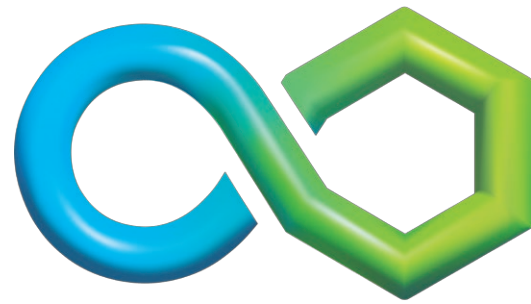


TOAGOSEI GROUP REPORT 2024

TOAGOSEI GROUP REPORT **INTEGRATED REPORT**



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Editorial policy

This report was created to communicate to stakeholders our efforts to improve corporate value in an easy-to-understand way. It discusses management policy and business strategies to help achieve sustainable growth, as well as non-financial information, including our measures to address societal issues. Information is also posted on our website.

Degrees of achievement indicated in PDCA tables

- ★★★ : Target achieved
- ★★ : Progress slower than originally envisaged and target not achieved (target achievement rate of 80% or higher)
- ★ : Target not achieved (target achievement rate of less than 80%)

Organizations covered by report

Articles in this report covers the Toagosei Group (Toagosei Co.,Ltd. and its consolidated subsidiaries). Note, however, that scope of aggregation may differ depending on reporting data. Insuch cases, specific reporting scopes are indicated.

Reference guidelines

- "International Integrated Reporting Framework," IFRS Foundation
- "Collaborative Value Creation Guidelines 2.0," Ministry of Economy, Trade and Industry (METI)
- "Sustainability Reporting Standards," Global Reporting Initiative (GRI)
- TCFD Recommendations

Date of issue of the Japanese version

June 2024
Next: June 2025 (Plan)

Period covered

January 1, 2023 to December 31, 2023
*Some articles include information on activities conducted in 2024.

For any questions or comments about this report, please contact the following:

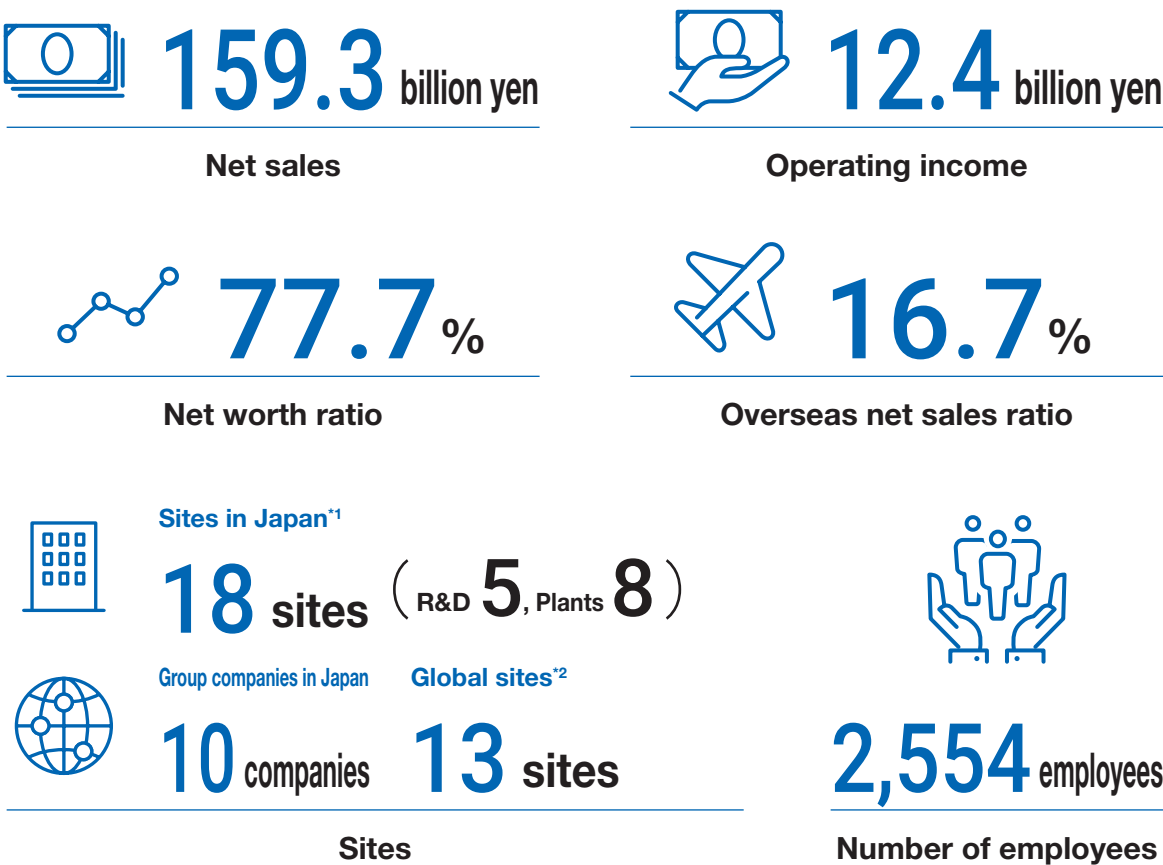
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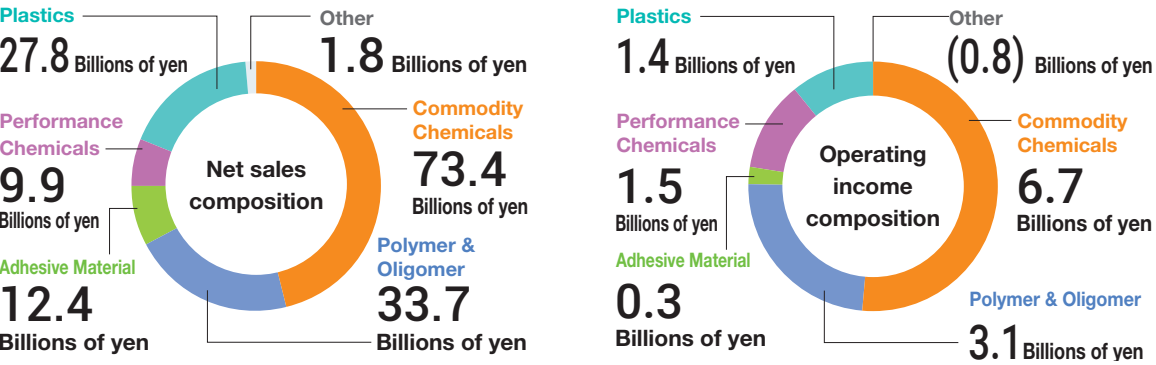
At a Glance - Toagosei's capabilities cultivated over eight decades -

Since its establishment in 1944, Toagosei has inherited originality and created a broad range of products that have contributed to people's lifestyles, industry and society. It will continue developing its businesses by leveraging the potential of chemistry with the aim of creating a healthy and affluent society.



*1 The number of sites in Japan is the number of non-consolidated sites, and includes Kawasaki Frontience R&D Center (planned to open in summer 2024).
*2 The number of global sites is the number of sites of the Group, and includes Toagosei Vietnam Co., Ltd. (established in May 2024).
Figures from year ended December 31, 2023 except for *1 and *2.

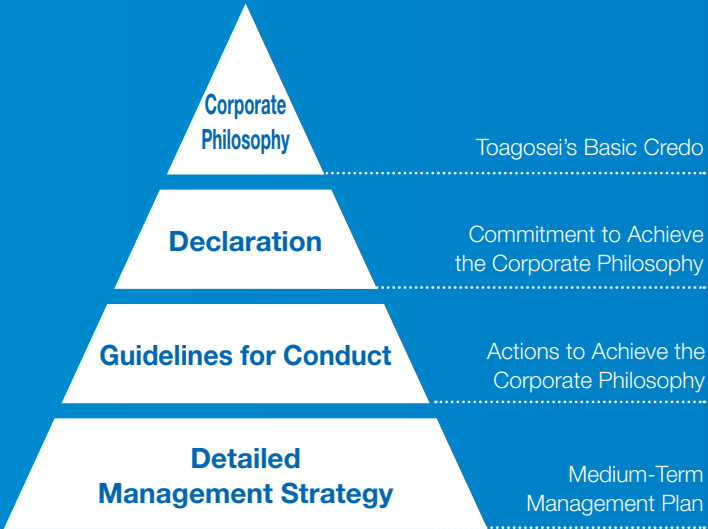
Revenue structure (FY2023 figures, by business segment)



Toagosei Group's Corporate Philosophy System

● Corporate Philosophy

Through the endless possibilities of chemistry, we bring happiness created by highly functional materials.



● Declaration

New possibilities for society and future happiness for everyone-these are the things that we will deliver through our highly functional materials.

We will continue to challenge ourselves. Utilizing the technologies we have acquired thus far, we will strive to enter new fields to provide the sort of value that only we can offer.

We will never stop moving. We will recognize the various changes in the world around us and be a societal leader through the power of chemistry, conducting ourselves as a company that co-exists with the people of society.

● Guidelines for Conduct

Vision	Have a vision for the future while creating superior key materials.
Challenges	Push new boundaries with a strong will and imaginative ideas.
Cooperation	Create new businesses together with our customers and partners.

Code of Conduct

- 1. Mission**
We will develop and provide socially useful and safe products and services that contribute to the creation of a comfortable living environment and to the development of a sustainable society.
- 2. Respect for Human Rights**
We respect the human rights of all people.
- 3. Compliance with Norms**
We will comply with domestic and foreign laws and regulations including their spirit, and with internal rules as we act in accordance with high ethical standards, common sense and responsibility. We will maintain sound relationships with politics and government, follow proper business practices in our relationships with business partners, and engage in fair and free competition.
- 4. Communication**
We will disclose information that is necessary for society in a timely and easy-to-understand manner, and strive to maintain and develop relationships of trust through constructive dialogue with all stakeholders.
- 5. Coexistence with the International Community**
As a member of the international community, we will comply with the laws and regulations of each country in which we operate, respect cultures and customs, and contribute to the sustainable development of local communities.
- 6. Confrontation with Antisocial Forces**
We will resolutely confront any antisocial forces or groups that threaten the order and safety of civil society.
- 7. Social Contribution**
We will take a global perspective and, as a good corporate citizen, actively promote contributions that are closely tied to the countries and communities in which we are located.
- 8. Harmony with the Environment**
We will voluntarily and proactively address environmental issues for the sustainable development of society as a whole.
- 9. Work Environment**
We respect the diversity, personality and individuality of our employees, and achieve work styles that enable them to maximize their abilities. In addition, we will strive to create a safe and comfortable work environment that affords comfort and prosperity for our employees.
- 10. Crisis Management**
We furnish an organized crisis management system to prepare for crises that may be anticipated in the course of our corporate activities. In the event of a crisis, we will act in accordance with internal regulations and strive to minimize damage.
- 11. Actualization of this Charter**
Recognizing that it is their role to actualize this Charter, members of management shall prepare an effective governance system and ensure that corporate ethics are thoroughly implemented throughout the Group. In the event that a violation of this Charter occurs, we will endeavor to resolve the situation, determine the cause, and prevent recurrence in a manner that is fully understood by society.



Slogan Logo

The corporate slogan of “Unending planet, united through chemistry” is expressed with symbols that indicate infinity (with the planet on the left, and chemical structure formula on the right). The corporate colors of blue and green have been used to create a bright and refreshing feel.



About our corporate logo

Our corporate logo combines the letters “T” for TOA and “G” for GOSEI. The emphasis placed on “T” articulates the words “TRUST” and “TECHNOLOGY.” The corporate logo symbolizes our commitment to rich creativity based upon trust and technology. The “T” element expresses “power,” the “G” loop expresses “emotion” and the three circles new possibilities generated from this combination.

Toagosei Group's Profile

Since its establishment on July 17, 1944, Toagosei has achieved continued growth in line with the development of the chemical industry in Japan. The Toagosei Group is expanding its technology and product fields by displaying unique strengths in five business fields: Commodity Chemicals, Polymer & Oligomer, Adhesive Material, Performance Chemicals, and Plastics.

Company Profile

Establishment	July 17, 1944
Head Office	1-14-1 Nishi-Shimbashi, Minato-ku, Tokyo, 105-8419 Japan
President and Representative Director	Mikishi Takamura
Capital	20,886 million yen
Number of employees	2,554 on a consolidated basis (as of December 31, 2023)
Fiscal Year End	December 31
Stock Listing	Tokyo Stock Exchange Prime Market
Securities code	4045

▶ Main business lines

- Commodity Chemicals
- Polymer & Oligomer
- Adhesive Material
- Performance Chemicals
- Plastics
- Other

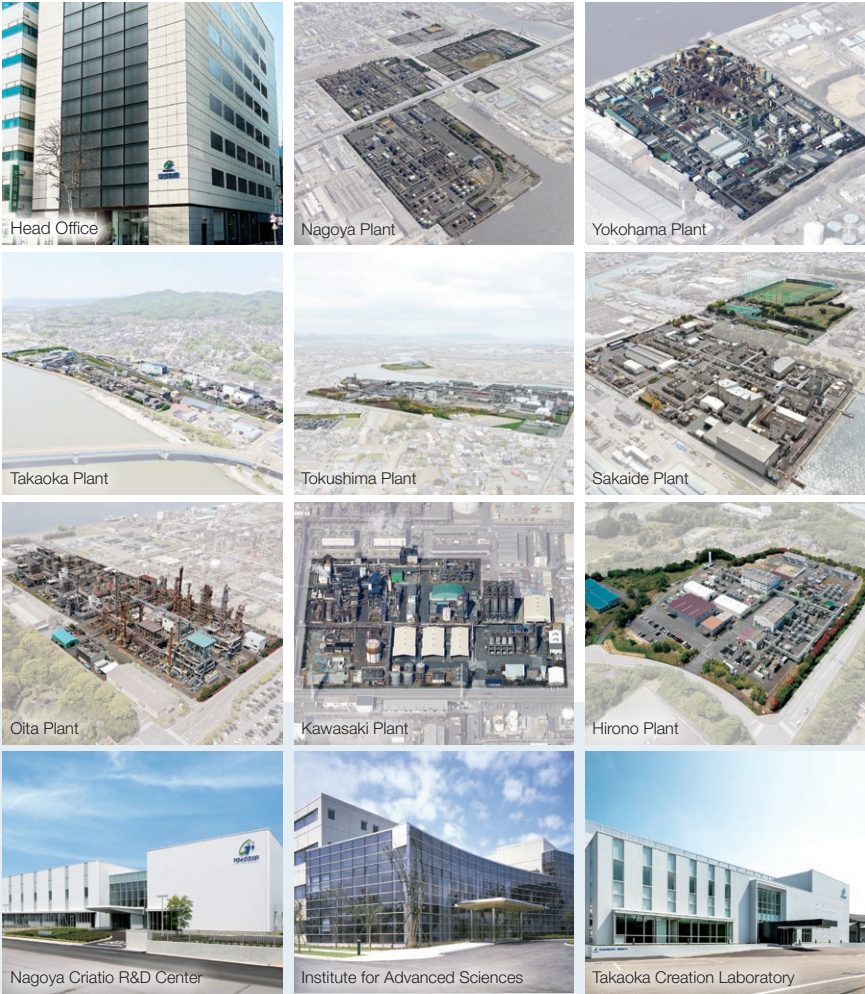


JAPAN

Toagosei Co., Ltd.

Head Office, Osaka Branch, Nagoya Branch, Shikoku Sales Office, Fukuoka Sales Office, Nagoya Plant, Yokohama Plant, Takaoka Plant, Tokushima Plant, Sakaide Plant, Oita Plant, Kawasaki Plant, Hirono Plant, Nagoya Criatio R&D Center, Institute for Advanced Sciences, Takaoka Creation Laboratory, Tokyo Technology Laboratory

* Kawasaki Frontience R&D Center is planned to open in summer 2024 (p32).



ASIA

Singapore

- Toagosei Singapore Pte Ltd.

Thailand

- Toagosei (Thailand) Co., Ltd.
- Aronkasei (Thailand) Co., Ltd.

Taiwan

- Taiwan Toagosei Co., Ltd.
- Toa-Jet Chemical Co., Ltd.

China

- Toagosei Hong Kong Limited
- Toagosei (Zhuhai) Limited
- Toagosei (Zhangjiagang) New Technology Co., Ltd.
- Toagosei (Shanghai) Management Co., Ltd.

South Korea

- Toagosei Korea Co., Ltd.

Vietnam

- Toagosei Vietnam Co., Ltd.

* Established in May 2024

AMERICA

USA

- Toagosei America Inc.
- Elmer's & Toagosei Co.

▶ Principal Affiliated Companies

- Toa Techno-Gas Co., Ltd.
 - MT Ethylene Carbonate Co., Ltd.
 - MT AquaPolymer, Inc.
 - Aron Packaging Co., Ltd.
 - Aronkasei Co., Ltd.
- Toa Kenso Co., Ltd.
 - TG Corporation
 - Toa Business Associe Co., Ltd.
 - Toa Kogyo Co., Ltd.
 - Toa Logistics Co., Ltd.



Toagosei Group's Products Serve Society

The Toagosei Group's products can be found throughout everyday life. These products help not only to make our lives more comfortable but also to protect the environment.

Businesses with core roles in the growth strategy



Polymer & Oligomer

p38

Polymers

Acrylic polymers

We offer a wide range of acrylic polymers, such as dispersants and thickeners, for various uses such as pharmaceuticals, cosmetics and toiletries.



ARONFLOC polymer flocculant

This chemical agent is widely used in wastewater treatment not only at sewage treatment plants but also for treating wastewater from paper manufacturing and food processing plants.



Oligomer

ARONIX UV-curing resin

The ARONIX series is used in many fields, ranging from paints and inks to adhesives and electronic materials. These environmentally friendly resins are free of organic solvent.



Adhesive Material

p40

Aron Alpha instant glues (U.S. brand name: Krazy Glue)

Aron Alpha and Krazy Glue are the top brands in instant glues. Our wide range of organic solvent-free, environmentally friendly adhesives satisfies diverse consumer needs.



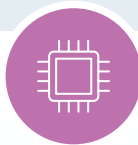
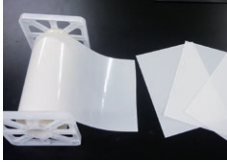
Functional adhesives

We offer a range of functional adhesives for industrial applications including reactive, hot-melt, and UV-curing types. These adhesives are widely used in the assembly of automotive components and electronic components, among others.



Low-dielectric bonding film

A film-type modified epoxy adhesive with excellent dielectric properties, it is used in equipment for high-capacity, high-speed communications such as 5G.

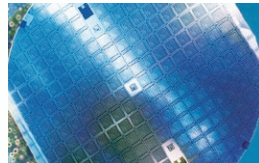


Performance Chemicals

p42

High-purity inorganic chemicals

Chemicals that are essential in the cutting-edge semiconductor field, such as Liquefied hydrogen chloride used for forming epitaxial layers in silicon wafers and manufacturing semiconductors.



KESMON inorganic deodorant

KESMON is used in various situations, such as for toiletries, clothing and the interior of cars. Odors are adsorbed through a chemical reaction, stopping unpleasant odors from being re-emitted.



AronFibro cellulose nanofiber

We have developed a cellulose oxide that can be easily nano-sized using our proprietary process. It is attracting attention as a material that contributes to the realization of a decarbonized society.



Plastics

p44

Anju-brand nursing care products

We are addressing the growing demand associated with the aging population, developing products that match the needs of the nursing care field and everyday life so that seniors can live a full and comfortable life.



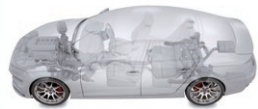
"OneAid" pet support products

Products developed for supporting the lives of elderly pets with bodily functions that have deteriorated with age, which help to alleviate the burden on those involved in pet care.



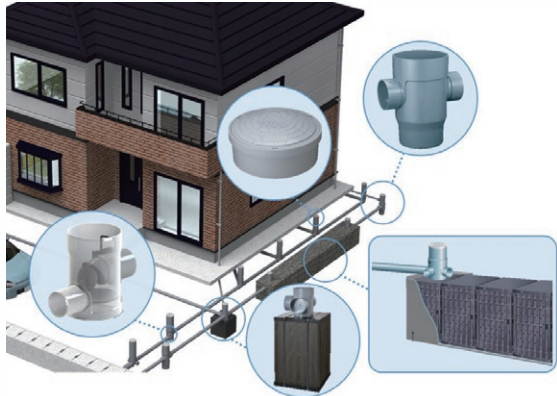
Elastomer

Used as sealing material for automotive and other applications, thanks to their rubber-like elasticity and ease of molding similar to that of general-purpose plastics.



