced Materials & Processing	269.1 billion	32%	Colors & Advanced Process Business Polymer Global Account Business
 Electronics & Energy	119.5 billion	14%	Electronics Business Information & Communication · Energy Business Functional Resin Business Precision Processing Materials Business
 Mobility	111.5 billion	13%	Mobility Solutions Business
 Life & Healthcare	174.4 billion	21%	Life & Healthcare Products Business Food Ingredients Business

Net sales: Some net sales are not included in the reportable segments listed above.



Performance Chemicals Business

In the Performance Chemicals Business, we supply high performance materials to the paint, ink, and urethane industries. We are also devoting efforts to developing sustainable products for which demand is rapidly growing, with a focus on the keywords of the environment and bioscience.

Main products and services

- Raw materials for resins, resins, pigments, solvents, additives for paints and inks, urethane materials, flame retardants, release agents



Specialty Chemicals Business

In the Specialty Chemicals Business, we have established businesses in a diverse array of industries over many years. Today, we handle more than 10,000 different products. In addition, we are working to expand into new fields as we keep our eyes on the elemental technologies of our business partners.

Main products and services

- Petrochemical products, raw materials for industrial metalworking oil solutions, surfactants and surfactant raw materials, environmental equipment and chemicals (wastewater, emissions, energy conservation)
- Urethane raw materials and additives, electronics chemicals, UV curing materials, Chemical products coordinate service



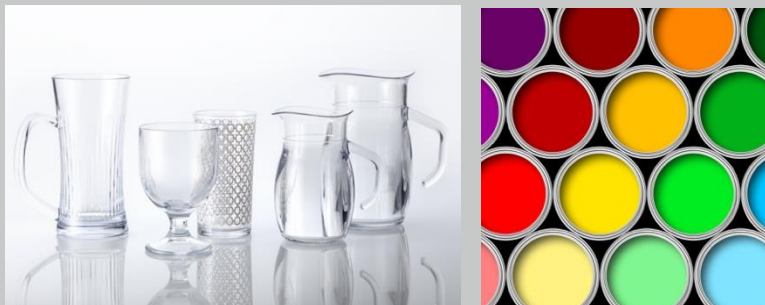


Colors & Advanced Processing Business

In the Colors & Advanced Processing Business, we offer proposals on high value-added products and services based on the themes of color and functionality to a wide range of business sectors, such as the printing, film and LCD industry. We fulfill customer needs by harnessing Group functions such as manufacturing, R&D, and processing.

Main products and services

- Dyestuffs, colorants, pigments, additives, dispersion materials, 3D decorative services, conductive materials, functional sheets, films, adhesives, copolyester resins, endotoxin removal services, tempered glass, hygiene materials

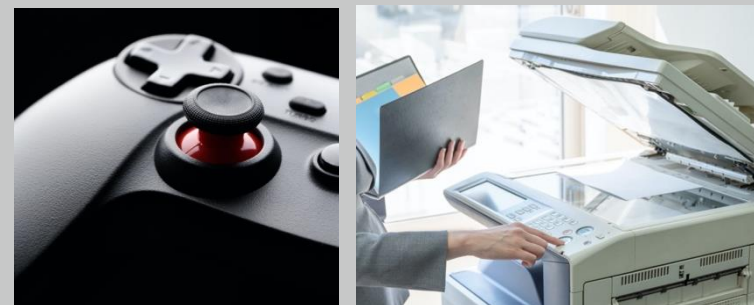


Polymer Global Account Business

In the Polymer Global Account Business, based on an extensive sales network and national staff framework, we work closely with global suppliers to sell resins to the office automation, game, and electric and electronics industries. We are also focused on environmental businesses such as commodity plastics.

Main products and services

- Engineering plastics, general-purpose plastics, packaging materials, and other plastic-related products





Electronics Business

In the Electronics Business, we supply various functional materials and materials that make up those products to the silicon wafer, semiconductor, electronic component, and display industries. Additionally, we are engaged in product development that will meet the needs of our partner companies, markets and customers.

Main products and services

- Fine polishing abrasives, optical materials for displays, touch panel components, functional paint, electrical conducting/insulating materials, adhesive/encapsulant materials, highly heat resistant film, optical lenses



Information & Communication · Energy Business

In the Information & Communication · Energy Business, we apply the Group's product development capabilities toward providing new technology (materials, processes, devices) and systems to create new information & communications · energy infrastructure for a smart society.

Main products and services

- Storage battery systems, energy management systems, optical wireless communication devices, high-frequency devices, low-dielectric materials, sensing modules, optical materials for XR, equipment related to semiconductors/electronic devices





Functional Resin Business

In the Functional Resin Business, with the focus on the electrical/electronics industry, mobility, environment, energy and semiconductors, we are driving global expansion of the modified epoxy resin of Nagase ChemteX Corporation. This modified epoxy resin was developed based on epoxy resin formulation technology and compounding technology.

Main products and services

- Modified epoxy resin and related products

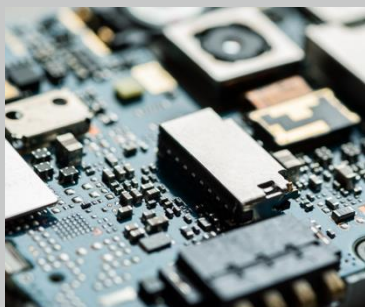


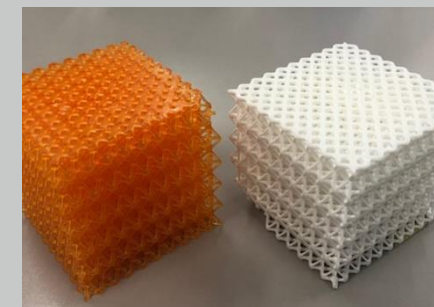
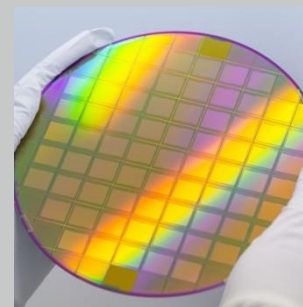
Image courtesy of ASICS Corporation

Precision Process Materials Business

In the Precision Process Materials Business, we are driving global expansion of photolithography materials for displays and semiconductors and high-performance materials for 3D printers. These materials were developed based on formulation technology from the perspectives of precision cleaning, surface treatment and photosensitive materials design in Nagase ChemteX Corporation.

Main products and services

- Photolithography materials for semiconductors and flat panel displays, 3D printer-related materials





Mobility Solutions Business

In the Mobility Solutions Business, we propose a diverse array of solutions through the pursuit of technological innovation that captures the needs of the fast-changing automobile and mobility industries. We aim to contribute to the realization of a more secure, safer, and more comfortable mobility society.

Main products and services

- Automotive interior/exterior, functional components: Various resins, functional coatings, adhesives, light-weight components, decorative parts, HMI components
- CASE-related: xEV-related components, heat management components, battery materials, various sensors, LiDAR-related components, self-driving-related technologies





Life & Healthcare Products Business

In the Life & Healthcare Products Business, we newly embarked upon pharmaceutical and medical fields is to expand medical equipment (imaging-related), along with pharmaceutical ingredients and intermediates. In the cosmetics and fragrances field, we are working to help people lead healthier lives through activities such as the Group's development and manufacturing of new aging care materials.

Main products and services

- Fragrances/cosmetics and household product materials, pharmaceuticals, in-vitro diagnostics, medical materials and equipment



Food Ingredients Business

In the Food Ingredients Business, we globally provide the health and food industries with a wide range of solutions based on the Group's research, manufacturing, processing, sourcing, application development and regulatory functions. We aim to contribute to better and healthier living through food.

Main products and services

- Food ingredients (TREHA™ and others, enzymes), functional ingredients, nutritional ingredients, nutrient premix (OEM and ODM), materials related to agriculture, fisheries, and livestock