Infrastructure products and systems

We propose piping systems effective for the drainage of every type of urban structure and contribute to the construction of infrastructure that supports our daily lives.



Commodity Chemicals

p36

Caustic soda

Caustic soda is a fundamental raw material in industry used in a wide range of products such as synthetic fibers, paper, pulp and chemicals.



Sodium hypochlorite

Used for sterilization of water, sewage, and swimming pools, our products suppress impurities such as chloric acid and bromic acid, helping provide a safe, reliable water supply.



Acrylic monomers

Acrylic acid is a raw material for highly water-absorbent resins, polymer flocculants, etc. Acrylate esters are raw materials for tape adhesives, paints, and various other products.



Industrial gases

We handle a wide range of industrial gases including oxygen, nitrogen and argon, meeting the extensive needs of various industries ranging from the steel, chemical and other key industries to cutting-edge industries such as semiconductor manufacturing and medicine.



Commodity Business

Toagosei Group's Value Creation Trajectory

The Toagosei Group has been leveraging the power of chemistry to create new value that meets the needs of a rapidly changing society. By providing products that meet the needs of the times, we cultivate solid technical capabilities and trust in our products. With these as our foundation for value creation, we continue to develop new products and technologies that meet the expectations of society and increase our corporate value.



TOP MESSAGE



Investment
in R&D as
the basis for
growth.
A new driver of
growth to reach
a stage higher.

— Mikishi Takamura
President and Representative Director

1. Proactive investments toward achieving growth

► Growth in business performance and vague sense of crisis

Our Group overcame the difficulties we faced through the first half of the 2000s to achieve a strong financial structure practically free of debt in the year 2010. It has been around nine years since I was appointed President in November 2015, just as our management base began to stabilize.

With all our stakeholders anticipating business performance to improve further, we began investing in renewals and other upgrades of production facilities for commodity products such as caustic soda and acrylic monomers that are vulnerable to market conditions, under the stance of “reinforcing production and sales systems of existing businesses.” And in the high-performance products segment, we embarked on construction of a new plant for acrylic polymers in 2016 in Thailand that is slated to undergo tremendous economic growth, and that would become the central base in Asia. Yet at the time, the Japanese economy was suffering from deflation which made it challenging to make forecasts for the future—there was a vague sense of crisis as to whether there were really actually any projects that called for investments.

In light of this background, the new Medium-Term Management Plan that we embarked on from 2017 leveraged our strong financial structure to significantly increase proactive capital investments linked to future development over a medium- to long-term span.

► Strong aspiration for R&D

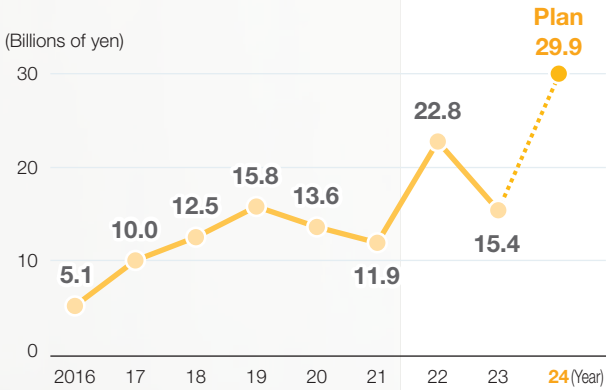
In 2018, I faced my first decline in profit since being appointed President. A closer look at the breakdown showed that while our EBITDA (indicator that factors in amortization expenses on top of operating income) for commodity product lineups increased, the EBITDA of high-value-added product lineups that we should expand declined, revealing a lack of development in new products.

In addition to strengthening our existing businesses, we will need to continue generating new businesses through high-performance and high-value-added products in order to achieve medium- to long-term growth.

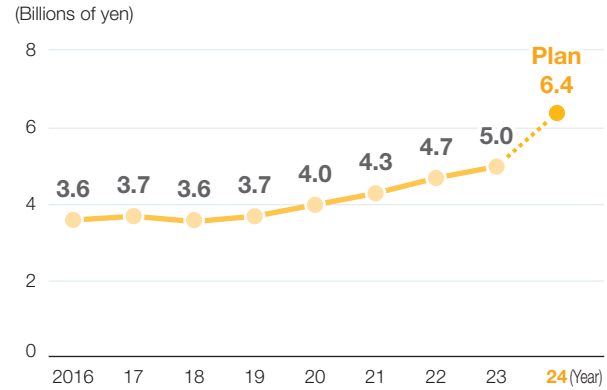
We need to be active in investing management resources toward developing systems for uncovering new avenues of growth and training the personnel that underpin the launch of new products and new businesses, and I strongly recognize that this is one of the highest priority actions for management.

Chemical products are playing an even greater role these days in order to bring about significant changes to the framework of industry and products, and an even higher level of performance is required of them. We are planning to focus our efforts even more on R&D to meet the needs of customers more accurately while forecasting the future, by capturing every moment of this business opportunity.

Capital investment



R&D expense



2. R&D style based on “collaborative creation with customers”

In the chemical industry, it takes a certain amount of time from R&D to generation of income. It is vital to move ahead with R&D and capital investments at the same time and achieve a balance between the two over the long term. The key approach behind R&D is to accurately identify the needs of customers and properly recognize and understand the challenges they face before coming up with proposals—it is difficult to create truly competitive products without all our comprehensive capabilities, including the efforts of sales staff involved in development.

In recent years, we successfully developed products like adhesives for automotive batteries and binders for lithium-ion batteries in the mobility field. Products like these can be considered successful examples of “collaborative creation with customers” that involves accurately identifying customer needs and working together to come up with suitable solutions.

We are planning to open the “Kawasaki Frontience R&D Center” in summer 2024 as a new R&D center for consistently achieving successful examples like these.

► Research Solutions Functions at the core of Kawasaki Frontience R&D Center

The “Research Solution Department” established at this research center is the organization that will achieve the aforementioned collaborative creation with customers. In short, this department is a fusion of the very best of our research, sales and development functions.

Creating new products calls for more than simply constructing a building dubbed a research center—its operation is also vital. I am focusing in particular on enhancing the intangible functions of this research center. This refers to actively and accurately identifying the needs of customers, creating both the materials and products required for meeting those needs, building up the necessary know-how, and training the relevant personnel. With this cycle, we will be generating new drivers for growth, like the successful examples in mobility-related and semiconductor material-related segments, and even the medical care-related segment.

Implementing project-based measures and increasing organizational flexibility are essential for cultivating R&D-based thinking that is cross-departmental in nature. Another crucial factor is deciding on capital investments with a view toward mass-production. This includes expanding on the test facilities that help build our relationship with customers, and investing early in areas where future expansion is anticipated.

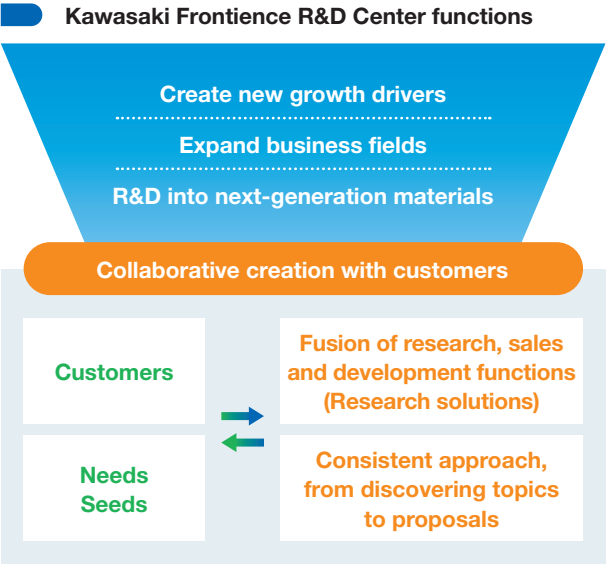
► Change at the Toagosei Group.
Growth drivers beginning to take shape

Industries are all facing a turning point right now, with the mobility sector in particular undergoing a drastic shift to EVs. AI is making tremendous strides in the telecommunications sector, which will severely impact demand for semiconductors going forward.

Our superior products like adhesives for automotive batteries and binders for lithium-ion batteries have contributed significantly to our Group’s performance in the mobility field, with purified liquefied hydrogen chloride achieving positive results in the semiconductor-related field.

The general-purpose field has earned our Group a stable operating cash flow, and continues to remain an indispensable business. Yet to achieve an even higher level of growth, we urgently need to work on our range of high-performance and high-value-added product lineups by further expanding our mobility-related and semiconductor-related sectors, and achieving results as soon as possible in new fields such as the medical care-related sector and cellulose nano-fibers.

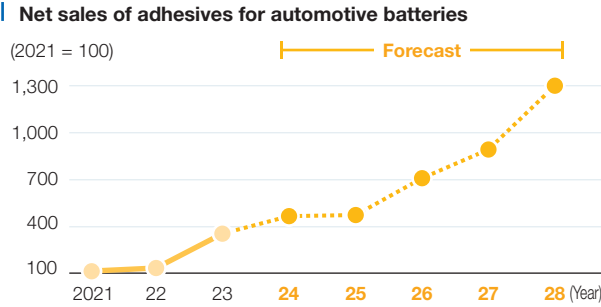
While we have experienced many ups and downs due to changes in external circumstances in the past, we have continually achieved growth by adapting as necessary in the face of changes, such as the spread of COVID-19 infections and escalating resource prices. I firmly believe above all else that this was because we were able to respond flexibly to drastically changing times, take action in an consistently rational manner, and make medium- to long-term investments into our facilities and R&D.



● Adhesives for automotive batteries (hybrid vehicles, fuel cell vehicles)

Used for bipolar nickel-hydrogen batteries, and gradually installed in new HVs. Also installed in fuel cell vehicles.

Installed models: MIRAI, Aqua, Crown, LEXUS RX, Alphard, Vellfire, etc.



* Index based on 2021 net sales as 100



Vellfire (Source: Toyota Motor Corporation)



New Crown FCEV (fuel cell vehicle) (Source: Toyota Motor Corporation)

3. All foundations based on human resources

► Toward an appealing company with a comfortable working environment

“People” are the foundation of all corporate management, from research and development through to the manufacturing and sales of products. Everyone’s work styles changed during the COVID-19 pandemic and we implemented various work style reforms beginning with our teleworking system, but I think it is crucial to make sure that each and every employee finds a sense of pride and excitement by being a part of our Group.

I feel that if we are able to make our company a place where people with diverse viewpoints—never satisfied with the current situation—come together, inspire one another, achieve consistent growth, and leverage their full potential, then we will definitely be able to enhance our future value.

► Development of system harnessing the potential of human resources

When factoring in future situations like how the declining birth rate will result in a decline in the working population, strategically hiring skilled personnel and human resources with hidden potential, and developing a system for training them is of the utmost urgency.

We are focusing on investing in our human capital so as to create a more rewarding workplace environment, including introducing an employee stock ownership plan (ESOP) in 2023 with the view to enhancing our welfare programs and providing incentives, and revising our wage structure by raising wages by 4.0% in 2023 and 6.1% in 2024. We are also enhancing mid-career employment opportunities as a way of securing highly skilled human resources. We will continue investing aggressively in human capital with the aim of becoming a corporate group where each and every individual can maximize their full potential, beyond constraints like gender, race or nationality.

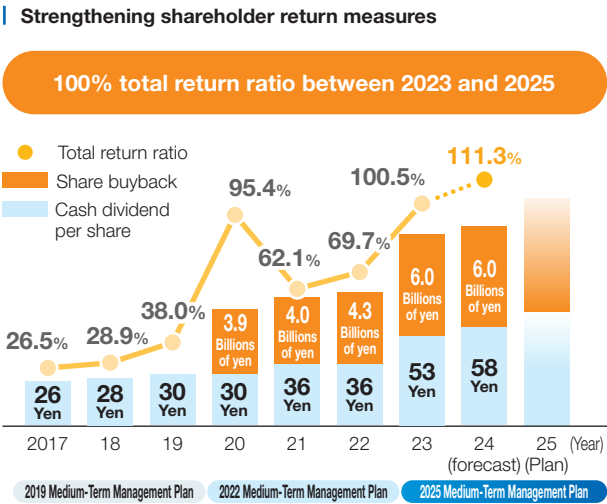
4. For shareholders and investors

We consider greater shareholder returns as essential for increasing the value and evaluation of our Group.

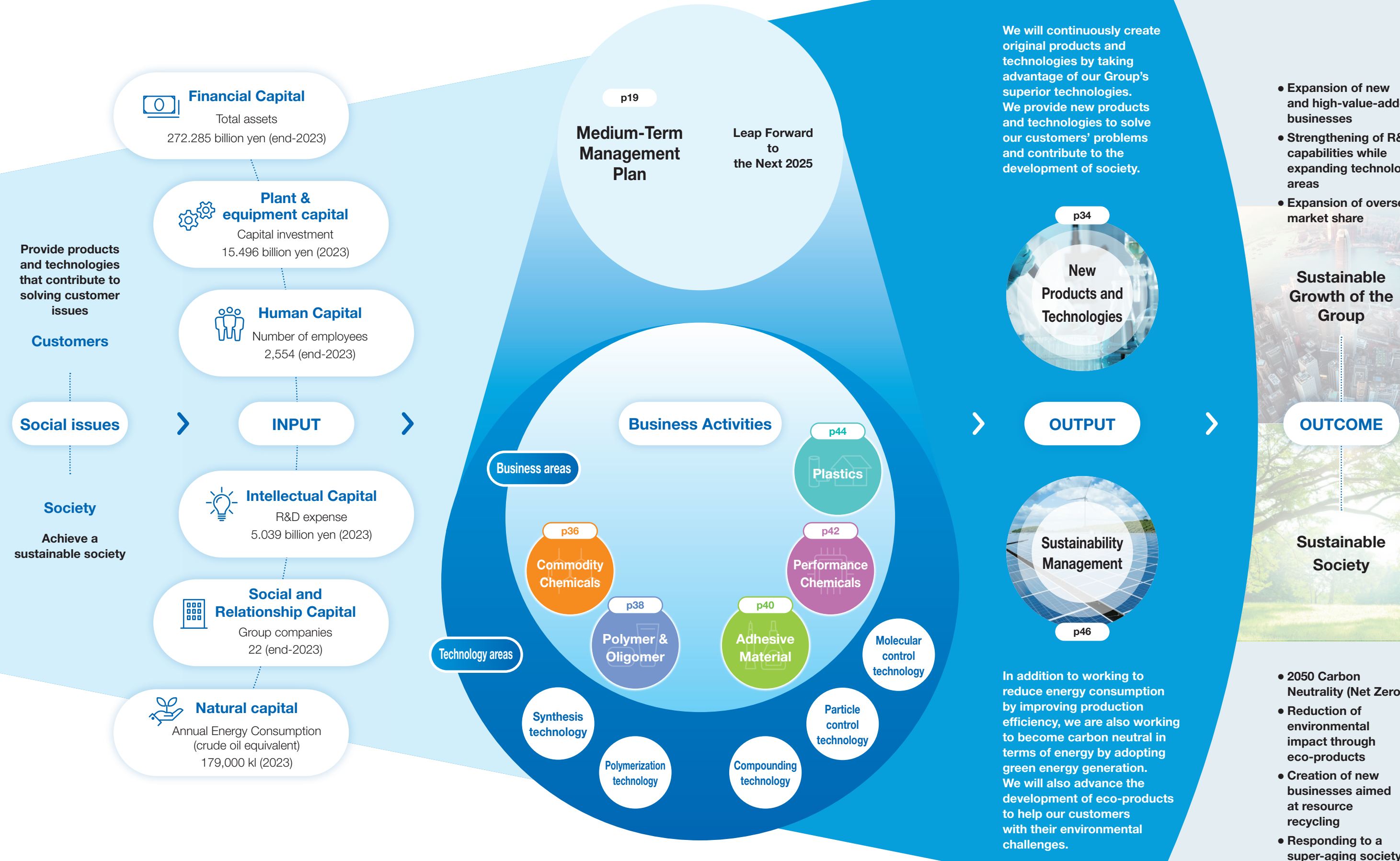
Initiatives announced in August 2023 for improving our PBR to 1x or higher are primarily based on (1) Strengthening profitability by promoting our growth strategy, (2) Improving capital efficiency, and (3) Contributing to a sustainable society, to achieve total return ratio of 100% during the period between 2023 and 2025 by strengthening shareholder return measures.

Our Group will be investing heavily toward growth, and by increasing profits, we will create an ongoing positive cycle of growth investments and shareholder returns so that we are able to strengthen shareholder returns in the future.

We will be making every effort possible to meet the expectations of all our shareholders and investors, and develop our Group into a company that is even more appealing.



Value Creation Flow



Toagosei Group Materialities

In the process of organizing our 2025 Medium-Term Management Plan, the Group has developed a set of materialities (key priorities) based on our corporate philosophy, which are to be addressed by management.

From the perspective of both the Group's sustainable growth and contribution to society, we have organized these materialities into those that are business-related and those that are business infrastructure-related, and set KPIs for each.

Specifying materialities

Our Group has formulated a Medium-Term Management Plan to be put into action toward 2025.

In addition to conventional KPIs that have served as key financial indicators in past Medium-Term Management Plans, the following six materialities have been identified while formulating this plan as key challenges to address in relation to "business" and the "business foundation."

- Achieving a greater presence as a company
- Expansion of high-value-added products
- Expansion of overseas market share
- Helping achieve a sustainable society
- Promotion and development of diverse human resources
- Key management indicators

These KPIs and materialities were announced after their validity was studied by management.

Steps to identifying materialities

Issue identification

In the process of organizing the 2025 Medium-Term Management Plan, we identified medium and long-term issues for the Group from discussions with stakeholders and various divisions.

Discussion

Organization of key priority proposals

The importance and relevance of issues were organized by the Corporate Planning Department and incorporated into KPIs.

Reporting / Direction

Discussion and approval by management

Discussed in parallel with the 2025 Medium-Term Management Plan at the Board of Directors, Management Committee, and meetings of all Executive Officers.

Business-related materialities

KPI	2023 Results	2025 Plan
Achieving a greater presence as a company		
Net sales	159.3 billion yen	183.0 billion yen
Operating income (Operating income to net sales ratio)	12.4 billion yen (7.8%)	20.0 billion yen (11.0%)
EBITDA (Earnings before interest, taxes, depreciation and amortization)	23.1 billion yen	32.0 billion yen
Capital investment (inspection basis)	15.4 billion yen	68.0 billion yen (2023-25)
Expansion of high-value-added products		
High-value-added product to net sales ratio	44%	48%
R&D expense	5.0 billion yen	5.6 billion yen
Expansion of overseas market share		
Overseas net sales	26.6 billion yen	40.5 billion yen

Business infrastructure-related materialities

KPI	2023 Results	2025 Plan
Helping achieve a sustainable society		
GHG emission reduction (from 2013)	25.3% reduction	35% reduction
Promotion and development of diverse human resources		
Percentage of women in managerial positions	4.0%	5%
Key management indicators		
Earnings per share (EPS)	102.78 yen	153 yen
Ratio of ordinary profit to total assets (ROA)	5.4%	8.2%
Ratio of net income to shareholders' equity (ROE)	5.8%	7.3%

Group Profile | Value Creation Story | Value Creation Strategy | Foundation Supporting Value Creation | Key Data

2025 Medium-Term Management Plan

Aims of the 2025 Medium-Term Management Plan (2023-2025)

Aims

Leap Forward to the Next 2025

We will accelerate the growth of our Group through the creation of new businesses and the expansion of high-value-added businesses that produced results in the previous Medium-Term Management Plan.

In the 2025 Medium-Term Management Plan, we aim to achieve growth by expanding the scope of the Group's business areas in terms of markets, products, and R&D, with the promotion of digital transformation (DX) and human resource development at the core of the plan. We will also contribute to the realization of a sustainable society through the reduction of greenhouse gas emissions and the development of eco-products.

Key initiatives

1

Accelerating expansion in Japan and overseas by aggressively investing management resources in growth businesses

2

Strengthening R&D capabilities

3

Spreading and expanding digital transformation (DX) promotion

4

Securing and developing human resources with foresight

5

Promoting Sustainability Management

18

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2025 Medium-Term Management Plan

Progress with the 2025 Medium-Term Management Plan

Our Group has developed steadily through the implementation of growth strategies set forth in past Medium-Term Management Plans.

In the “Leap Forward to the Next 2025” Medium-Term Management Plan that we embarked on 2023, we aim to achieve further growth by expanding the scope of the Group’s business areas in terms of markets, products, and R&D, with the promotion of digital transformation (DX) and human resource development at the core of the plan. We will also contribute to the realization of a sustainable society through the reduction of greenhouse gas emissions and the development of eco-products.