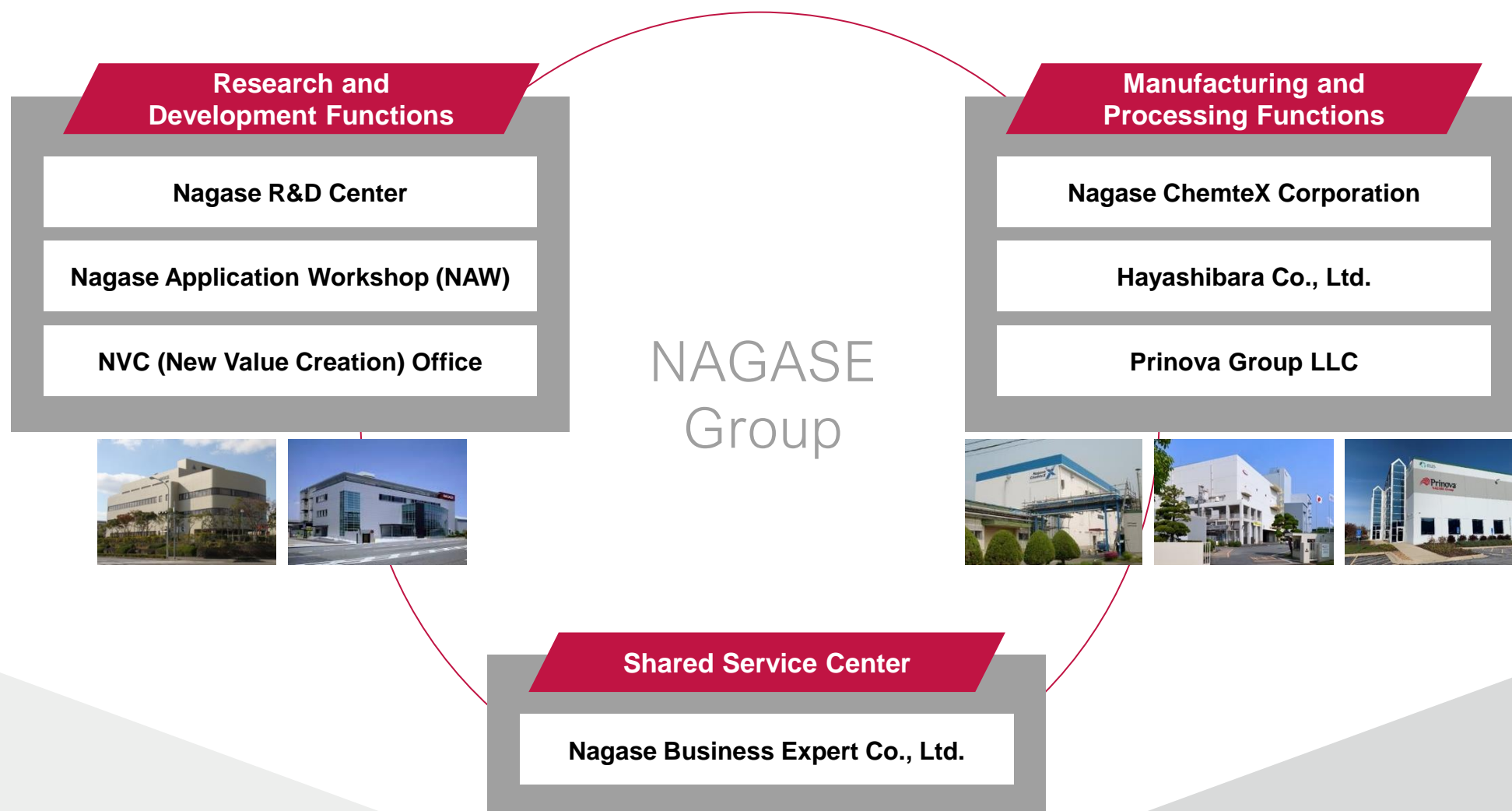




Business Function



The NAGASE Group's Unique Functions



Integration of Biology with Cutting-Edge Technologies

Nagase R&D Center

Through R&D activities in the biotechnology field, the Nagase R&D Center aims to create new value that leads to contributions to society, such as solutions to people's health and environmental problems. With "Unavailable Made Available In a Sustainable Way," as its guiding principle, the Nagase R&D Center will make process innovation happen by harnessing biotechnology.

Examples of activities

Fermentation process development of Trehangelin, which is an anti-aging ingredient for personal care.

Fermentation process of "longevity vitamin" ergothioneine, a natural rare amino acid.

Established : 1990

Location : Kobe High Tech Park, 2-2-3 Murotani,
Nishi-ku, Kobe City, Hyogo



Providing Customers with a Place for Open Innovation

Nagase Application Workshop (NAW)

The Nagase Application Workshop (NAW) is an open innovation laboratory with a free-thinking environment befitting a lab operated by a trading company. As a development partner to customers, NAW provides evaluation and analysis of unique new technologies and materials and it advances the development of new applications, among other activities. NAW continues to pursue new possibilities for functionality and design in the fields of plastics and coating.

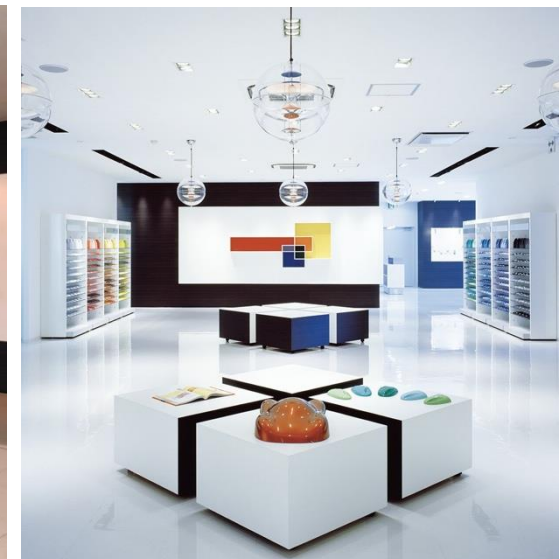
Established : 2007

Location : 2-4-45, Higashi Tsukaguchicho,
Amagasaki City, Hyogo

Examples of activities

Development of formulas and applications for eco-friendly materials matched to customer needs

Proposals of color designs that fit customer needs



Create the Core of Future Business

NVC (New Value Creation) Office

The New Value Creation (NVC) Office is an organization whose aim is to advance the NAGASE Group's innovation and create new value that will form the core of future business through cross-sectional collaboration among business divisions. Guided by the slogan "Bio-Inspired Technologies," the NVC Office is working to create value through innovative ideas to build new businesses over timeframes of 5-10 years.

Examples of activities

Start of supply of TABRASA, an SaaS service and new materials search platform for Materials Informatics (MI)

Market development for Axonerve™ IP Core, a semiconductor design technology specializing in search/query functions



Established : 2017

Location : 5-1, Nihonbashi-Kobunacho, Chuo-ku, Tokyo

We will create a brighter future through chemistry

Nagase ChemteX Corporation

Nagase ChemteX Corporation is a core manufacturing subsidiary of the NAGASE Group and possesses creative technologies in a variety of areas including electronics and biotechnology. With synthesis technology, formulation technology and biotechnology as its core technologies, Nagase ChemteX has been creating the world's first materials and products with top industry shares. It is a value creation company that can fulfill the requirements of customers around the world. As such, Nagase ChemteX continues to ambitiously develop new technologies and products.

Established : 1970

Location : 1-1-17 Shinmachi, Nishi-ku, Osaka

Net sales : Approx. ¥26.0 billion

Number of employees : Approx. 590 (Fiscal year ended March 31, 2021)

Functional Chemicals



Main products

Special epoxy resins, transparent conductive coating, low-endotoxin material

Functional Resins



Main products

Encapsulants (sheets, liquids), epoxy adhesives

Precision Processing Materials



Main products

Materials for photolithography, resins for 3D printers, Ag nano ink

Bio Chemicals



Main products

Food enzymes, industrial enzymes, phospholipids



Smart Biotechnology for Better Living

Hayashibara Co., Ltd.

Hayashibara Co., Ltd., as the NAGASE Group's core company in the life sciences field, supplies ingredients for products such as food, cosmetics, pharmaceuticals, health foods, and functional dyes. Hayashibara will continue to work on inventive development of new materials using its well-honed biotechnology capabilities and increase its presence in the global market. It became a member of the NAGASE Group in 2012.

Established : 1932

Location : 1-1-3 Shimoishii, Kita-ku, Okayama

Net sales : Approx. ¥24.0 billion

Number of employees : Approx. 670

(Fiscal year March 31, 2021) ended

Food Ingredients



Main products

TREHA™, SUNMALT™, PULLULAN

Personal Care Ingredients



Main products

AA2G™, Tornare™, Alpha Glucosyl Hesperidin

Health Food Ingredients



Main products

Hayashibara Hesperidin™ S, Fibryxa™, Ascofresh™



Functional Dyes



Main products

Dyes for information recording, dyes for information displays, analytical dye productions

Pharmaceutical Ingredients



Main products

MALTOSE PH, TREHALOSE SG, PULLULAN

Trusted Partner.