Basic Policies

Strengthening new product/technology development capabilities

Overseas net sales expansion

Helping achieve a sustainable society

We will establish the new development base Kawasaki Frontience R&D Center in Kawasaki City in order to accelerate mobility, electronic materials, medical care, and environmental-related research that forms the key areas of the Medium-Term Management Plan we are focusing on.

We will establish new bases in China (Shanghai) and Vietnam with the view to expanding our share of high-value-added products, as well as cementing a foothold in the Southeast Asian market.

In addition to installing solar power generation and small-scale hydroelectric power generation, we will reduce greenhouse gas (GHG) emissions within our Group and contribute to the development of a sustainable society.

Overseas net sales expansion Establish bases in China (Shanghai) and Vietnam to expand sales.

Toagosei (Shanghai) Management Co., Ltd. Development Center Began operations in December 2023

We will expand our business structure in China such as strengthening existing businesses and acquiring new customers in China, and concentrating management operations.

New marketing and development

Aqueous Polymers business will expand sales of poultice and cooling sheets

LB Binders business will achieve results and development from an early stage, including cathodes and next-generation batteries

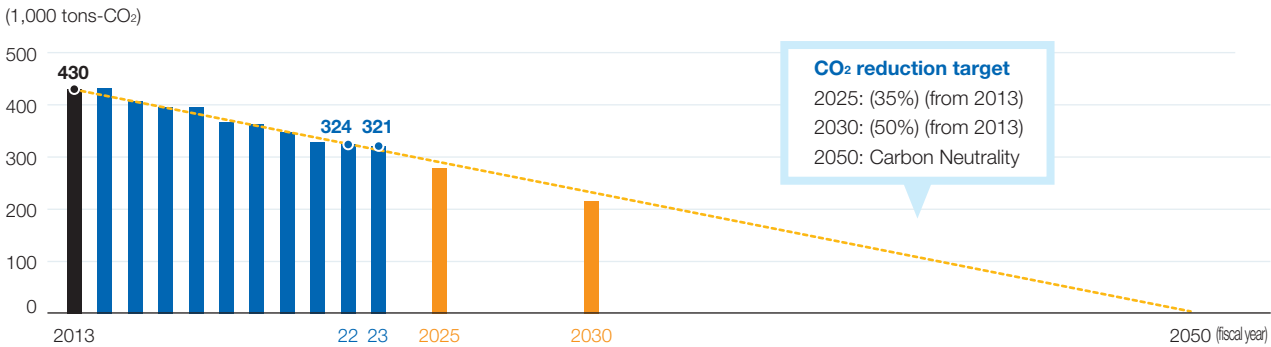
Function Adhesives business will begin development for battery packaging materials

Helping achieve a sustainable society

We engage in environmentally friendly business activities with the aim of achieving sustainable development of an affluent society for all including future generations.

We will be contributing to sustainable development with the goal of creating an affluent society for all including future generations, by actively tackling climate change issues caused by global warming.

Toagosei Group CO2 emissions



Toagosei Vietnam Co., Ltd. Established in May 2024

We will provide wastewater treatment chemicals and technical services that suit the local water quality in the area in line with the tremendous economic growth and development of social infrastructure in Vietnam. In addition to other materials, the company will serve as a sales base in Southeast Asia.

Initiatives for achieving 2025 targets

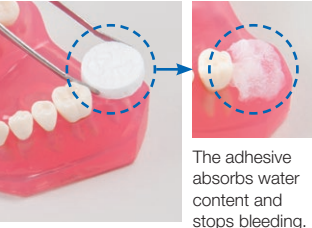
1. Installation of mega solar at the Nagoya Plant, Takaoka Plant and Tokushima Plant.
2. Construction of our first small-scale hydroelectric power plant in Nagano Prefecture, scheduled for completion in 2026.

Strengthening new product/technology development capabilities (Medical care-related)

We will launch new products in the medical care sector, our new business that are to be the future of our Group.

Aron cure Dental

Aron cure Dental is an adhesive material for medical applications that helps stop bleeding after removal of teeth. It is scheduled for market launch around summer 2024, and is intended for dental applications.



The adhesive absorbs water content and stops bleeding.

Strengthening new product/technology development capabilities (Patent strategy)

We are actively investing management resources toward strengthening research and development into mobility, electronic materials and medical care as the key areas of focus in the 2025 Medium-Term Management Plan. We will continue focusing efforts on the areas that are to be the future of our Group.

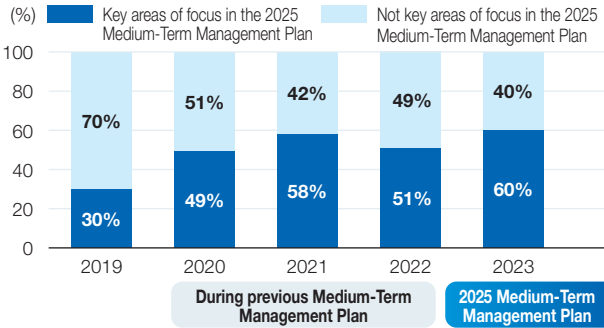
Technology protection helps maintain a competitive edge

Aron Alpha “Skin Protect”

Launched in November 2023, Aron Alpha “Skin Protect” is a skin adhesive that provides instant care of injuries with a strong level of protection.



Ratio of patent applications in key areas of focus in the 2025 Medium-Term Management Plan



Numerical Targets and Future Issues

While there is some discrepancy of numerical targets of net sales and operating income between the 2024 forecast and the 2025 plan, we are aiming to achieve these targets through steady implementation of our basic policies.

	2023 Results	2024 Forecast	2025 Plan
Net sales	159.3 billion yen	168.3 billion yen	183.0 billion yen
Operating income [Operating income margin]	12.4 billion yen [7.8%]	14.0 billion yen [8.3%]	20.0 billion yen [11.0%]
EBITDA (Earnings before interest, taxes, depreciation and amortization)	23.1 billion yen	25.0 billion yen	32.0 billion yen
High-value-added product to net sales ratio	44%	44%	48%
Capital investment (inspection basis)	15.4 billion yen	29.9 billion yen	68.0 billion yen (3 year cumulative)
Overseas net sales [Overseas net sales ratio]	26.6 billion yen [16.7%]	29.6 billion yen [17.6%]	40.5 billion yen [22.1%]
EPS (Earnings per share)	102.78 yen	99.43 yen	153 yen
ROA (Return on assets)	5.4%	5.6%	8.2%
ROE (ratio of net income to shareholders' equity)	5.8%	5.4%	7.3%
PBR (Price Book-value ratio)	0.76x	0.86x	—

* As of April 30, 2024

Recognition of Issues

Selection of strategies that will lead to results and growth by reviewing progress of the Medium-Term Management Plan and identifying issues that need to be addressed.

- Enhancement of the product supply system (materials for semiconductors, binders for lithium-ion batteries, adhesives for automotive batteries, etc.)
- New products brought to market as a result of R&D in the Medical Care business.
- Management of balance sheets (selling off of cross-shareholdings, strengthening of shareholder returns).

Message from the Vice President



Hidenori Kobuchi
Vice President and
Representative Director

Seeds-Needs matching.
Evolving from a company that “captures” business opportunities to one that “creates” them.
The growth of the Toagosei Group is an extension on this growth.

A long career centered on development.
Creating new growth drivers through intensive studies of issues and aligning carefully with customers

Since joining Toagosei, I worked at research centers, the Sales Department, Operating Department and MT AquaPolymer (a group company), and during that time I had been engaged in various development work and operational management. One memorable event during my time involved in the development of new products was the “Acrylic Products Enhancement Project” launched in 2013.

Comprising members from operations, sales, research and plants, and harnessing the needs-seeds matching method, we were able to create binders for lithium-ion batteries and numerous other high-value-added products. I feel that project was a major turning point for our company as it cultivated

a sense of confidence toward success when focusing on tasks, as well as awareness that business could not rely solely on past knowledge and experience and that a broader perspective was needed.

Yet simply casually aligning seeds with needs does not lead to the formation of new ideas. Success only comes about by exploring and reconsidering internal and external technology and information, approaching suppliers to gain an understanding of their true sense of issues, and carefully examining what needs to be done for matching and where the specific issues are for generating business before attempting trial and error. I feel that it is vital for development to organize the processes that have been built up along the way, including past projects, and arrange them so that they can be applied.

Ensuring this process is the role of my position as Vice President who has been focused on development, and I hope to further build on the strengths of our Group by taking a more strategic approach.

Create products aimed at quickly resolving issues present in megatrends, to reach an even higher stage

When considering the future of our Group, it is crucial to understand the significant changes that have occurred throughout the social and business environments in recent years. Numerous challenges are presenting themselves—climate change, biodiversity, water risks—and there are many cases where companies are called upon to help resolve them. In addition to the mobility, semiconductor, electronic materials, medical care, and other fields that our Company is focusing on, I believe that quickly creating products aimed at resolving issues with megatrends and working with our suppliers and society will lead to development of our Group. I consider working to resolve such social issues is a role that our Group should be engaged in.

The Research Solution Department set up at Kawasaki Frontience R&D Center opening in summer 2024 is an organization that serves to discover permanent, high-value added topics across the entire Company, and the results of its endeavors into the future are anticipated. Meanwhile, identifying such topics is also an essential and rewarding task for all departments, and I will continue to spearhead company-wide development activities into the future, including involving those from the Commodity Chemicals Division that provide a broad base for industry.

The key point for approaching overseas markets is launching a suitable product lineup as quick as possible in areas with a high concentration of needs. Supporting companies like Toagosei (Thailand) Co., Ltd. that develops product lineups suited to the Southeast Asia region and Toagosei (Shanghai) Management Co., Ltd. that aims to release our top line of products to the Chinese market is vital from the perspective of expanding the ratio of our overseas sales and identifying global trends. Acquiring local development information and building a sales system, as well as providing ongoing training of overseas personnel underpinning such efforts, are important, and we will be driving our shift toward globalization by dispatching young human resources overseas early on to give them on-the-ground experience.

Harnessing the full capabilities of our Group together with tough employees to take on new challenges

The source of a manufacturer's strength is identifying a steady stream of high-value-added products and businesses, launching them and continuing to build on profits. Yet even if a certain topic is identified, it takes the dedicated effort and cooperation of numerous divisions to actually turn that to production and achieve sales.

The corporate culture of our Group is built on honesty and integrity. I have witnessed countless times that all our employees have immense potential and maximize their skills when needed, and they become even tougher by overcoming any adversity. That is to say, I feel that our Group will grow even stronger by having our employees blossom into resilient, highly skilled personnel with each successful

project they work on, who are capable of leveraging their efforts throughout all their tasks. I hope to make a proper effort to creating a system and training personnel so that our employees are able to apply their skills to the maximum extent possible through each stage.

Aiming to enhance both corporate value and social value

To build up positive relations with all our stakeholders, I feel that there is a greater need to disseminate information from management, and it is important to make as much information available on the future potential and growth capabilities of our Group. In addition to disclosing financial information based on indexes like ROE and PBR, we are actively disclosing non-financial information including our advanced intellectual property related to research and development, our approach to addressing the environmental impact of production, details of our advanced quality control, as well as our efforts for respecting human rights throughout the supply chain, as we work to build up a sense of trust with those outside of our Group.

Actively engaging in efforts both inside and outside the Company help to create business opportunities and improve profitability, and we are also aiming to boost both our corporate value and social value. I am confident that connecting this approach to happiness of our employees, growth of the company, and the future of Japan will play a key role in becoming a century-old company in the future.



Financial Capital Strategy

Initiatives for improving PBR

On August 4, 2023, we announced initiatives for improving our PBR (Price Book-value ratio) as a means of achieving management with a focus on capital costs and share price. Behind this announce was the fact that our PBR has remained at a level less than 1x since 2018, which resulted from our ROE slumping due to the imbalance between our operating income and net worth. More specifically, we recognize that while we have been actively focusing capital investments in high-performance products, it has taken time to monetize those investments, and the imbalance between the increase in our net worth and the growth in profits has been affecting our capital profitability.

To address these issues, we decided that we needed to take measures to further increase our highly profitable high-performance products by actively strengthening research and development efforts and expanding into overseas markets, while also controlling our net worth to improve our capital efficiency. With this in mind, we set out to improve our PBR to 1x or more by achieving an ROE of 8% by 2027, through a well-balanced mix of a growth strategy that strengthens profitability, a financial strategy that improves capital efficiency, and a non-financial strategy that contributes to a sustainable society.

Aim to achieve PBR of 1x or more by achieving an ROE of 8% by 2027

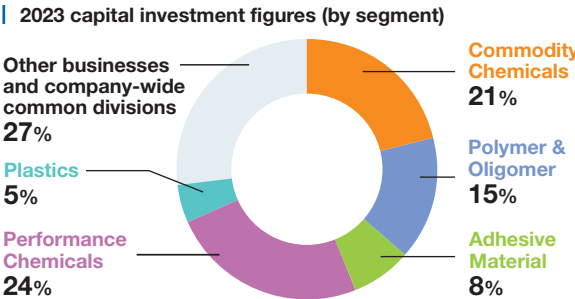
Growth Strategy	<div>1</div> <div>Strengthening profitability</div> <div>Consolidated operating income target 20.0 billion yen by 2025 24.0 billion yen by 2027</div>	<div>Strengthen development capabilities and overseas expansion of the mobility, semiconductor and medical care fields</div> <div><ul style="list-style-type: none">Accelerate development of high-performance products by strengthening R&D capabilities (strengthen development capabilities in the mobility, semiconductor and medical care fields with newly established research center in Kawasaki)Expand overseas sales by expanding overseas sales bases and production bases (development base in Shanghai, China, production base in North America for polymers for automotive batteries, sales bases for flocculants/adhesives in Southeast Asia and the Middle East)Monetization of growth investments during previous Medium-Term Management Plan (reinforce product supply system for polymers for automotive batteries and for semiconductors)</div>
Financial Strategy	<div>2</div> <div>Improving capital efficiency</div>	<div>Shareholders' equity control</div> <div><ul style="list-style-type: none">Strengthen shareholder returns (target 100% consolidated total return ratio during 2025 Medium-Term Management Plan)Sell off cross-shareholdings (under 10% ratio of net assets at end-2025)</div>
Non-Financial Strategy	<div>3</div> <div>Contributing to a sustainable society</div>	<div>Achieve human resources development and sustainability supporting sustainable growth</div> <div><ul style="list-style-type: none">Promotion and development of diverse human resources (actively recruiting specialized human resources, promoting global personnel strategy)GHG emission reduction (2025 (35% decrease from 2013))</div>

Investment plan

We are making investments in facilities and R&D for high-performance products in order to accelerate growth of our Group.

About capital investment

The capital investment target over the three years of the 2025 Medium-Term Management Plan has been set at 68 billion yen. Investment was 15.4 billion yen during 2023, the first year of the plan, including next-generation technology demonstrations for purified liquefied hydrogen chloride and expansion of logistics centers and other facilities. Capital investments will continue being made to promote key businesses such as mobility, semiconductors and electronic material-related high-performance products, with the aim of further expanding earnings going forward.



Improving capital efficiency

Strengthening shareholder returns

The Company's basic policy for shareholder returns is to maintain stable dividends and increase the consolidated total return ratio, aiming for a consolidated payout ratio of approximately 30% and a consolidated total return ratio of approximately 50%. A target approximately 100% consolidated total return ratio has been set as shareholder returns during the 2025 Medium-Term Management Plan.

In 2023, the Company increased the dividend per share significantly over the previous year based on this policy to 53 yen per share (+17 yen year-on-year), and bought back approximately 6.0 billion yen of its own shares. As a result, the consolidated payout ratio was 51.6% (35.5% in 2022) and consolidated total return ratio was 100.5% (69.7% in 2022).

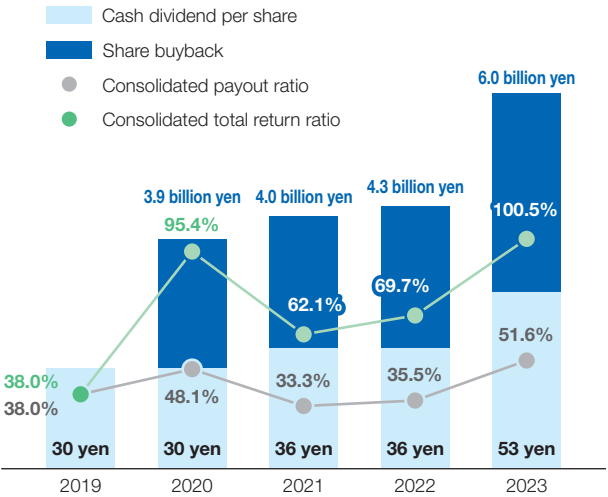
Selling off cross-shareholdings

Cross-shareholdings have been sold off to ensure that the amount of shares owned through cross-shareholding is less than 10% of the consolidated net assets on the balance sheet at the end of 2025.

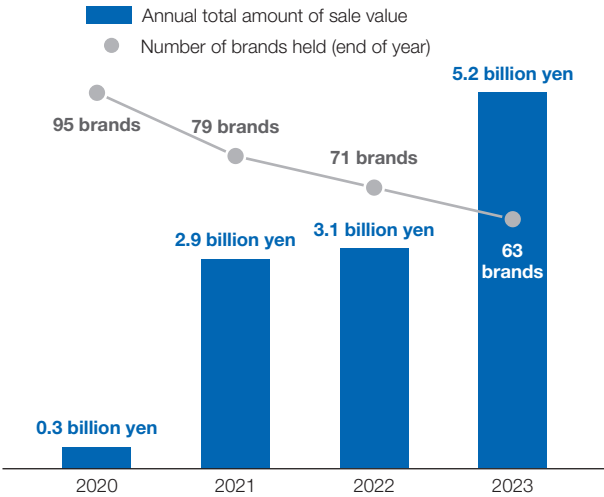
The Company acquires and owns shares of its suppliers if it has determined that they contribute to increasing the medium- to long-term corporate value of the Company from the perspective of factors such as maintaining better relationships with those suppliers or building up business partnerships. We annually review the effectiveness of our holdings, taking into consideration whether the benefits and risks associated with maintaining and strengthening the overall relationship with the relevant counterparty and holding shares are commensurate with the cost of capital.

After selling off a total of 5.2 billion yen of cross-shareholdings with a lower holding effectiveness in 2023, the number of brands held came to 63 brands, a reduction of 32 brands compared to the end of 2020. We will continue to sell off shares of brands determined to have diminished effectiveness in the future.

Shareholder returns



Sell-off state of cross-shareholdings



Message from Director in Charge of Financial Capital Strategy



The key to growth of the Toagosei Group

Aiming to enhance medium- to long-term corporate value by implementing our Financial Capital Strategy

Taizo Serita

Director, General Manager, Group Administrative Division

Dialogue with investors

We have long engaged in dialogue with investors as a way of applying the opinions they have to the management of our Group. A shareholder's proposal related to shareholder returns was raised at the General Meeting of Shareholders held in March 2023, but this proposal was rejected. We believe that the majority of our shareholders have come to an understanding of our aim of increasing corporate value over the medium-to long-term span, rather than returning profits to shareholders over a short-term perspective.

We do note that there was a certain level of agreement with the shareholder's proposal, and this renewed our awareness of the importance of addressing the views of our investors in a sincere manner. We will continue to seek feedback of our investors and hold constructive dialogue going forward.

Initiatives for improving PBR

In August 2023, we announced the efforts we will be taking to improve our PBR (Price Book-value ratio). We are aiming to achieve an ROE of 8% by 2027 and raise our PBR to 1x or higher by implementing a range of measures for strengthening

profitability, improving capital efficiency and contributing to a sustainable society.

Our share price increased after the announcement was released, and I feel that we received a certain level of praise from the stock market for the initiatives that our Group will be embarking on. These initiatives focus on our growth strategy, and I believe that the market gained a proper insight into our policies geared for increasing our medium- to long-term corporate value.

I also sensed a distinct shift in our dialogue with investors after the announcement was made, and there was more in-depth discussion than normal regarding the specifics of implementing our growth strategy and capital efficiency levels. We will need to continue making steady progress toward achieving these plans.

Share price-based management

Management with an emphasis on share prices will be crucial for moving ahead with management aimed at increasing medium- to long-term corporate value. The ROE we announced as our target in August 2023 is an index with a relatively high correlation with our share price, so I am positive that achieving an ROE of 8% will increase our share price.

The share price also reflects the anticipation that our investors have, so more than just the growth strategy, I think that shareholder returns that also meet the expectations of our investors will also lead to an increase in share price. A larger number of individual investors are also expected following amendments made to NISA from 2024, so we will need to make improvements to dividend levels so as to also meet the expectations of these individual investors. We will be making ongoing efforts to increase dividends through higher levels of profits by achieving our growth strategy.