Prinova Group LLC

Prinova is engaged in the sales of food ingredients, processing and contract manufacturing of multi-component pre-mixes and blends mainly in North America, Europe and China. Our core competencies are related to ingredient sourcing, R&D for blends & flavors or experience and relationships in the sports nutrition segment.

Founded : 1978

Location : Illinois, USA

Net sales : Approx. \87.0 billion

Number of employees : Approx. 1,000 (as of December 2020)

Premixes & Solutions



Premix, OEM

Beverages, tablets & Food application

Armada



Nutritional product development
& Manufacturing solutions

Sports nutrition

Ingredients



Distribution

Over 2000 ingredients

Prinova
NAGASE Group

Aromas



Distribution

Aromas & Essential oil

Flavors



Boutique flavor house

Beverage & Functional food applications

Raising the Efficiency of Back-office Operations

Nagase Business Expert Co., Ltd.

Nagase Business Expert Co., Ltd. has highly specialized staff conduct operations, with the aim of rationalizing and improving the productivity of Group management and developing human resources who contribute to the Group. Concurrently, Nagase Business Expert is contracted to provide support for legal compliance with product laws and regulations, trade security control and related matters, and to carry out intra-Group operations, on a comprehensive basis. In these ways, the company also fulfills the role of maintaining governance.

Established : 2017

Location : 5-1, Nihonbashi-Kobunacho, Chuo-ku, Tokyo

Number of employees : Approx. 240 (as of March 2021)

Description of business

Personnel services : Payroll processing, social insurance, attendance management services, etc.

General administrative services : Building and facility operation and management, fixed asset management, environmental ISO administration office duties, disaster readiness activities, auto leases, general affairs

Logistics : Trade-related documents, and customs clearance and shipping arrangements, etc.

Sales support : Support for sales activities, support for internal control, trading risk management (legal affairs, intellectual property, credit, quality, chemical related laws and regulations, security trade control)

Finance and accounting : Group finance, financial reporting, tax services, management accounting, etc.

Financial services : Receivables/payables administration, domestic and international receipts/disbursements, etc.

ICT : Support and training for use of ICT systems and tools such as RPA and ChatBot



A hand is shown in the bottom left corner, pointing towards a network diagram. The diagram consists of numerous white dots connected by thin white lines, forming a complex web. The background is a light gray with a diagonal split. The top right is white, and the bottom left is a darker gray. The text "Next Generation Business" is centered in the middle of the image.

Next Generation Business



Next-generation information communications

New Markets Created by Smart Cities

The NAGASE Group is developing businesses that leverage the comprehensive strengths of Group companies that excel in their respective fields across a wide range of 5G-related parts, materials and technologies that will be needed as 5G permeates society and the contours of smart cities take shape. Moreover, the NAGASE Group is developing core technologies in anticipation of the major transition to be brought about by 6G, which is expected to be realized as early as around 2027.

NAGASE's Value

Investment in U.S.-based 3D Glass Solutions, Inc. (3DGS), a company with proprietary technologies

Global collaboration based on regional strategies for Europe, North America and Asia



Materials Informatics (MI)