Toagosei Group investment strategy

We announced our target of achieving an 8% ROE—the indicator for capital efficiency—and at the Board of Directors we cover various topics of discussion based on capital efficiency for each type of investment. One of our characteristics as a chemical manufacturer is that investments do not bring very high short-term profits, but there are many investments for which medium- to long-term growth can be anticipated. Instead of making decisions based solely on short-term profits, the Board of Directors deliberates on investments through discussions that include the positioning of businesses well into the future.

One of the most important roles as the Director in charge of financial matters is to ensure that the supplied information is such that the Board of Directors is able to make appropriate decisions on investment. Providing information with high accuracy in terms of areas like medium- to long-term market trends and technical innovations is one factor that can improve returns on any investments.

While we are making capital investment in businesses that are undergoing growth, it will become even more important looking ahead to invest in intangible assets such as human capital and digital fields. Enhancing human capital will be deemed essential for future management, through efforts like promoting diversity among employees and responding to changes in the ways that work is perceived. We consider expenses required for enhancing human capital as investments in our future, and have focused efforts on improving tangible aspects like increasing salaries as well as advancing work-style reforms and developing work-from-home systems. We are planning to shift our efforts toward intangible aspects in the future, to foster a culture where employees are able to push themselves even more.

Toagosei Group financial strategy

Japanese companies generally tend to focus on improving their financial structure, and companies with a sound financial base like a high net worth ratio or debt-free management have been more inclined to be rated highly by society. Yet the mindset throughout Japanese society has changed in recent years, and instead of simply improving the financial structure

of a company, society is placing a greater weighting on a well-balanced cash allocation for growth investments and shareholder returns.

We are planning cash allocations with a focus on increasing medium- to long-term corporate value in our Group's Medium-Term Management Plan. For our long-term cash allocations, we will need to consider funding from external sources in order to increase investments required for our growth strategy. In addition to moves such as lowering capital costs and revising our capital structure, we recognize that determining financing methods will be a challenge to address going forward.

More than just profits, there is a much greater level of importance on managing assets, liabilities and capitals on balance sheets, so our Group has also set a new target for ROE, a measure of capital efficiency. We are also planning to introduce return on invested capital (ROIC) internally as a criteria for making business decisions, as we look to further boost our capital efficiency.

In closing

The Board of Directors discussed numerous topics throughout 2023, including formulating our Medium-Term Management Plan, considering the shareholder's proposal and initiatives aimed at improving PBR. Going forward, we will be moving ahead with initiatives for achieving an 8% ROE by 2027 and improving PBR to 1x or higher. While this will be no easy feat to achieve, if we carry out our initiatives in a steady manner, I believe that these targets will be well within our grasp. I ask all our investors to remain critical and supportive of the initiatives we will be embarking on toward achieving our goals.



R&D Supporting the Growth Strategy

Basic Policies

The Toagosei Group's basic policies on research and development for 2024 are as follows.

Opening of Kawasaki Frontience R&D Center

Enhanced R&D capabilities by leveraging DX

Acquisition of new core technologies

The R&D departments endeavor to apply our technical core competences in new areas, conducting exploratory research to create promising new technologies and new functions and product development in areas where Toagosei excels in close cooperation with customers more efficiently through the use of digital transformation (DX).

Strategy

R&D Strategy

To contribute to the development of a sustainable society, we are advancing research and development that suit the needs of society while taking into consideration the environmental impact of manufacturing products. We are actively investing resources in growth areas like mobility, semiconductors and electronic materials and medical care in particular, and are focusing on continuously creating competitive and creative products and technologies.

R&D expense in 2023 was 5 billion yen (3.1% of net sales ratio). We are making positive efforts for enhancing resources with the view to increasing this cost by 20% (from 2022) for the 2025 Medium-Term Management Plan, and we are also strengthening research and development efforts by investing in start-ups and boosting industry-academia collaboration, as we work toward acquiring and cultivating new core technologies.

We are also strengthening the Materials Informatics (MI) infrastructure environment by promoting the use of computational chemistry that leverages materials information. As we move forward, we will accelerate R&D that incorporates greater testing efficiency and new concepts.

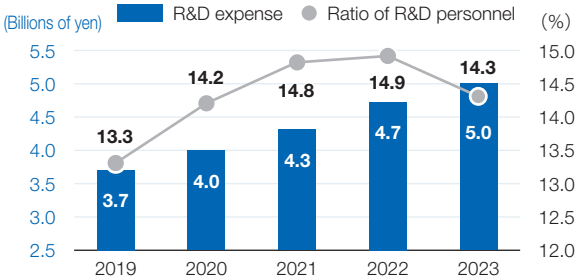
System

Research and Technology Development System and Initiatives

Our Group aims to benefit society while ensuring the sustainable group development by supplying a wide range of useful, appealing chemical products. Paired with the Kawasaki Frontience R&D Center planned to open in summer 2024, the General Center of R&D in Nagoya was renamed to the Nagoya Criatio R&D Center. The operation of these two R&D centers will enable us to respond more quickly to the needs of customers and cultivate new fields through active external collaboration, thus serving to strengthen our core competencies.

To accelerate product development in areas with growth potential, research personnel have also been deployed flexibly on key projects to maximize R&D efficiency.

R&D Expense and Ratio of R&D Personnel*

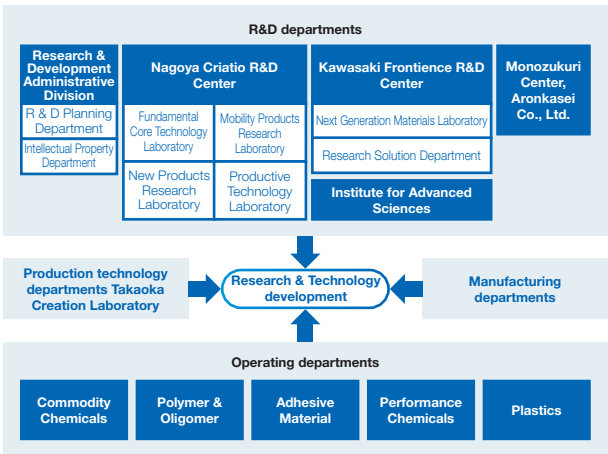


* Ratio of R&D personnel (%): number of research, technology and development personnel ÷ Consolidated number of employees × 100

IP Strategy

Our Group has established IP Strategy Committees tasked with formulating and implementing IP strategies. These committees work toward developing offensive and defensive IP strategies that take into account the trends of our competitors, including formulating application strategies for existing development themes and supporting IP of new themes leading to future businesses.

Research and Technology Development System



Nagoya Criatio R&D Center

The Center functions as a core base for the development of the promising technologies and high-value-added products that will underpin the Toagosei Group's future. It consists of four laboratories: the Fundamental Core Technology Laboratory, the New Products Research Laboratory, the Mobility Products Research Laboratory, and the Productive Technology Laboratory. In addition, two technology development laboratories have been established to advance research and technology development aimed at acquiring higher-order processing technologies.

Fundamental Core Technology Laboratory The new Fundamental Core Technology Laboratory has been established by integrating the Applied Research Laboratory into the former Base Technology Laboratory. Coordinates efforts for advancing research by strengthening assessment and analysis technologies that form the foundation of research and development, accelerating development through establishing and utilizing environments for machine learning and computational chemistry, and developing applied technologies that lie at the heart of Toagosei's core technologies.

New Products Research Laboratory Covers development of high-value-added products based on our Company's core technologies. Enhances coordination with customers, and also increases the pace of R&D through the use of material informatics (MI) and computational chemistry.

Mobility Products Research Laboratory Aims to develop innovative materials such as functional adhesives and battery materials in the battery materials field, with a primary focus on automotive applications. At the same time, we are improving our evaluation capabilities and promoting development efficiency.

Productive Technology Laboratory Establishes production technologies such as the selection of raw materials and improving and tuning each process, to ensure that materials with positive test results can be supplied at fair and stable costs during development at product laboratories. The laboratory also addresses long-term technical issues faced by manufacturing sites.

Institute for Advanced Sciences

We are promoting the early commercialization of cell penetrating peptides, which are expected to be used as Drug Delivery Systems (DDS). Furthermore, the Institute actively conducts activities from research to applied study in a broad range of bioinformatics-related technology using functional

peptides via partnership programs with the Center for iPS Cell Research and Application at Kyoto University and with the Graduate School of Agricultural and Life Sciences at the University of Tokyo.

Kawasaki Frontience R&D Center p32

Kawasaki Frontience R&D Center will be opening in summer 2024 as a new base for research in the Kanto region. Comprising the Next Generation Materials Laboratory and Research Solution Department, Kawasaki Frontience R&D Center is an urban R&D base paired with the Nagoya Criatio R&D Center. With excellent access to Haneda Airport, the center is aiming to spearhead global research and development efforts.

Next Generation Materials Laboratory Conducts research and development into innovative technologies such as medical care and next-generation battery materials that have potential as new businesses.

Research Solution Department Identifies promising new large-scale project topics and develops products through collaborative creation with customers and practical verification, based on the Company's core technologies.

Takaoka Creation Laboratory

The Takaoka Creation Laboratory was established at the Takaoka Plant, the principal base for the Group's adhesive materials business, to strengthen the development function for various adhesives, including instant adhesives.

Monozukuri Center, Aronkasei Co., Ltd.

Aronkasei utilizes its Monozukuri Center to strengthen manufacturing capabilities as a proposal-driven enterprise and for business process reengineering.

In addition to developing piping equipment based on resin processing technology and products related to nursing care and welfare, we are also working on the development of new molding and processing technologies such as elastomer compounds in collaboration with the Nagoya Criatio R&D Center.

Tokyo Technology Laboratory

Taking advantage of its convenient location (next to our Head Office), the facility is used for testing in the presence of customers and for evaluation and analysis of raw materials received from customers so that we are able to address the issues that customers are facing more swiftly.

Human Resources Development

R&D Human Resources Development

We actively promote joint research with universities and other institutions with the aim of introducing new technologies, and continue exchanges such as dispatching research staff to universities and accepting internship students from universities. Furthermore, we are continuously working to improve the knowledge and skills of our researchers through their participation in internal and external lectures and seminars.

A support system has also been developed catering to young researchers in particular, to allow them to come up with research topics based on a flexible approach to thinking.

We further promote the development of human resources to train research personnel capable on the global stage, by providing language learning opportunities and training programs at overseas research institutions.



On-the-job training

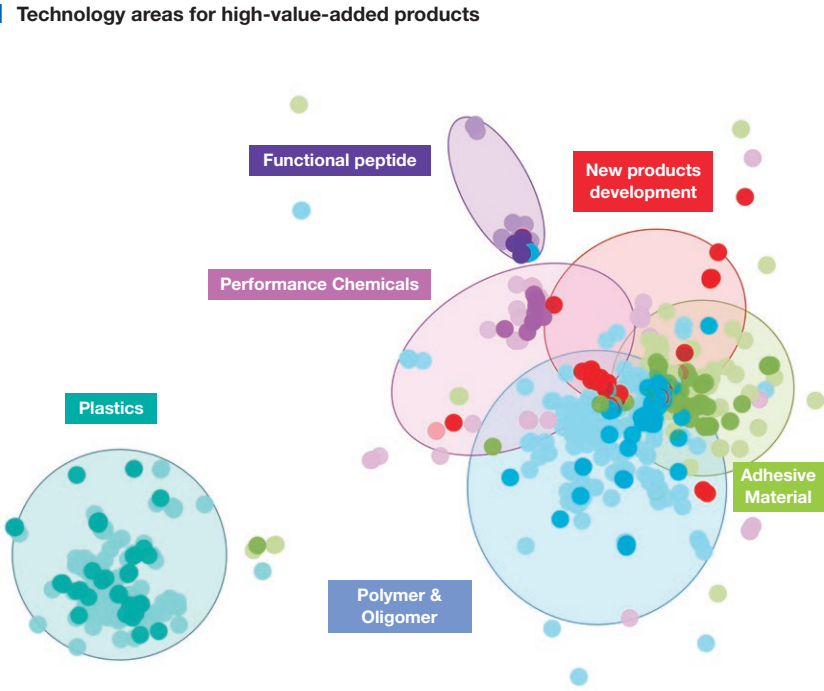
New Business Creation Activities

Our Group is utilizing the IP (Intellectual Property) landscape and engaging in stimulating discussion among related staff including management in order to create new business and enhance corporate value. Under the IP landscape, we are using bird's-eye views and management design sheets for visualization to generate a common awareness of issues among related staff and accelerate the decision-making process.

Since 2020, we have been developing initiatives with a focus on key areas and fields of the Medium-Term Management Plan to build on technology areas of the new products development.

We will be continuing with such activities to stimulate sustainable growth of our Group into the future.

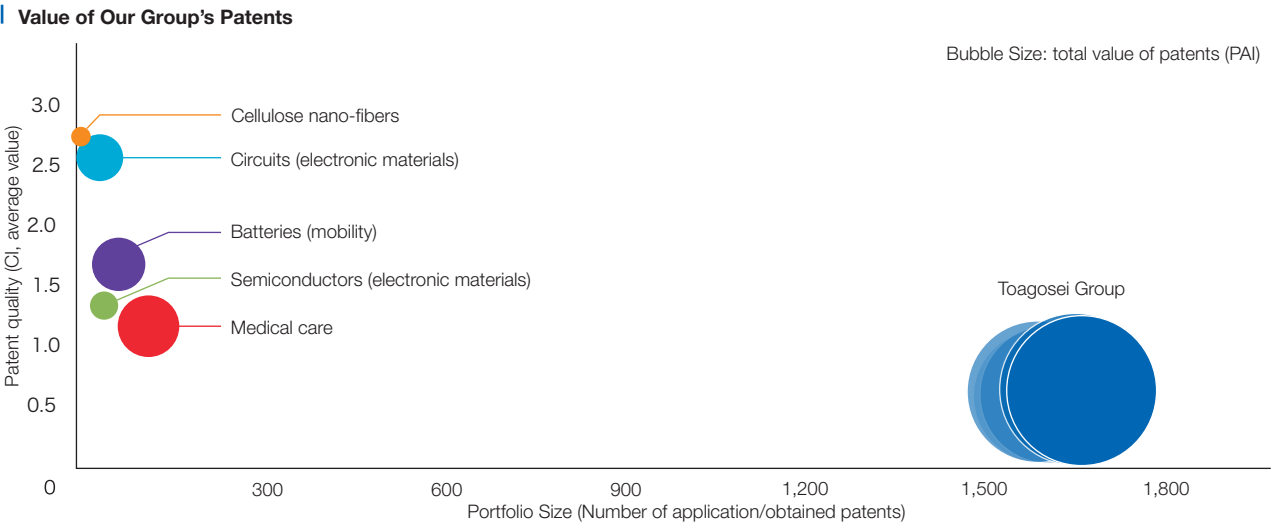
* Created using the VALUENEX Inc. Radar analytical tool. Bird's-eye view of our Group's high-value-added products in Japan, with a focus on technologies with published patent applications and granted patents as of the end of 2023. Each point represents a single patent application, and the degrees of similarity between technologies are expressed by distance for a visual representation of the distribution of technology areas for high-value-added products. Patent applications submitted before 2019 are shown in light colors, and those after 2020 in dark colors.



Enhancement of Patent Value

Our Group views IP as an investment in future profitability, and promotes the enhancement of patent value. The quality of patents is increasing, especially related to batteries (mobility), semiconductors and circuits (electronic materials), medical care, and cellulose nano-fibers, and these are enhancing the value of the Group's patents.

We will continue to accelerate the strengthening of our R&D capabilities, apply for patents for results generated through R&D, and obtain high-quality patents, thereby enhancing patent value and improving our corporate value for the future.



* Prepared by our Group using LexisNexis® PatentSight®, a patent analysis tool of LexisNexis Intellectual Property Solutions. Our Group: shows the transition of patent value from past (light) to present (dark) (patent value at the end of each year 2019-2023). Each technology: patent value at the end of 2023. Competitive Impact (CI): an average value index per patent family calculated by multiplying the technical value calculated based on the number of citations by the market value calculated based on the status of country application/rights. Patent Asset Index (PAI): total patent value obtained by multiplying CI by the number of patents.

R&D (Innovation) Strategy

Message from an Outside Director



Becoming a company leading the future with the “power of chemistry”

Role as an Outside Director

When I was appointed as Outside Director in 2023, I took the time to study corporate management anew. Until then I had mainly been involved in the academic field as a researcher, so I only took up this position after carefully thinking about the roles of a Director and what needs to be done.

It is by no means an easy task to take part in management policies or delve into the human resources of the management team, and make an active contribution to enhancing corporate value from the perspective of an “outsider.” Yet I am committed to fulfilling my role of monitoring governance and other aspects of management as a Director, and am certain that I am delivering benefits to the Company.

I worked as a researcher at university for many years, and I feel that running a research laboratory is in some ways similar to managing a small company, in that it is crucial to showcase one's capabilities. The organizational cycle of obtaining funding, assembling a team and delivering results that leads to more research is not so different to the way a company operates. While one aspect that differs is that we cultivate students so that they are able to play a role in society, but it is this concept of “training” that I have a wealth of experience with.

My expertise lies with the high polymer chemistry and material chemistry fields, from the fundamentals through to applied areas, and I have long interacted with numerous chemical manufacturers. Over that time I have exchanged views with thousands of people, from those in management positions to research staff, and have been exposed to a broad range of challenges and the circumstances associated with them. I believe that I will be able to leverage my past experiences to the processes involved with R&D and product development.

Investment in R&D

I am aware that corporate management needs to focus

on three key aspects—“current profits,” “upcoming profits” and “future profits.” Of these, “future profits” needs to factor in the two perspectives of changes in social circumstances and advancing R&D in preparation of those changes. Based on the many years of experience I have with running a research laboratory over medium- to long-term spans, I hope to be able to provide advice so that management is able to make the right decisions in terms of R&D investments. I view opportunities to provide explanations, including in-depth particulars of businesses and the future potential of technology, as vital for achieving this, so I am prepared to play an active part fulfilling my role in this regard, as the Director in charge of technical aspects.

And as a researcher, I want to be actively involved in developing a workplace environment that facilitates research and development. To have a successful track record in the research field, I feel that it is crucial to have open and natural coordination with related division and external parties, be mentally capable of continuing to take on challenges without any fear of making mistakes, and ensure that one's own successes are readily available to oneself as well as others. Even if product development seems feasible on the surface, I have experienced first-hand the sheer number of impediments—some obvious and others not so—that stand in the way to make such developments a reality. Creating a workplace environment from the stance of a researcher is something that I believe will lead to being able to discover new added value and an increase in corporate value. The fields that researchers are active in are also facing the same major issue of securing capable human resources, as population decline and changes in the social environment are increasing competition with other workplace fields. I am certain that more appealing businesses and more appealing R&D environments will lead to securing more capable human resources and better training, so this is something I want to address properly.

In a similar way, I also want to think carefully about the stance of a researcher. There are certainly a significant number of researchers who find communication challenging. Yet a crucial factor for upcoming researchers to achieve personal growth will be to take the initiative to interact with a wide range of stakeholders and develop a broad global perspective. I have trained a large number of students to a level capable of playing a role in society, so I hope to discuss matters related to human resources training from a long-term perspective.

The perspective of social value is also an important factor for companies like our Group that are involved in manufacturing. Chemical manufacturers have a truly distinct way of contributing to society, and Toagosei does this with its unique range of technology deeply embedded in the technical field. I feel that my role is to leverage these unique technologies to identify potential ways of resolving social issues. To make this possible, I hope to use every opportunity to discuss matters with the management team and other Outside Directors with special expertise, and contribute to suitable management from the stance of never missing out on “future potential.”

Expectations for the Toagosei Group

Establishment of Kawasaki Frontience R&D Center

Our Group is moving ahead with plans to establish the Kawasaki Frontience R&D Center, a new research center located in Kawasaki City in the Tokyo metropolitan area. Together with the Nagoya Criatio R&D Center, Kawasaki Frontience R&D Center will focus on R&D into medical care-related materials, cellulose nano-fibers, bio-synthetics, next-generation battery materials, semiconductor and electronic materials, and mobility and other next-generation materials. The new center will also facilitate the expansion of existing businesses with customers in the Tokyo metropolitan area through the concept of collaborative creation.

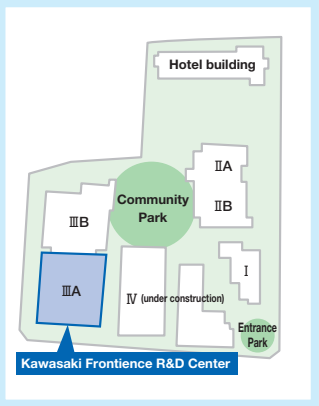


Research facility RGB III. The new research center is on the 3F of this facility.

Profile

Name	Kawasaki Frontience R&D Center		
Floor area	2,300 m ²	Number of employees	Approx. 50
Research areas	Medical care-related materials, cellulose nano-fibers, bio-synthetics, next-generation battery materials, etc. “Frontience” implies science in cutting-edge fields and is a name coined through the combination of “Frontier” and “Science,” which represents research of advanced fields and cultivation of new businesses and new customers.		
Location	3-25-40 Tonomachi, Kawasaki-ku, Kawasaki City, Kanagawa Prefecture 3F RGB III Building A (within the KING SKYFRONT Tonomachi International Strategic Zone)		

* KING SKYFRONT: A Specified Priority Development Area for Urban Renaissance in Tonomachi, Kawasaki City that has also been designated as a National Strategic Special Zone and International Strategic Comprehensive Special Zone. A collection of numerous research facilities forming an open innovation hub for creating new industries from the world’s highest standard of R&D.



KING SKYFRONT area where many research facilities are located. Tokyo International Airport is visible across the river.

Features

1 ▶ Specialized facilities for conducting advanced research in growth areas

Various specialized testing facilities will be set up at the new research center. Advanced research and development utilizing these facilities will spur the creation of new businesses and the expansion of high-value-added businesses.

- Dry room**
- Room managed with an ultra-low-humidity environment. Used for testing and research of battery materials, pharmaceuticals and other products that are easily affected by moisture.
- Clean room**
- Room maintained with a specific cleanliness level of contaminants (microparticles, microorganisms) in the air. Used for testing and research requiring cleanliness of electronic materials, semiconductor materials and other materials.
- BSL laboratory**
- Laboratory that complies with standards for safely handling microorganisms, viruses and other substances with certain levels of danger.

2 ▶ Center for collaborating with customers, outside research institutions and others

The location will be leveraged to advance product development by collaborating with customers in the Tokyo metropolitan area, places north of the Kanto region and overseas. The aim for the center is also to become a base for innovation for generating unique products and technology through joint research with outside research institutions including universities, start-up companies and others. To achieve this, an open laboratory for conducting joint research and demonstration tests and a multi-purpose area utilized as a space for exchanging technology and disseminating information have been built.

3 ▶ Research environment for stimulating the creation of ideas

The new research center incorporates various designs elements based on the viewpoint that interaction between people serves as a source of ideas that can lead to new products, technologies and businesses. These include an open laboratory for facilitating interaction with customers, multi-purpose area for holding events like research presentations, organizational structure with operations, sales and research working in concert, hot desk system to promote communications beyond divisions, and offices set up inside the laboratory to close the gap between them. Efforts have also been made to create a comfortable workplace environment that makes every day an exciting one for personnel working there.

Examples of R&D



Hideo Matsuzaki
Executive Officer, General Manager,
New Products Development Division

The mission of the New Products Development Division is to provide solutions to the challenges faced by customers by identifying the ever-changing social structure. We utilize internal and external resources in the pursuit of groundbreaking innovation, with the aim of developing quick and effective solutions from a broad range of perspectives.

CASE 1

Launch of new products in the medical care field “Aron cure” hemostatic agent

Our goal is to create original products that leverage our company’s core technology, and commercialize them in the medical care field. To this end, we embarked on development of “Aron cure” as a medical device made of a new material that blends two types of polymers using a special manufacturing method—as a material that utilizes our polymer technology. “Aron cure” is a hemostatic agent developed with a unique concept that provides strong, fast adhesion to biological tissue, with excellent blood absorption. We also developed a medical device manufacturing and quality assurance system, and made preparations for full-scale entry into the medical device business. The first product to be available obtained approval as a medical device under the product name “Aron cure Dental” hemostatic agent used as extraction sockets, and is planned to be launched during

2024. With its excellent biological adhesion, Aron cure is anticipated to shorten the time to stem bleeding and features uniform quality and excellent safety. “Aron cure” is also available as a film, sponge, powder or other types, and will continue to be developed for other medical or cosmetics applications.



Provides strong protection to provide instant care of injuries.

CASE 2

Contributing to medical care issues through development of new materials Anti-thrombogenic coating agent

We turned to anti-thrombogenic coating agents as the next product to focus on in the medical device field. Medical devices that are in contact with blood like ECMO (heart-lung machines) use anti-thrombogenic coating agents to prevent blood clots from forming. These had traditionally used the animal-derived polymer heparin, but the use of synthetic polymers has increased in recent years due to factors like the risk of infections and supply stability. The main types that are available are made of water-insoluble synthetic polymers, but these also suffer from issues such as blood clots forming after prolonged use and limited materials that can be painted. We have focused on the “Intermediate Water Concept” advocated by Professor Masaru Tanaka of Kyushu University, and developed a coating agent with greater anti-thrombogenic properties than before. Polypropylene and silicone used for medical devices have poor paint adhesion, but these can also be modified with a physical coating for commercialization as internal medical devices or externally circulating medical devices.

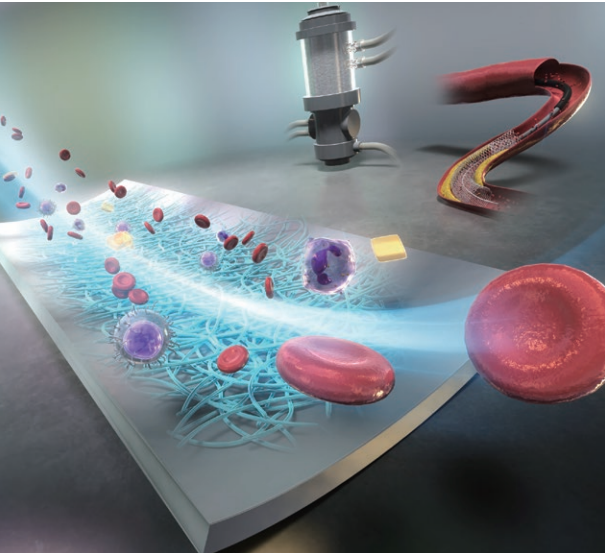
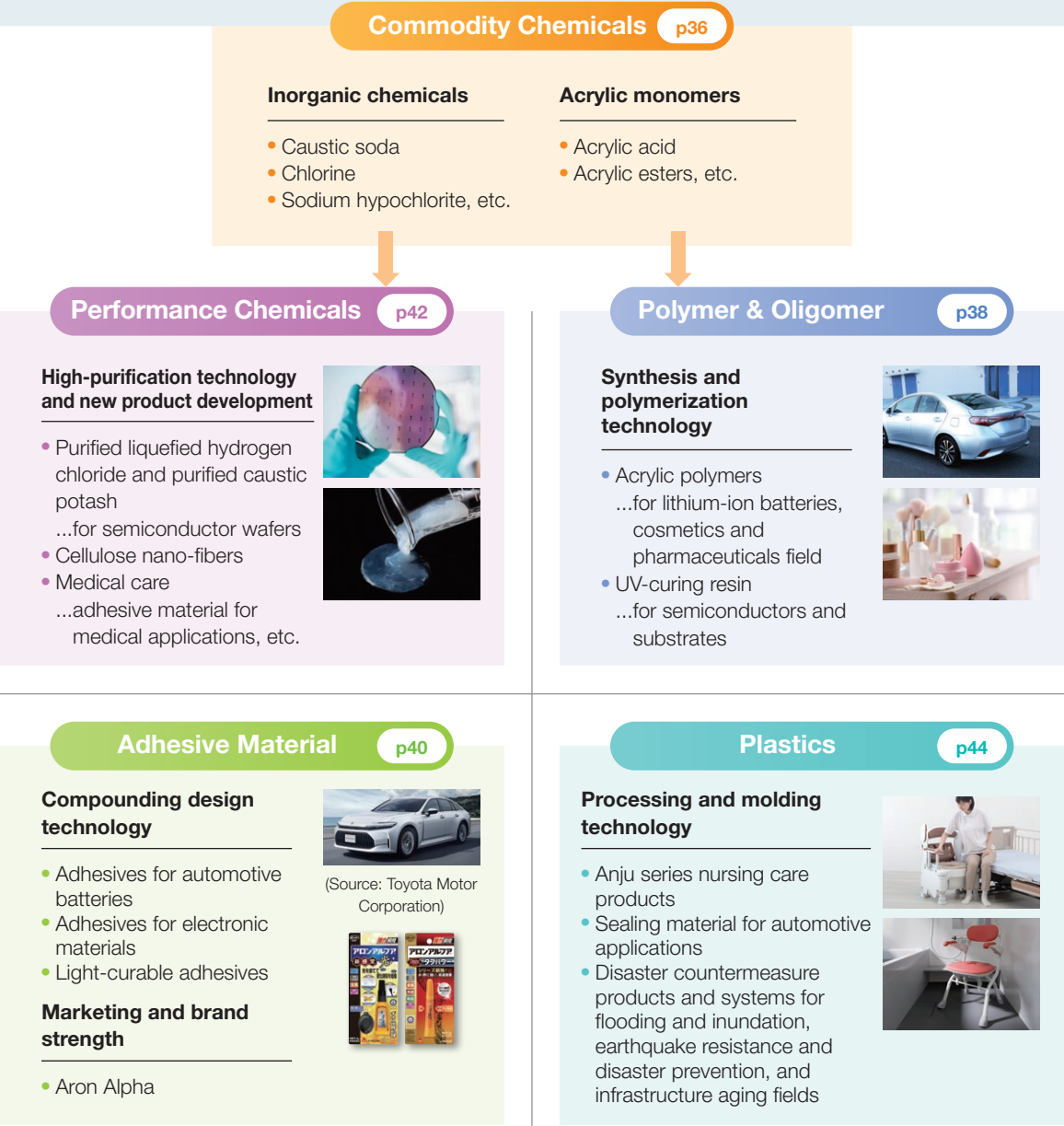


Image of coating agent “Anti-thrombogenic polymer”

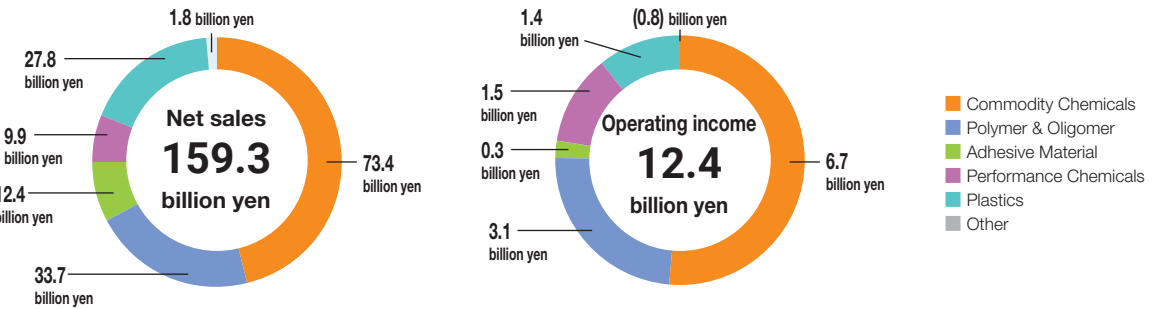
* Intermediate Water Concept: theory on the hydration structure of high polymers with excellent biocompatibility

At a Glance - Five business segments (upstream to downstream) -

Our Group’s businesses comprise five segments, and we supply a broad range of products, from general-purpose chemical products used as basic materials for industry to end products for general consumers. With an expansive product lineup spanning from upstream to downstream segments, we are building a well-balanced business structure that is resilient to economic fluctuations.



Revenue structure (FY2023 figures, by business segment)





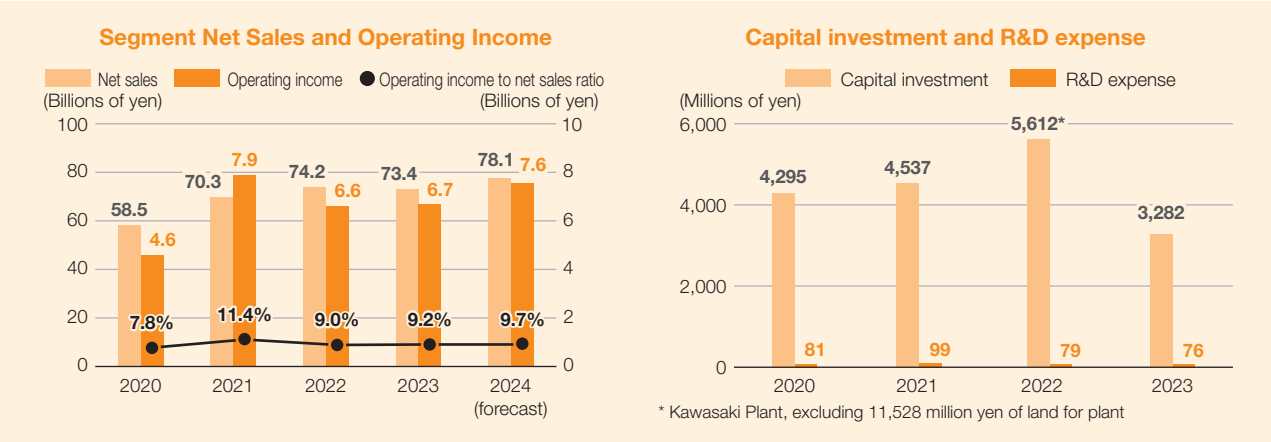
Strategy by business division

Commodity Chemicals

Business Profile

We deal in chemicals supporting the basis of industry, supplying raw material products in a variety of fields, while also taking on the role of supplying raw materials to each business within the Group, particularly for high-value-added products.

- Inorganic chemicals business** Electrolysis-related products (caustic soda, caustic potash, chlorine, hydrochloric acid, sodium hypochlorite, sodium sulfite, copper oxide, etc.), as well as sulfuric acid and agricultural products (sulfuric acid, potassium bicarbonate, etc.).
- Acrylic monomer business** Acrylic products (acrylic acid, acrylic esters, etc.) and chemical products (ethylene carbonate, ATBS: acrylamide tertiary butyl sulfonic acid, etc.)
- Industrial gas business** A wide range of industrial gases including oxygen, nitrogen and argon.



FY2023 in Review

Production activities slowed and sales volume decreased during 2023 due to slump in the global economy, but we are steadily expanding, upgrading and maintaining our facilities in line with our medium- to long-term plan as we make steps to develop a system that ensures business continuity and response to future recovery in demand.

In addition to the introduction of technologies designed for reducing CO₂ emissions and energy consumption while expanding and upgrading facilities from an environmental and SDGs perspective, we also formulated specific action plans aimed at energy-efficient upgrades and increasing efficiency of electrolysis and other high power consumption facilities.

We also began preparations for development and supply of grades with lower hazardous metals and other substances, as products contributing to the conservation of ecosystems.

Strengths, issues and growth opportunities

Inorganic chemicals business

- Strengths** Electrolysis facilities at three locations, in East, Central and Western Japan, enabling local production for local consumption and BCP support / Nationwide handling of JWWA special-grade sodium hypochlorite through high-purity technology
- Issues** Dispersed factories require large investments for the horizontal deployment of the latest technology
- Growth opportunities** Increasing demand for environmentally friendly chemicals will accelerate development of low-impurity grade lineup using high-purity technology

Acrylic monomer business

- Strengths** Production system with both high-efficiency and high-quality for acrylic monomer products / Quality advantage due to advanced ATBS polymerization technology
- Growth opportunities** Increasing demand for the ethylene carbonate for mobility field (LIB electrolyte)

Medium- to Long-term Growth Strategy

The mission of the Commodity Chemicals Division is maintain stable production and supply of basic chemicals essential for industry, but it is also important to respond to requests from customers and partners and to changes in the demand structure of the industrial sector. In particular, from now on we will operate our business in such a way as to contribute to the realization of a carbon-neutral society by changing raw fuels, converting manufacturing methods, energy efficiency, and making effective use of hydrogen.



Kenji Namiki
Executive Officer, General Manager,
Commodity Chemicals Division

Inorganic chemicals business

In the electrolysis business, we will contribute to a carbon-neutral society by reducing CO₂ emissions of our operations through the use of renewable energy and conversion to high-performance, power-saving equipment, as well as through effective use of hydrogen produced through electrolysis. We will also expand development of the production and supply system for low-concentration products that require a high amount of transportation energy and human capital resources,

and help reduce our environmental impact through local production for local consumption.

In the sulfuric acid business, we will seek out new demand with a focus on lithium-ion battery cathode materials for which demand is expected to grow, and help achieve carbon neutrality at production sites by increasing steam co-production and promoting utilization.

Acrylic monomer business

In the acrylic products business, we will promote the use of biomass-derived raw materials, thereby making progress toward carbon neutrality. We began preparations for obtaining ISCC Plus certification for acrylic monomers and ATBS. In addition to expanding the scope of obtained certifications to create a foundation for polymer and other products

downstream in the acrylics chain in the future, we will seek to achieve differentiation by being one of the first with certification for ATBS.

We will be enhancing sales and production systems for ethylene carbonate for LIB electrolytes in the mobility field that is slated to grow in demand.

Industrial gas business

We have manufacturing sites in the Chubu and Hokuriku regions, and will continue supporting manufacturing in regional communities with business activities closely tied to local industries. Our major sales lineup of oxygen, nitrogen and argon is produced utilizing the cold energy of LNG (liquid natural gas), which contribute to reduced electricity consumption and CO₂ emissions.

In addition, we have one of the few high-pressure gas tanker truck container maintenance facilities in the Chubu region. We aim to operate our business in a more environmentally friendly manner by reducing the environmental impact of the inspections, manufacturing and delivery, through enhanced inspections including high-pressure gas storage tank facilities and installing liquid level monitoring systems for storage tank facilities.

FOCUS TOPICS

Nagoya Plant

Operations and sales of products began at the newly constructed flake caustic potash production facility. Quality approvals are advancing with all customers, to develop a more stable supply system.

Tokushima Plant

Liquid chlorine and chlorine gas production and supply facilities have been upgraded and constructed new to develop a supply system as well as achieve higher efficiency and energy savings.

Oita Plant

An advanced control system was installed at the acrylic acid production facility to optimize operating conditions toward achieving carbon neutrality. Efforts have also been made to examine the feasibility of using waste heat recovery within the complex.



Acrylic acid production facility at the Oita Plant



Flake caustic potash facility at the Nagoya Plant



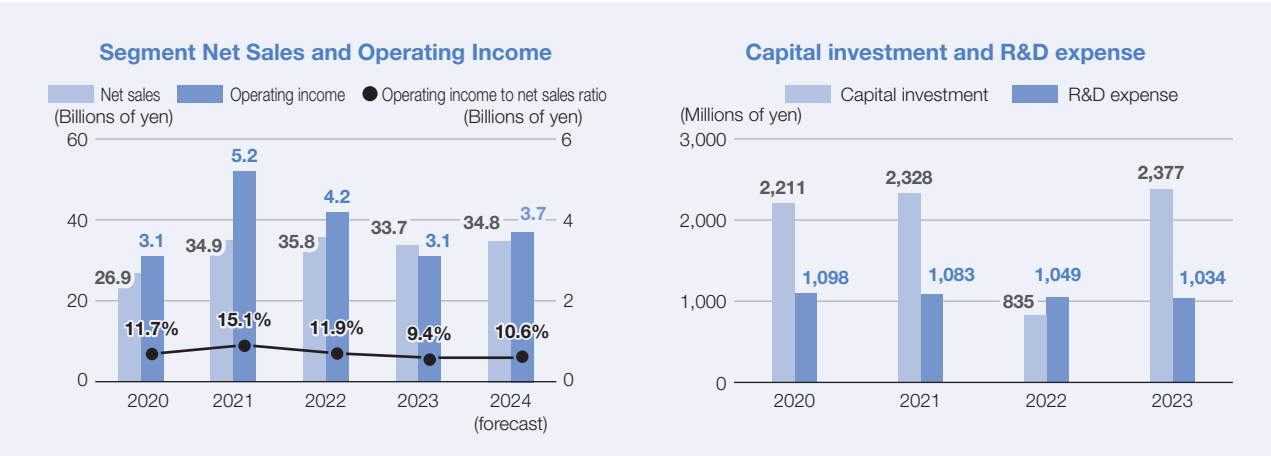
Strategy by business division

Polymer & Oligomer

Business Profile

We handle acrylic products used in a wide range of fields, from household goods to automobiles, semiconductors and electronic materials, as well as pharmaceuticals and cosmetics.

- ▶ **Acrylic polymers** Used in a wide range of fields, including automotive applications such as binders for lithium-ion batteries, resins for pharmaceuticals and cosmetics, chemicals for water treatment, pigment dispersants in paper manufacturing, adhesives for construction, and resins for sealing materials.
- ▶ **Acrylic oligomers** “ARONIX UV-curing resin” is used in a wide range of fields such as inks, paints, and electronic materials due to its environmental advantages of being solvent-free.
- ▶ **Polymer flocculants** Polymer flocculants are used as a treatment agent at sewage treatment plants.