TABRASA™, an SaaS Service for the Search of New Materials

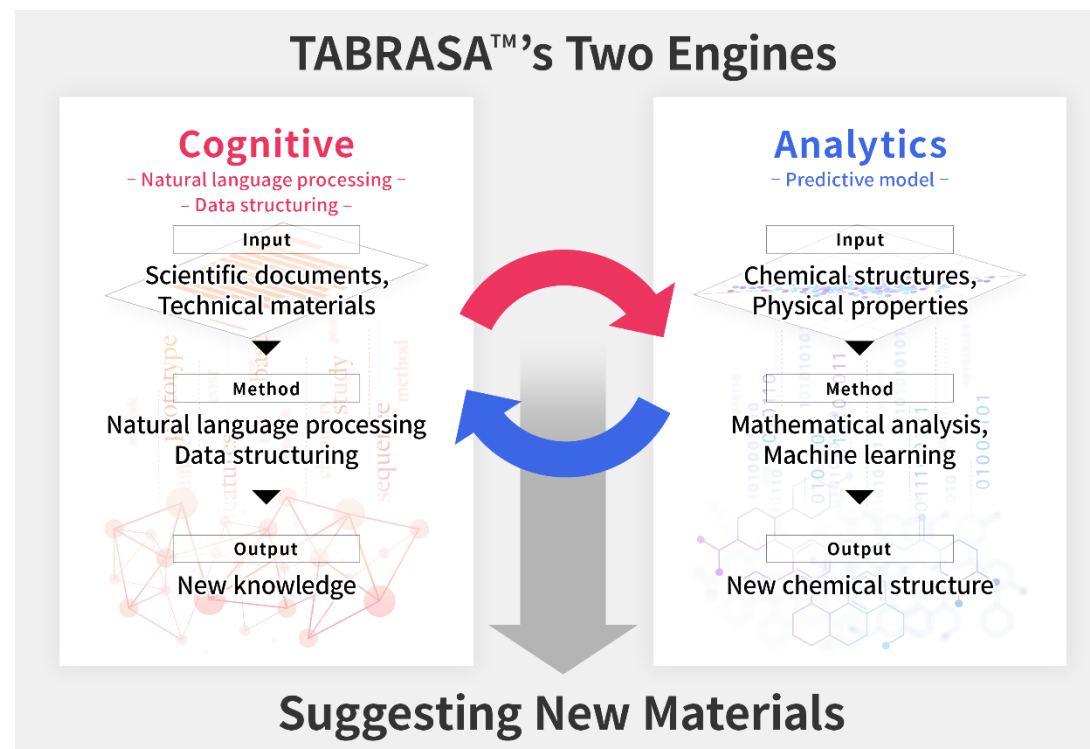
The NAGASE Group jointly developed TABRASA with IBM and began providing this service.

TABRASA™ is an MI platform for the search of new materials using AI. The service features two engines, namely the “Analytics” and “Cognitive” engines. There are high expectations for TABRASA™ for its ability to dramatically reduce development lead times for materials.

NAGASE's Value

Contribute to a reduction in development lead times for new materials by integrating knowledge of materials and AI

Expand to a wide range of industries using the NAGASE Group's customer networks



Sports nutrition

Expanding Globally with Captivating Nutrition Ingredients

Against the backdrop of heightened health consciousness, sports nutrition is showing signs of growth in Japan and other countries. The size of the sports nutrition market is estimated at approximately ¥2 trillion, and the market is expected to grow further in 2025. Leveraging the Prinova Group's flavoring, premixes and other technologies and its global procurement capabilities, we aim to drive global business expansion targeting customers ranging from athletes to ordinary consumers.

NAGASE's Value

Address needs that differ by region through global deployment of application labs

Develop new products and expand applications leveraging Group synergies (such as HAYASHIBARA HESPERIDIN S)



Biotechnology

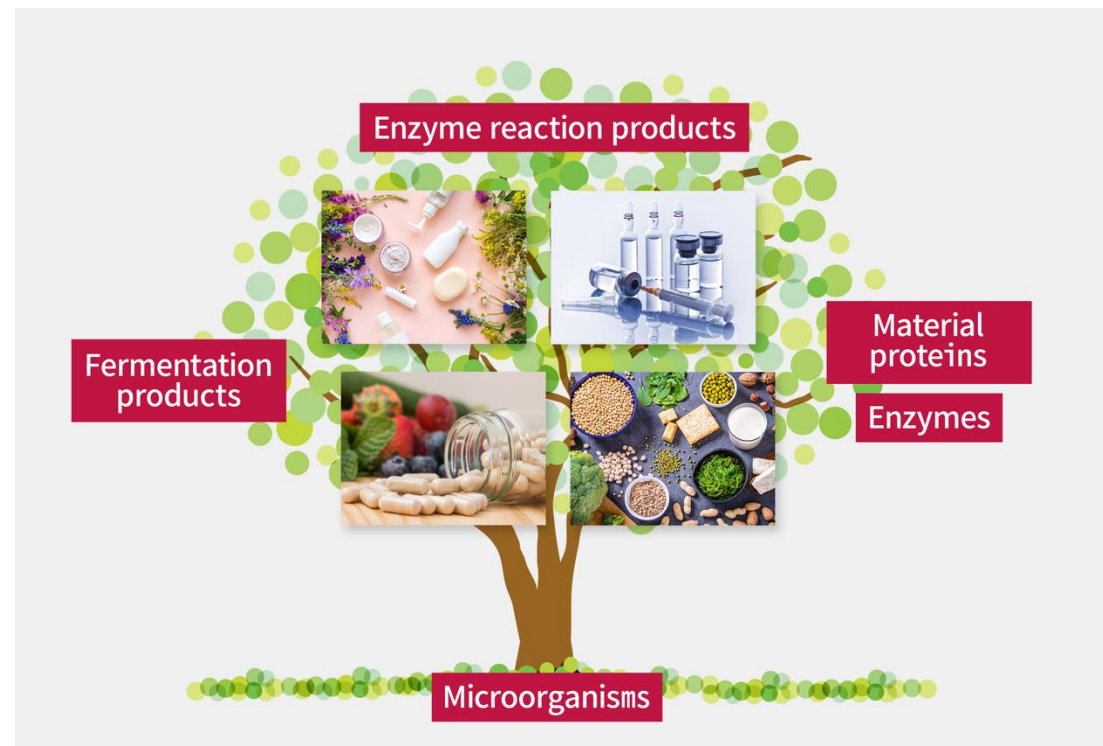
Propose Environmentally Friendly, Sustainable Businesses