FY2023 in Review

- ▶ **Polymer business** Sales declined both in Japan and overseas due to lower sales volumes of automotive-related products and soaring raw material and fuel prices, but we stepped up efforts to expand overseas sales of lithium-ion battery materials and materials for pharmaceutical and cosmetics applications. We also strengthened the research and development of polymers for high-performance semiconductors using a new polymerization method, and materials for lithium-ion batteries.
- ▶ **Oligomer business** Sales declined both in Japan and overseas due to lower sales volumes of display-related materials, but we stepped up efforts to expand sales, including showcasing mainly biomass acrylates and cationic oxetanes at booths at exhibitions. We also increased efforts to build an optimal production system spanning three sites—Japan, Taiwan and China.
- ▶ **Flocculant business** Sales declined both in Japan and overseas due to lower sales volumes and raw material and fuel prices remaining at high levels. We also made progress to enhance competitiveness by optimizing our production system.

Strengths, issues and growth opportunities

Polymer business

- **Strengths**..... Polymers resolve customer issues with advanced structural control technologies (linear, branched, cross-linked, particle diameter, molecular structure, etc.) and impurities reduction technologies (residual substances, residual liquids, metal impurities, etc.)
- **Issues**..... Optimizing production sites on a global scale to boost competitiveness
- **Growth opportunities**..... Expand applications in the pharmaceutical, cosmetic and semiconductor fields with structural control and higher purity

Oligomer business

- **Strengths**..... The ARONIX lineup of UV-curing resins includes multifunctional acrylates and cationic oxetane

Medium- to Long-term Growth Strategy

The Polymer & Oligomer business is the core of the Toagosei Group’s growth strategy, and is expanding high-value-added products developed with the fusion of high-purity technology fine-tuned over many years and further accelerating overseas business based on its superior synthesis and polymerization technologies.



Futoshi Nishitani
Executive Officer, General Manager,
Polymer & Oligomer Division

Polymer business

By leveraging our manufacturing technologies cultivated over the years, we are creating high-performance, high-purity polymers required throughout the automotive, electronic materials, pharmaceuticals and cosmetics fields to meet the needs of the market.

Overseas, we are strengthening efforts to capture new customers through the newly established Toagosei (Shanghai)

Management Co., Ltd., as we develop a system capable of meeting the requirements of local customers in a timely manner.

In addition to improving development capabilities of materials for lithium-ion batteries and finding new customers in Japan and overseas, we have leveraged our cost-competitive polymer products to better cater to the needs of the Asian region.

Oligomer business

We will advance the development of biomass acrylates and examine ways to reduce CO₂ emissions generated during production, to increase competitiveness in terms of quality and cost in the fields of electronics materials such as inks, paints, and resist agents, and to respond to the carbon neutral era.

In terms of the overseas sector, we are focusing on launching high-value-added products through product

development suited to the needs of local customers primarily in the semiconductor and electronic materials fields through the services of Toa-Jet Chemical Co., Ltd. [manufacturing] and Taiwan Toagosei Co., Ltd. [sales] in Taiwan, as well as Toagosei (Zhangjiagang) New Technology Co., Ltd. [manufacturing] and the newly established Toagosei (Shanghai) Management Co., Ltd. in China.

Flocculant business

With its high-quality ARONFLOC, ACCOFLOC and DIAFLOC polymer flocculant, Group member company MT AquaPolymer, Inc. will provide superior products and fitting solutions for a wide range of wastewater and sludge purification operations.

In addition, we will promote market development for

highly functional products that contribute to the reduction of sludge moisture content in the effort to achieve carbon neutrality, strengthen our business foundation, and enhance cost competitiveness by optimizing our production system to further expand our business both in Japan and overseas. A local subsidiary was established in Vietnam in May 2024.

FOCUS TOPICS

Accelerating local development in China

In addition to aiming for expanding sales of existing products in the Chinese market by handling all Toagosei Group’s products, we strengthened local development capabilities by installing compounding facilities and various types of testing facilities. This will help us boost the pace of development of products catering to customer requirements in growth markets such as the pharmaceuticals and cosmetics, electronic materials and energy fields.



Appearance of Toagosei (Shanghai) Management Co., Ltd.



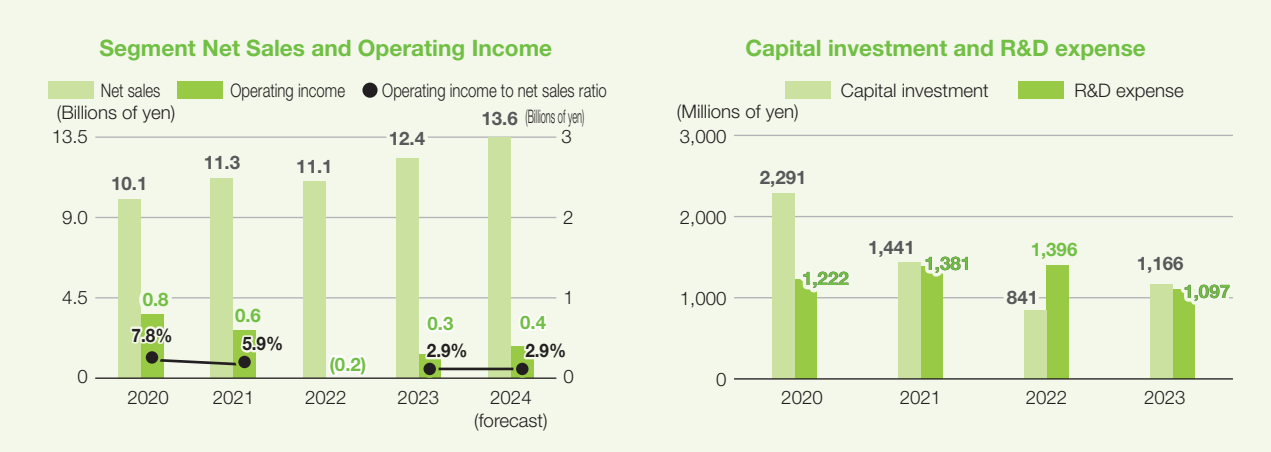
Strategy by business division

Adhesive Material

Business Profile

The Adhesive Material business has been contributing to customers' technological innovations and responding to their requirements in pursuit of lighter and thinner product designs, as well as productivity improvement and cost reduction through the adhesion of various materials such as plastics, metals, wood, rubber and leather.

The products we handle include Aron Alpha, which is synonymous with instant glues, as well as a lineup of various high-performance adhesives that meet new needs in such fields as electronic materials, automobiles, and precision equipment.



FY2023 in Review

- ▶ **Consumer business** We set up product description panels and easy-to-understand POP displays at stores, and upgraded description on our website including examples of use, as ways of conveying the benefits of Aron Alpha to as many consumers as possible. Access figures to our website increased more than 5-fold compared to 2022.
- We launched the new product “Aron Alpha Hikari” in September 2023. This is a revolutionary instant glue that allows consumer to use the attached light to experience an unbelievable curing speed, for clear adhesion of parts without blooming affecting the appearance.
- ▶ **Global business** Sales of Krazy Products remain strong in the U.S., with an extensive lineup of products in addition to instant adhesives. Strategies are being rolled out to suit the market in each country, including implementing a sales growth strategy to suit the rising e-commerce trend in China, signing up a leading convenience store brand in Thailand, and signing up more retail chains in The Philippines, with positive results becoming evident.
- ▶ **Functional adhesives business** Adhesives for automotive batteries are used for bipolar nickel-hydrogen batteries, and are gradually being installed in new HVs. An increase in models installed with these batteries is expected in the future.

Strengths, issues and growth opportunities

- ▶ **Consumer business**
 - ◆ **Strengths** High brand strength of Aron Alpha, certified by Guinness World Records as the world's longest-lived brand of instant adhesives for general consumers
 - ◆ **Growth opportunities** Move away from the image that consumers have where products can only being used for repairs, and expand the market by proposing use for fabrication applications
- ▶ **Global business**
 - ◆ **Growth opportunities** The global market for instant adhesives for general consumers is expanding, and sales should focus on Asian countries in particular where the population is increasing
- ▶ **Functional adhesives business**
 - ◆ **Growth opportunities** Increase in adhesives for automotive batteries in line with the global shift to EVs

Medium- to Long-term Growth Strategy

While the Aron Alpha brand is growing further in Japan, the consumer business overseas that was developed in America and China is shifting to Southeast Asia and other countries.

In the industrial business, we are advancing development of functional adhesives in growth areas such as mobility-related products and medical care-related products.



Yutaka Sasaki
Executive Officer, General Manager,
Aron Alpha Division

▶ Aron Alpha Division

By further enhancing the strength of the Aron Alpha brand, we will remain the top runner in instant adhesives.

Aron Alpha is well-known to relatively older consumers as an item that is useful when repairing broken items. We will be looking at expanding the brand scope by having consumers make all family members aware that it can also be used for fabrication applications like making models, arts and crafts, and accessories.

Overseas, global sales are on the rise as the brand is increasingly recognized as Aron Alpha in Asian countries and Krazy Glue in North and South America.

▶ Functional adhesives business

The functional adhesives business is mainly made up of products with a high global share based on its strengths with compounding design technology.

We strengthened our development and marketing capabilities by focusing on growth areas with the view to further increasing sales. We are currently developing new products for next-generation batteries and onboard cameras and sensors in the mobility field, and for substrate materials in the electronics field. We will also start probing the market for biomass-derived adhesives with the aim of addressing social issues.

FOCUS TOPICS

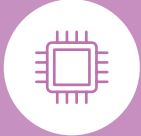
- Model show**

We exhibited our products at the 61st Shizuoka Hobby Show held in May, and the Wonder Festival held in July, 2023. Demonstrations of “Aron Alpha Hikari” showcased meticulous work using tweezers and gluing together transparent parts, and highlighted the fast curing speed using light emission and its innovative property of preventing blooming that has been a problem. The product was praised by children and crafts enthusiasts for its high adhesive strength even in areas where the light does not reach—one of the original features of Aron Alpha that differs to ordinary UV curing resins. Crafts enthusiasts also helped to post on their own social media accounts, making it a great event for disseminating information on Aron Alpha that is convenient for fabrication.
- Hot melt adhesives for bipolar nickel-hydrogen batteries**

Our hot melt adhesives was used in 2021 as an electrolyte sealer. Beginning with the Toyota Aqua, the adhesive has also been used in models like the New Crown, LEXUS RS and Alphard/Vellfire, and is expected to be used in a greater number of models into the future. Moving forward, the growing shift to HV/EVs will drive development of next-generation batteries throughout the automotive industry.



New “Alphard” (Source: Toyota Motor Corporation)



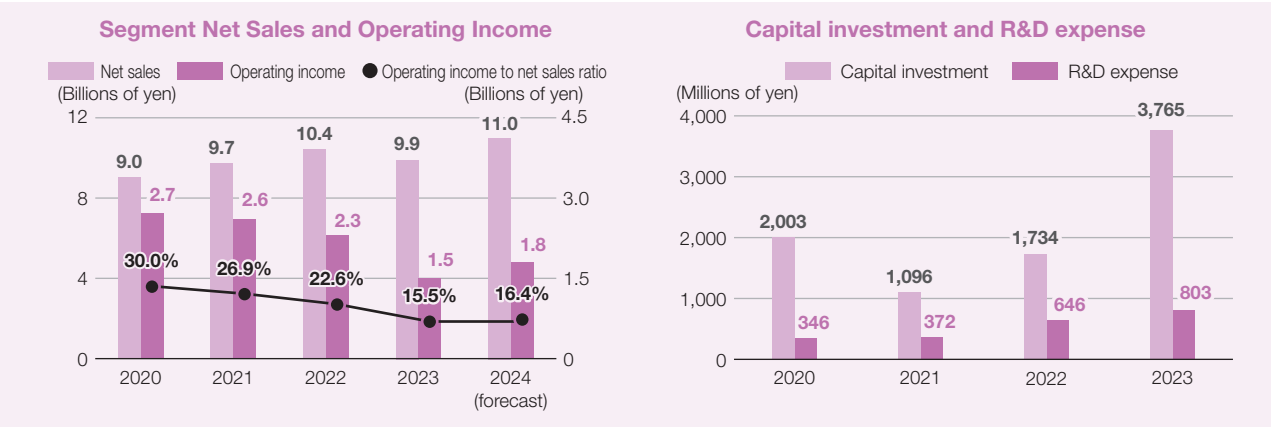
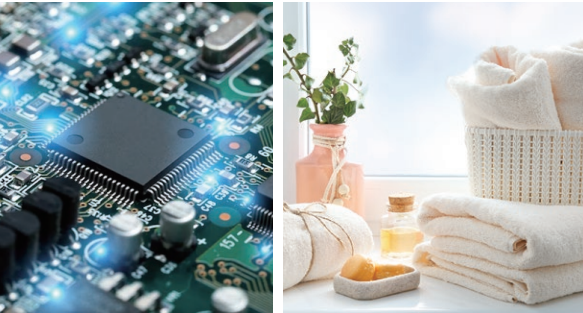
Strategy by business division

Performance Chemicals

Business Profile

With keywords of “high function” and “inorganic,” the Performance Chemicals Division primarily covers high-purity inorganic chemicals for semiconductors, as well as inorganic functional materials used in a range of products designed to make our lifestyles more comfortable.

- ▶ **High-purity inorganic chemicals business** High-purity inorganic chemicals with applications in semiconductor miniaturization and integration, such as liquid hydrogen chloride and high-purity alkaline products, as well as hexachlorodisilane.
- ▶ **Inorganic functional materials business** A range of functional additives, such as IXE and IXEPLAS impurity ion-trapping agents that increase the reliability of electronic materials, as well as KESMON and NOVARON, which perform antimicrobial, antiviral, deodorizing and other comfort-enhancing functions in textile and plastic materials.
- ▶ **New product development** Development of the “AronFibro” cellulose nano-fiber and medical care-related products.



FY2023 in Review

- ▶ **High-purity inorganic chemicals business** Demand slowed in the semiconductor market due to the global recession, with adjustments continuing to be made in terms of production. This resulted in first decline in sales in 12 years since 2011, but this sluggish demand will only remain over the short term, with ongoing growth in demand for semiconductors expected in the future. We are strengthening our manufacturing and filling facilities to meet the anticipated recovery in demand and actively engaging in initiatives for improving quality, as part of effort to develop a stable product supply system after demand recovers from 2024 and on.
- ▶ **Inorganic functional materials business** The market for antimicrobial and antiviral products weakened after the COVID-19 pandemic came to an end, but demand for medical applications like wound-dressing materials and air-conditioners grew in line with the resumption in economic activities. There is also a growing need for deodorizers, and the market increased. Our Company move ahead with the shift toward a sustainable production system, including securing numerous sources for raw materials and reducing environmental impact during the manufacturing process.

Strengths, issues and growth opportunities

- ▶ **High-purity inorganic chemicals business**
 - ◆ **Strengths**Stable supply capability by actively driving investments / High-purification technology and product development capabilities based on proprietary development
 - ◆ **Issues**Importing primary raw materials makes the Company vulnerable to exchange rates and international conditions
 - ◆ **Growth opportunities**Expansion of semiconductor applications due to lifestyle changes, semiconductor supply chain enhancement initiatives in each country, and technological innovation
- ▶ **Inorganic functional materials business**
 - ◆ **Strengths**Synthesis and particle control technologies (function, shape, particle diameter) effective for application-specific optimization / Evaluation and analysis technologies and support systems to bring out product functionality
 - ◆ **Issues**The high costs of meeting overseas regulations for antimicrobial agents is hindering growth of sales
 - ◆ **Growth opportunities**Expansion of the market for functional textiles due to rising living standards in Asia and other regions

Medium- to Long-term Growth Strategy

Achieving a stable supply and improving quality are major challenges for high-purity inorganic chemicals. Ongoing growth is slated into the future for the semiconductor industry, so we will be building a supply system with a long-term range factoring in conditions a decade ahead. We made progress with new developments of inorganic functional materials, including antiviral agents for resin kneading and IXEPLAS inorganic ion exchanger. We are constantly identifying new needs and developing products accordingly.



Atsushi Tamura
Executive Officer, General Manager,
Performance Chemicals Division

High-purity inorganic chemicals business

AI has the potential to completely transform our lifestyles from the very foundations. Semiconductors—the components that will make this possible—are becoming even higher in performance, and the quality requirements needed for their raw materials are only becoming more stringent. Miniaturization of semiconductors for saving energy will be essential to create a sustainable society, and I am certain that the superior quality of our high-purity products will shine

even more as semiconductors become even more compact. To address this, our mission is to ensure supply capability to meet upcoming growth in demand and improve quality that is always ahead of our competitors. We are also focusing on development of next-generation products like new deposition materials. We will be moving toward more development of new products to achieve both “stable supply” and “quality improvements.”

Inorganic functional materials business

The global pandemic created new fields of demand, and led to greater awareness of hygiene. Demand for antimicrobial and antiviral agents has certainly become well-established. The lifestyles changes brought about due to the COVID-19 pandemic led to increased demand for deodorizing products and increased people’s sensitivity to coming into contact with others, and these trends are growing overseas

too. The inorganic functional materials business is focusing on increasing sales at sites around Asia, and accelerating efforts for overseas expansion. We will be increasing sales and advancing development of new inorganic materials by brushing up our unique particle control technology for a more comfortable lifestyle with antimicrobial, antiviral, deodorizing, and mold prevention features.

New Product development

We are strengthening the development system for the medical care business with the aim of manufacturing and selling several medical devices/pharmaceutical intermediates (see also Special Feature: Examples of R&D (P34)).

In the cellulose nano-fibers business, we began manufacturing and selling “AronFibro” in 2023. We will be taking a multifaceted approach to studying materials with a lower carbon footprint, on the back of increasing environmental awareness around the world.

FOCUS TOPICS

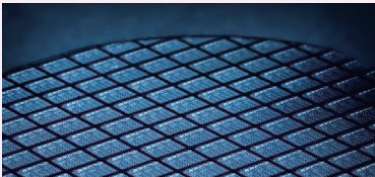
Next-generation process development of liquefied hydrogen chloride

In order to meet future increases in demand for semiconductors and quality requirements accompanying miniaturization and high integration, we will be constructing facilities in 2025 based on advanced manufacturing technologies such as optimizing and streamlining manufacturing conditions, with the view to progressing to mass-production in the near future.

Development of IXE for power semiconductors

There is growing focus on the energy-saving features of power semiconductors, which will be essential for growth of EVs, 5G, AI, and IoT technology that are expected to drive demand in the semiconductor market. There is demand for a higher level of reliability in order to achieve higher voltages, larger currents and more compact sizes, and increasing the performance of IXE used for this will be essential.

Through the development of IXE, which can pass even more stringent reliability test, we will contribute to the promotion of development in growth area.



Semiconductor and electronic material manufacturing applications

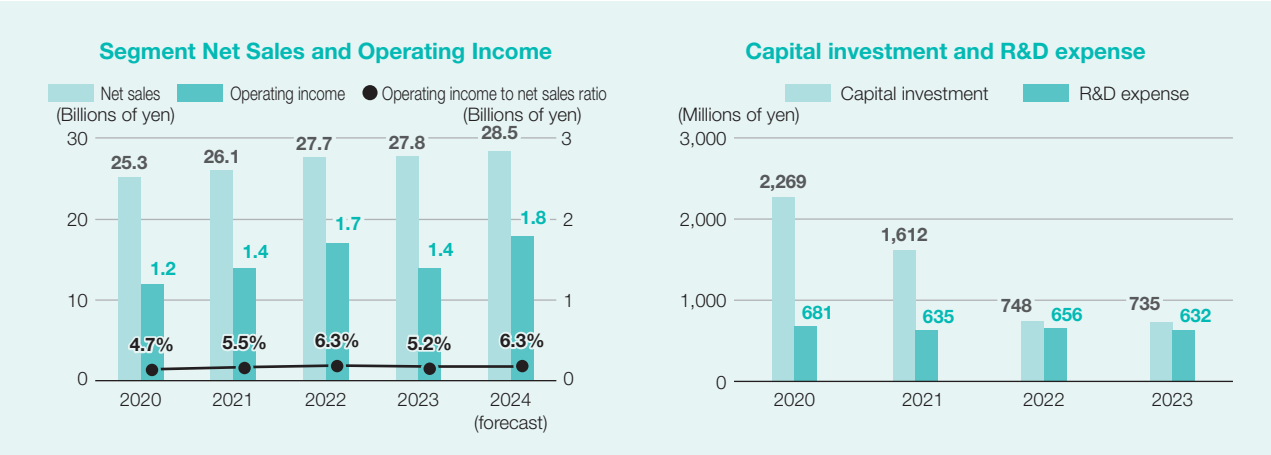
Strategy by business division

Plastics

Business Profile

We supply high-value-added products aimed at resolving social issues such as natural disaster risks, super-aging society and global warming.

- ▶ **Environment & infrastructure system business** Providing effective disaster-response products and systems for addressing risks such as flood damage or large-scale earthquakes or social issues such as extending the life of aging infrastructure. Also provides building material products.
- ▶ **Nursing care products business** Supplying mainly nursing care products under the Anju-brand for excretory/bathing and mobility/ambulatory purposes, as a leading manufacturer of nursing care products. New supply of products for older pets.
- ▶ **Ecological Materials business** Providing highly recyclable thermoplastic elastomer materials in various fields such as medical, food containers, automotive, and electric/electronic components.



FY2023 in Review

- ▶ **Environment & infrastructure system business** We focused on expanding sales of our lineup of disaster-response products and systems, such as distributed rainwater storage and infiltration systems, emergency toilet waste systems, and repair systems for aging pipes.
- ▶ **Nursing care products business** We began selling the “FX-30 Automated measuring type” portable resin toilet as a product that contributes to the shift to DX in the nursing care field. We are hastening the release of new products such as high-value-added products equipped with IoT technology.
- ▶ **Ecological Materials business** We began sales of biomass elastomer that uses renewable organic resources such as plant-based raw materials. Under the “GRiNABLE” brand, we are continuing to release environmentally friendly elastomer materials.

Strengths, issues and growth opportunities

- ▶ **Environment & infrastructure system business**
 - ◆ **Strengths**.....Development capabilities of high-performance products leveraging plastic processing technology
 - ◆ **Issues**.....Declining demand for commodity products
 - ◆ **Growth opportunities**.....Increasing demand in the infrastructure field based on the plan for national resilience led by the government and municipalities
- ▶ **Nursing care products business**
 - ◆ **Strengths**.....The power of the Anju brand and the development capability to catch up with demand for nursing care in a super-aging population society
 - ◆ **Issues**.....Fluctuations in demand trends due to revisions to the nursing care insurance system
 - ◆ **Growth opportunities**.....Increasing demand for nursing care in a super-aging society
- ▶ **Ecological Materials business**
 - ◆ **Strengths**.....Compounding technology that enables precise response to customer requirements, and production and sales system in Thailand capable of responding to the Asian market
 - ◆ **Growth opportunities**.....Increasing demand for recycled materials contributing to the development of a carbon-neutral society

Medium- to Long-term Growth Strategy

The plastics business covers the downstream areas of the Toagosei Group. With our development of characteristic materials and plastics processing technologies, we are aiming to expand the business by releasing high-value-added products and creating new businesses in the fields of environmental infrastructure and lifestyle support. We will undergo restructuring as a business unit directly linked to social issues.



Susumu Miho
Executive Officer
President and Representative Director,
Aronkasei Co., Ltd.

Environment & infrastructure system business

In addition to expansion of the flooding and inundation, earthquake resistance and disaster prevention, and infrastructure aging fields, we will launch disaster countermeasure products and systems from a new perspective. We will be identifying new business value and approaches to take such as the shift from the previous piping equipment business to the business focusing on infrastructure development.

Nursing care products business

“Anju” has grown to become a leading brand in the nursing care products sector, and we are developing high-value-added products equipped with IoT technology and other features with the aim of contributing to further advances in nursing care products and resolving social issues. We will also be expanding the “OneAid” business that includes products for elderly pets.

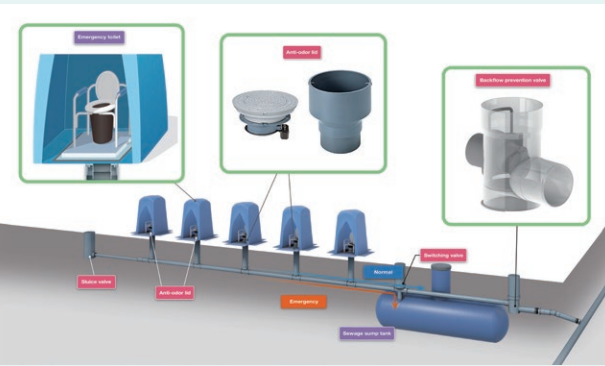
Ecological Materials business

We are focusing on development of materials (such as recycling, lighter weight and greater strength, plant-derived, etc.) and better process technologies (enhanced formability, reduced CO₂ emissions, etc.) with the view of growing into a business supporting the sustainable activities of society, and we will be taking a more customer-oriented approach.

FOCUS TOPICS

Proposal of emergency system with temporary toilets installed on manholes

We have come up with an “emergency toilet waste system” capable of quickly providing toilet functions at evacuation centers in the aftermath of a disaster. Designed to reduce foul smells coming from pipes and to prevent backflow from sewage mainlines, this system ensures extremely safe and hygienic toilet facilities even in disaster situations.



“Example of “emergency toilet waste system” * Photo is of storage type

Development of toilets that reduce the burden at nursing care sites

We developed a portable toilet with which measurement data on excretion date and time, excretion weight and seating time can be viewed on smartphones and tablets. With shortages of nursing care staff becoming a serious issue at facilities, this toilet helps to reduce the burden on monitoring patients and assisting with excrement by utilizing predictive nursing care.



“FX-30 Automated measurement type” resin toilet

Sustainability Business

As the division in charge of and promoting sustainability at our Company, the Sustainability Division is working toward actively utilizing renewable energy, achieving a hydrogen society to reach carbon neutrality, and aiming to achieve a safe and reliable supply of food.

The division is also reducing GHG emissions, implementing a circular economy and disclosing information such as TCFD and carbon foot prints.



1 Renewable Energy

We are engaged in the solar power and wind power generation business with the Tahara Solar-Wind Joint Project. All generated power is sold as FIT.

Going forward, we will be installing renewable energy in and around our own plants with the aim of meeting consumption at our own Company.

We will also be starting mega solar power generation at our Nagoya Plant and Takaoka Plant from 2025.

2 Hydrogen Station Business

Our own hydrogen produced from the brine electrolysis facilities at the Tokushima Plant is sold at hydrogen stations.

With one stationary hydrogen station and two mobile hydrogen stations, the hydrogen is used to refill FCVs and FC buses. We will continue contributing to the development of a hydrogen society in Tokushima Prefecture.

3 Plant Factory

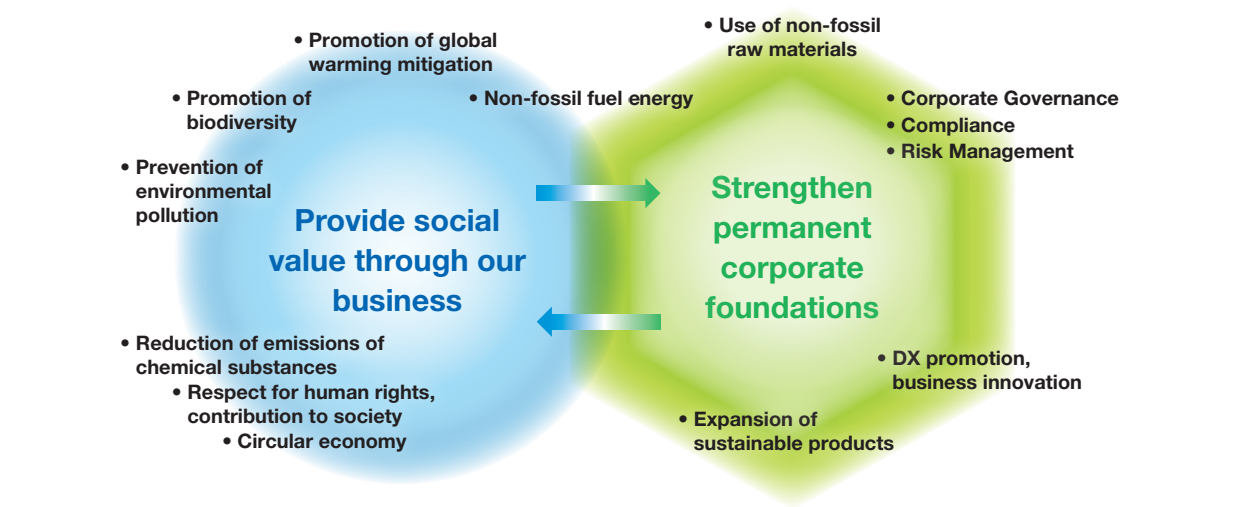
We are engaged in hydroponics for lettuce at our plant factory located in Takaoka City, Toyama Prefecture. Comprehensive quality management in a clean environment leads to reliable production without being affected by the natural environment. LED lighting is used for growing lettuce, and electrical power will be switched over to renewable energy sources in the future.

Sustainability Management

All Toagosei Sustainability Policy

We take up a challenge to create new value to deliver happiness to future generations.

The Toagosei Group aims to provide social value through our business and strengthen our enduring corporate foundation as initiatives to realize a sustainable society and sustainable growth of the Group.

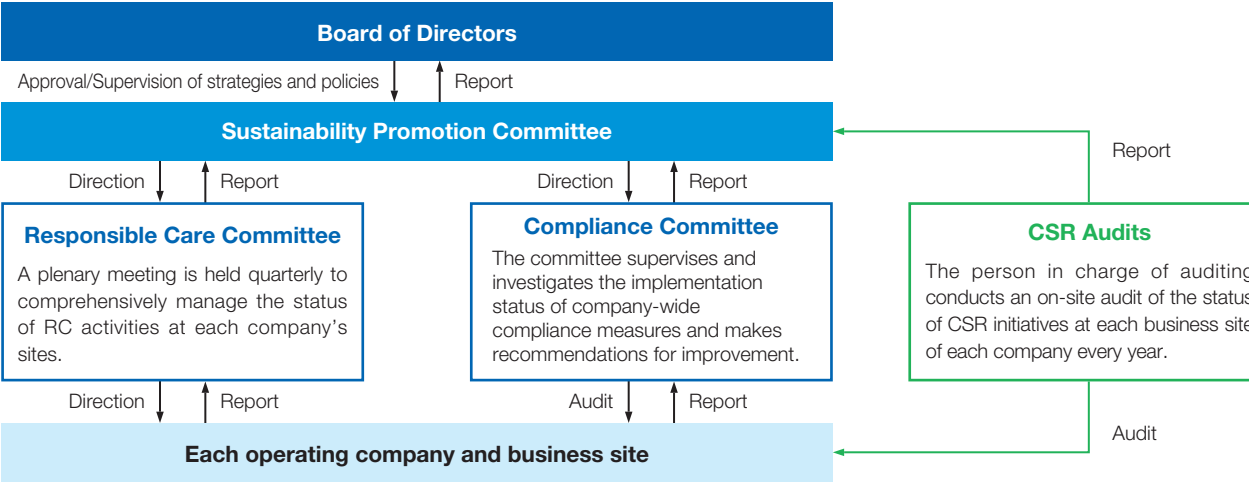


Sustainability Management System

Issues related to sustainability, including the challenges brought about by climate change, are studied as priority topics by the “Sustainability Promotion Committee.” Chaired by the President and Representative Director, the “Sustainability Promotion Committee” members are made up of directors (including outside directors), presidents of each group company, and representatives of subordinate organizations or those in charge of auditing organizations.

The Committee reports the results of deliberations to the Board of Directors, which discusses, decides on and supervises response measures and objectives of business strategy formulation and management decisions as well as issues to combat climate change.

Business sites of each our Group’s companies formulate action plans and promote and review activities based on the policies of the “Sustainability Promotion Committee.” Committees have also been established to discuss individual matters like Responsible Care (RC), risk management and compliance.



◆ Efforts in Alignment with the Recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD)

In the process of manufacturing various chemical products, we use large amounts of electric power and fuel, and emit greenhouse gases (GHG).

On the other hand, we also offer many products that are making a contribution with respect to climate change in fields such as mobility, electronics and critical infrastructure. Responding to climate change is an important aspect of management, both in terms of reducing GHG emissions and making a difference with our products, and in June 2019, we endorsed the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD).

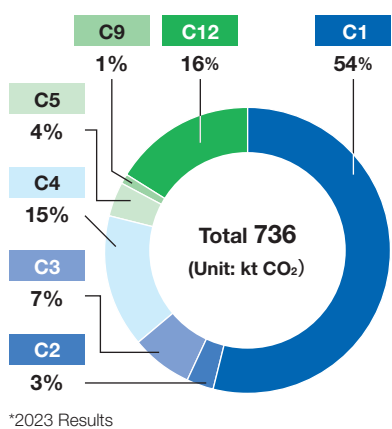
In accordance with TCFD guidelines, we manage GHG emissions, including those in our supply chain, in three categories (Scope 1 to 3).

| Scope 3 categories

Upstream	Toagosei	Downstream
Scope3 C1: Purchased goods and services 395 kt-CO ₂ C2: Capital goods 24 kt-CO ₂ C3: Energy activities not included in scope 1 or scope 2 55 kt-CO ₂ C4: Transport and distribution (upstream) 107 kt-CO ₂ C5: Waste generated in operations 27 kt-CO ₂ C8: Leased assets (upstream) Not applicable	Scope1 27 kt-CO ₂ Emission from use of fuel Scope2 294 kt-CO ₂ Emission from use of purchased electricity and heat Scope3 C6: Business trips 0.3 kt-CO ₂ C7: Commuting 0.4 kt-CO ₂	Scope3 C9: Transport and distribution (downstream) 10 kt-CO ₂ C10: Processing of sold products Not applicable C11: Use of sold products Not applicable C12: End-of-life treatment of sold products 118 kt-CO ₂ C13: Leased assets (downstream) Less than 0.1 kt-CO ₂ C14: Franchise Not applicable C15: Investment Not applicable

*Scope 1 and 2: Toagosei Group; Scope 3: Toagosei Co., Ltd. (non-consolidated)

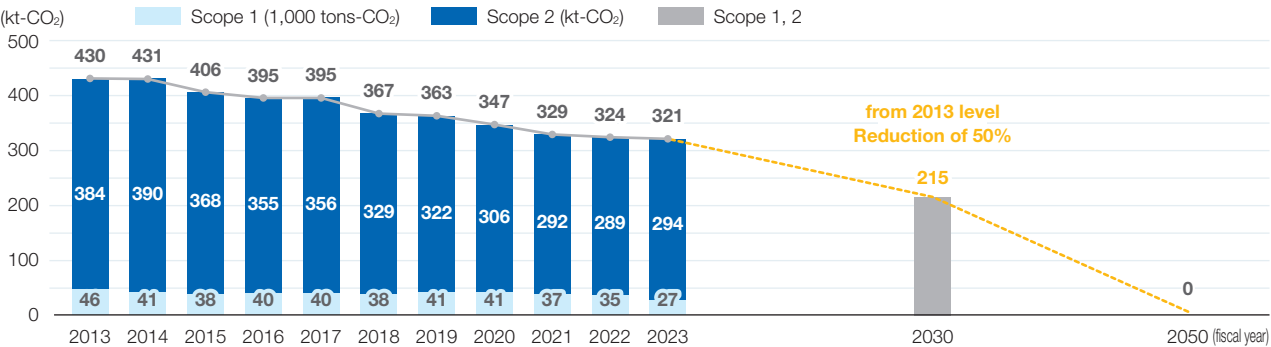
| Breakdown of Scope 3 emissions



◆ Initiatives to Achieve Carbon Neutrality

We are working to reduce greenhouse gas (GHG) emissions with the goal of becoming carbon neutral (net zero) by 2050. For Scope 1 and 2, our target is a 50% reduction by 2030 compared to base year 2013, and a 25.3% reduction by 2023 compared to 2013.

| GHG Emissions and Reduction Targets (Scope 1 and 2)



To achieve carbon neutrality, our Group has not only been working on energy conservation and efficiency improvements in our existing manufacturing processes, but have also begun specific studies and deliberations on various measures to achieve our goal of owning our own renewable energy power generation.

Introduction of solar power generation

We are moving ahead with plans to install mega solar power generation systems at our plants in Nagoya and Takaoka for in-house consumption. Power generation is planned to begin from 2025.

Introduction of small-scale hydroelectric power generation

We will construct our first small-scale hydroelectric power plant in Nagano Prefecture. Development is currently progressing toward completion in 2026. The plan is to increase the number of small hydroelectric power plants in the future.

◆ Sustainability-related initiatives in the Medium-Term Management Plan

The entire company is committed to contributing to the realization of a sustainable society, a materiality of the Medium-Term Management Plan.

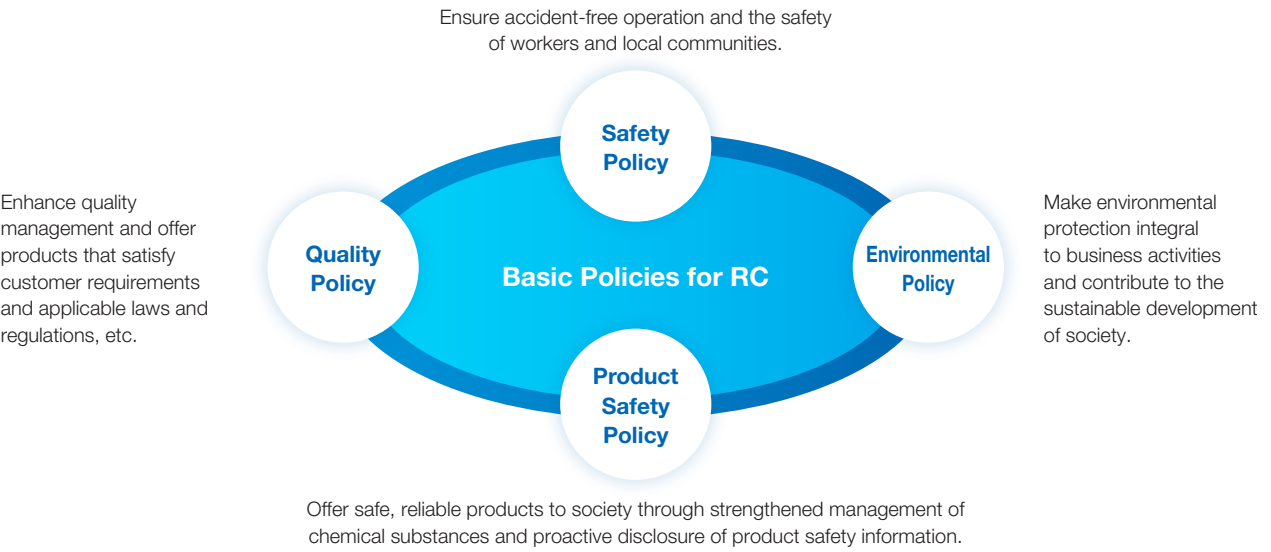
Materiality Element	Key Initiatives	2023 Results	Targets for 2025
Climate change mitigation	● Basic Targets 2030 Reduction of CO ₂ emissions by 50% (from 2013) 2050 Carbon Neutrality	CO ₂ emission reduction 25.3% (from 2013)	CO ₂ emission reduction 35% (from 2013)
	● Promotion of factory energy conservation (electrolysis facilities updates, heat use efficiency improvement, conservation to low-GHG fuels)	CO ₂ emission reduction 6.7 kt (from 2022)	CO ₂ emission reduction 20 kt (2023 to 2025)
	● Introduction of renewable energy (solar power, small-scale hydroelectric power, biomass power, etc.)	In progress for construction	CO ₂ emission reduction 17 kt (2023 to 2025)
	● Providing society with products that contribute to CO ₂ emission reduction	Study use of biomass for raw materials	Acquire ISCC PLUS certification
	● Disclosure of CFP figures of our products to customers and strengthening of CFP management	Calculated and disclosed commodity chemical products	Information disclosure on all bulk chemical products
	● Contribution to effective use of hydrogen and building social infrastructure	87% utilization rate of electrolytic hydrogen	Over 98% utilization rate of electrolytic hydrogen
	● Consideration of CCUS and energy storage systems	Consideration of storage FS	—
Climate change adaptation	● Reduction of GHG through the supply chain (promotion of lower GHG in raw material procurement and transport, product transportation, etc.)	Scope 3 reduction by 15% (from 2022)	Scope 3 Reduction by 3% (from 2022)
	● Continuation of business activities in the event of a natural disaster	Revised TCFD scenarios	Complete establishment of BCP for major products
	● Operational and facilities response to chronic extreme weather events (heat, cold, drought, prolonged rainfall, etc.)	Revised TCFD scenarios	Planning and investment calculation
Promotion of biodiversity	● Creation of new businesses that anticipate adaptation to climate change (development of products that help strengthen social infrastructure, disaster prevention, environmental health, etc.)	—	—
	● Promotion based on the National Biodiversity Strategy 2023-2030	—	TNFD disclosure
	Promotion of the use of ship ballast water chemicals, reducing the rate of invasive alien species introduction, and reducing impacts in high-priority sites	Net sales of ballast water chemicals +46% (from 2022)	Net sales of ballast water chemicals +10% (from 2022)
	Increase in plant factory operation, reducing the impact of pollutants, including eutrophication, biocides, and plastic waste reduction	Plant factory lettuce net sales (18%) (from 2022)	Plant factory lettuce net sales +10% (from 2022)
Promotion of a circular economy	● Promotion of social contribution activities (expansion of the scope of participation in forest conservation activities and river/coastal cleanup activities)	Number of participants +5% (from 2022)	+10% (from 2022)
	● Development of products that contribute to biodiversity (purification of wastewater and sludge, development of environmentally friendly products)	—	—
Expansion of sustainable products	● Creation of new businesses aimed at resource recycling (resource conservation, development of recycled products, construction of resource recovery systems)	—	—
	● Enhancement of the in-house eco-products certification system and expansion of the number of products	—	—
Expansion of sustainable products	● Development of environmentally friendly products (expansion of biomass-derived, biodegradable and recycled products)	—	—
	● Expansion of products to meet the demand for nursing care in a super-aging society	—	—

Responsible Care (RC) Management

Basic Policies for RC

Mindful of its responsibilities as an enterprise engaged in the chemical business, the Group is promoting Responsible Care (RC) activities under the Basic Policies for RC in order to ensure safety (occupational health and safety, security and disaster prevention, product safety, and physical distribution safety) and to continue efforts to protect the environment.