By bringing together the NAGASE Group's biotechnologies, we will promote open innovation based on elemental technologies. We will combine the technologies held by Nagase R&D Center, Hayashibara, and Nagase ChemteX, and develop and produce new materials that can be made with microorganisms. Through these efforts, we will seek to create sustainable business development themes and achieve the SDGs.

NAGASE's Value

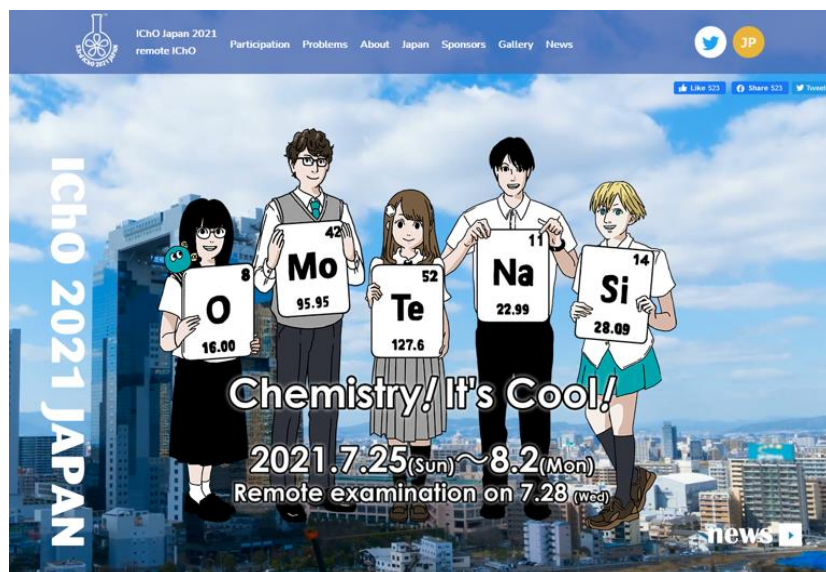
Possess elemental technologies in R&D and the production of microorganisms, fermentation products, enzymes, and enzyme reaction products

Business design through networks with customers and business partners



To Contribute to Realizing a Better Society

Social contribution activities
Develop specialized personnel



International Chemistry Olympiad in Japan in 2021
<https://www.icho2021.org/jp/>

Main initiatives

- R&D grants through the Nagase Science and Technology Foundation
- Supporting the International Chemistry Olympiad in Japan in 2021
- Sponsor of the Grand Contest on Chemistry for High School Students

Social contribution activities
Support for athletes



Shinya Wada, a blind track-and-field runner
(employed by NAGASE)

Main initiatives

- Support for Shinya Wada, a blind track-and-field runner
- Support for the activities of the Japan Blind Marathon Association
- Sponsorship agreements with various sports clubs and athletes

Corporate Information

Company Name	NAGASE & CO., LTD.
Founded	June 18, 1832
Establishment	December 9, 1917
Representative	Kenji Asakura, Representative Director and President
Capital	¥9,699 million
Employees	875 (Consolidated: 6,940)
Main Business	Import/export and domestic sales of chemicals, plastics, electronics materials, food ingredients, and medical materials
Main Offices	Osaka Head Office, Tokyo Head Office, Nagoya Branch Office



Tokyo Head Office



Osaka Head Office

As of May 28, 2021



NAGASE GROUP <https://www.nagase.co.jp/english/>