In accordance with the corporate philosophy and based on our policy of contributing to society by offering useful chemical products, our priority is to ensure safety of workers and people in society at large throughout our business activities. Our aim is to reduce environmental impacts of all our processes from procurement of raw materials to final disposal of products after use.

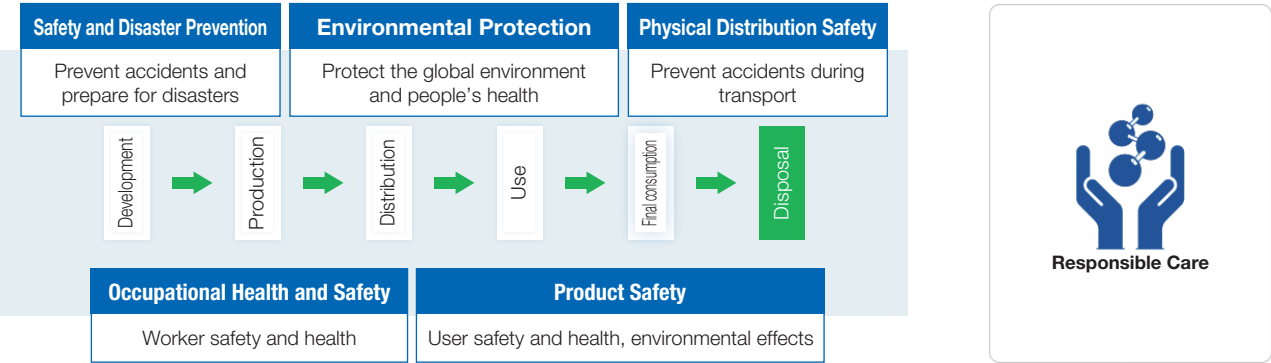


Toagosei Group and Responsible Care

Responsible Care (RC) activities are voluntary initiatives of companies handling chemical substances to ensure environmental protection and health and safety throughout product life cycles. Companies disclose the results of their activities and thus communicate with society.

Toagosei has been a member of the Japan Responsible Care Council (JRCC) since its establishment by the Japan Chemical Industry Association (JCIA) in 1995 and is promoting RC activities throughout the Group.

Toagosei endorsed the Responsible Care Global Charter established by the International Council of Chemical Associations (ICCA) in 2009 and revised in 2014. The president is a signatory of this charter and Toagosei is committed to the vigorous promotion of RC activities.



Environmental Protection

Item	P	D	C	A
	Targets for 2023	Results in 2023	Achievement	Targets for 2024
Global Warming Mitigation	Medium- to Long-Term Targets for CO ₂ Emission Reduction (Scope1+2) ● 2030 Reduction by 50% (from 2013) ● 2050 Carbon Neutrality	CO ₂ emissions: 321 kt (25% reduction from 2013)	★★	Medium- to Long-Term Targets for CO ₂ Emission Reduction (Scope1+2) ● 2030 Reduction by 50% (from 2013) ● 2050 Carbon Neutrality
	Strengthen management by implementing management system for chlorofluorocarbon	● Leakage volume for FY2022 was CO ₂ equivalent 1,213 ton reported to government in FY2023 ● CFC management system implementation delayed but under way	★	Strengthen management by implementing management system for chlorofluorocarbon
Initiatives to Realize a Recycling Society	● Final landfill disposal rate: 0.5% or less	● Final landfill disposal rate: 0.6% (including waste from building demolition, without which the final landfill disposal rate was 0.1% under normal operations.)	★	● Final landfill disposal rate: 0.5% or less
	● Continued sorting of waste and appropriate disposal	● Continued sorting of waste and appropriate disposal	★★★★	● Continued sorting of waste and appropriate disposal
	● Promotion of recycling and waste volume reduction	● Switching to a value recovery service provider	★★★★	● Promotion of recycling and waste volume reduction
Environmental Impact Reduction Initiatives	● Emissions of substances subject to PRTR: 41 tons or less	● PRTR emissions: 47 tons	★	● Emissions of substances subject to PRTR: 41 tons or less
	● Zero serious environmental accidents	● Specific wastewater pH in excess of legal limits: two cases	★	● Zero serious environmental accidents ● Prevent pollution of rivers and oceans by microplastics

Global Warming Mitigation Initiatives

We have set medium- to long-term targets for the reduction of CO₂ emissions from production activities (Scope 1+2) in the two steps of the PDCA chart above. We have formulated an energy conservation roadmap to achieve these targets at each business site and are steadily introducing equipment and technologies.

Production plans faced uncertainties during 2023 due to the situation in Ukraine, resulting in a decrease in energy consumption but a worsening in the per unit cost, and an increase in the CO₂ emission coefficient of electric power companies, but over the medium to long term, we are generally on pace to achieve our reduction target by 2030. The sources of CO₂ emissions will be identified thoroughly to accurately calculate the amount of GHG emissions. We also promote the optimal use of energy by introducing renewable energy in-house and in partnership with local communities.

Initiatives to Realize a Recycling Society

We worked to reduce industrial waste toward a target for the final landfill disposal rate of 0.5% or less, but we failed to achieve the target as the final landfill disposal rate was 0.6% due to surplus soil during construction following removal of buildings in 2023. The final landfill rate due to normal production activities was 0.1%.

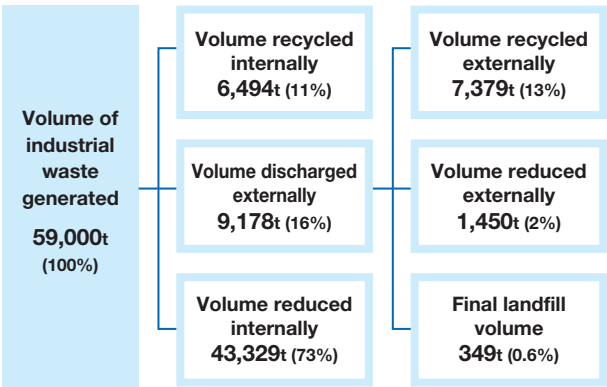
Each business site progressed with their own initiatives for increasing the recycling rate, but as the circular economy concept gains traction throughout society, the definition of recycling and order of priority itself is undergoing change, such as the Law for the Promotion of Plastic Materials Circulation. In 2024, we will be addressing this by re-examining waste treatment processes and revising methods for setting future targets.

Chemical Substance Emissions Reduction

Each business site conducts appropriate notifications in compliance with the “Law concerning Pollutant Release and Transfer Register (PRTR Law).” In 2023, we identified the additional target substances, and also made efforts to reduce emissions of existing substances. Looking ahead, we will set a target for each substance and work to achieve zero emissions of all chemical substances including the 26 substances voluntarily controlled under the Japan Chemical Industry Association, and not just PRTR target substances.

Emissions of Principal Substances Subject to PRTR (t)		
Major emissions	2022	2023
Chloromethane (methyl chloride)	26	32
Methyl acrylate	6.4	5.0
Chloroethylene (vinyl chloride)	3.5	3.0
n-Hexane	1.1	0.4

Industrial waste processing flow



► Environmental accounting

The Toagosei Group introduced environmental accounting in 2000 to ascertain costs related to environmental activities and their benefits and to utilize the data as a basis for decision-making for the purpose of engaging in more efficient environmental protection activities.

Scope of calculations:

Companies and offices listed in the chart below (Business Activities and Environmental Impacts section)

Period covered:

January 1 to December 31, 2023

Calculation method:

1 - Calculated using our Calculation Rules prepared with reference to the Environmental Accounting Guidelines (2005 version) of the Ministry of the Environment of Japan.

2 - Compound costs that include expenditures for purposes other than environmental conservation are prorated in proportion to their impact on the environment then counted as environmental costs.

3 - Investment amounts are treated as actual capital investments, and expense amounts are treated as actual facility maintenance and management costs, personnel and other costs.

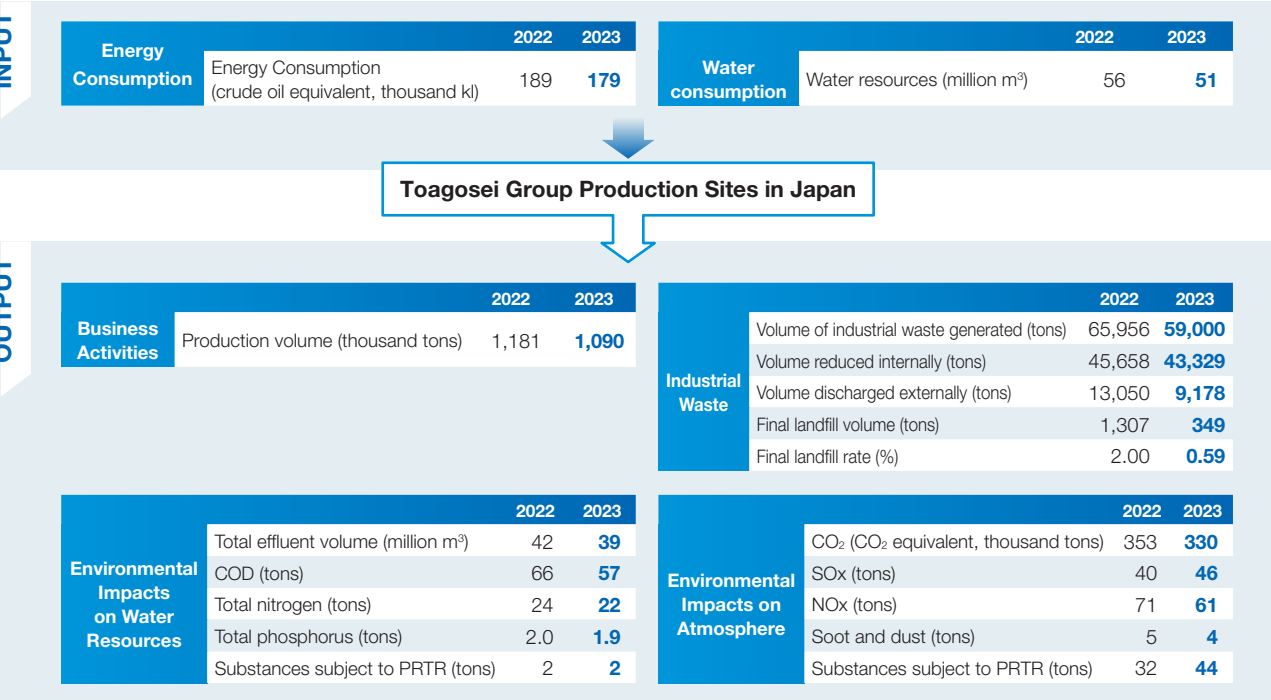
4 - Items for which effects could be clearly calculated were calculated in monetary and quantitative units. However, effects that are difficult to quantify, such as risk aversion and deemed effects, are not included.

| Environmental investments and expenses by cost category

Types of environmental conservation costs (Content of major initiatives)			Investment (Millions of yen)	Expenses (Millions of yen)
1. Cost within business area			2,221	7,045
Breakdown	1 Pollution prevention costs	(costs to prevent atmospheric and water pollution)	2,053	5,661
	2 Global environmental protection costs	(costs to prevent global warming, promote energy-saving, prevent destruction of the ozone layer)	131	966
	3 Material recycling costs	(costs to use resources efficiently and for disposal and treatment of industrial waste)	37	419
2. Upstream/downstream costs (costs incurred in downstream/upstream from manufacturing and service activities: green procurement, etc.)			11	34
3. Management activity costs (costs to maintain and operate environmental management system, monitor and measure environmental impact, and offer environmental education)			105	530
4. R&D expenses (costs to research and develop products and other items that contribute to environmental protection and reduce environmental impact during manufacturing)			312	1,132
5. Social activity costs (costs of nature conservation and environmental improvements such as greenification, donations to and support for environmental protection organizations, and activities related to local residents)			0	237
6. Environmental damage costs (costs to recover nature and for compensations related to environmental conservation)			0	17
7. Other costs related to environmental conservation			2	138
Total			2,650	9,133

► Business Activities and Environmental Impacts

Scope				Calculation period
Toagosei Group	Toagosei	Plants	Nagoya Plant, Yokohama Plant, Takaoka Plant, Tokushima Plant, Sakaide Plant, Oita Plant, Kawasaki Plant, Hirono Plant	One year from January 1 to December 31, 2023
		Research centers	Nagoya Criatio R&D Center, Institute for Advanced Sciences (Ibaraki Prefecture)	
	Group companies	Aronkasei	Kanto Plant (Ibaraki Prefecture), Nagoya Plant, Monozukuri Center (Aichi Prefecture), Shiga Plant, Onomichi Plant	



Product Safety

Item	P	D	C	A
	Targets for 2023	Results in 2023	Achievement	Targets for 2024
Product Safety	● Response to domestic and overseas laws and regulations	● Response to domestic and overseas chemicals-related laws and regulations	★★★	● Response to domestic and overseas chemicals-related laws and regulations
	● Expansion of the scope of usage of the chemicals management system	● Improved versatility of the chemicals management system	★	● Appropriate response to requests for submission of SDS and various survey forms
	● Ensuring of preparation and updating of SDS in accordance with GHS	● Response to requests for submission of SDS and various survey forms	★★★	

Chemicals Safety Management System

At our Group, our first task at the product development stage is to conduct a safety examination. We also perform necessary safety tests when making notifications required by laws and regulations when a product falls under the category of a new chemical substance. We also make necessary responses to new substances in the inventory of each country.

At disaster prevention meetings held before test production or scaling up of production, we discuss the safety of materials handled and products, as well as disaster prevention during manufacturing. We check chronic effects as well as acute health hazards, such as the danger of chemical injury, through chemical substance risk assessments and also deliberate on compliance with legal and regulatory requirements, environmental impacts, and other matters.

Provision of Safety Information

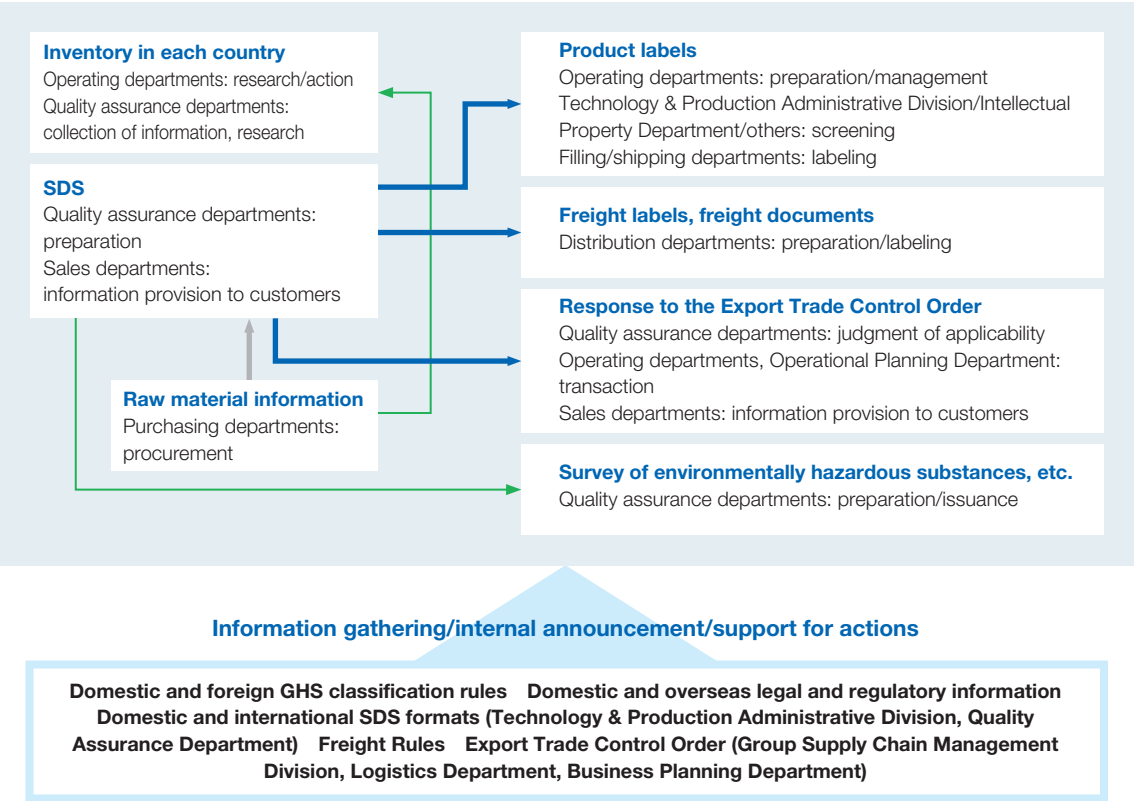
We provide chemical product safety information using safety data sheets (SDS), product labels, yellow cards, and other means. SDS are documents prepared for communicating detailed information related to chemical product handling methods and safety. We issue SDS to customers, sales agents, transportation companies, and other companies that handle the Group's products. SDS for some products can be downloaded from the corporate website.

The number of target substances for chemical substance risk assessments increased following the amended system for voluntary control of chemical substances, so we are taking the appropriate action such as organizing SDS and other means.

The mandatory provision of SDS and product labels in national languages in accordance with Globally Harmonized System of Classification and Labeling of Chemicals (GHS)* has spread in various countries around the world including Japan. We are creating and updating SDS and product labels as needed in response to such trend.

Many departments are involved to manage product information and appropriately communicate it to the supply chain. Members of the Technology & Production Administrative Division and the Group Supply Chain Management Division are engaged in information gathering, internal education, response to consultation and other tasks to support implementing departments.

* GHS: Globally Harmonized System



Quality Assurance

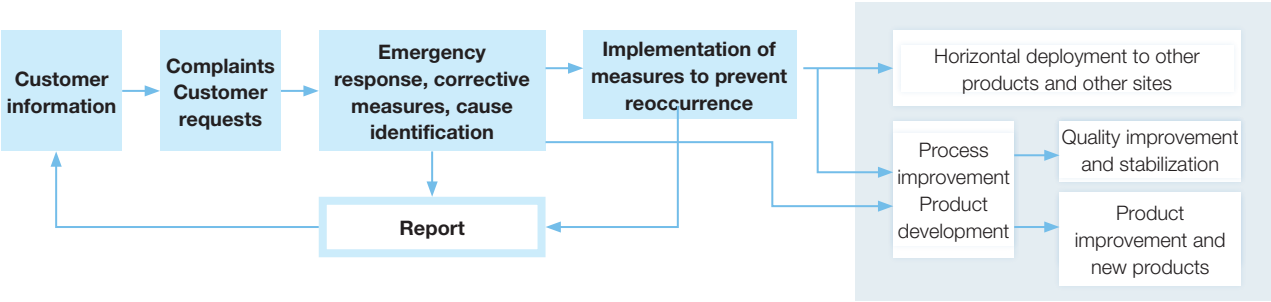
Item	P	D	C	A
	Targets for 2023	Results in 2023	Achievement	Targets for 2024
Quality Assurance	● Regularization of quality risk assessment and FMEA promotion	● Revision of relevant standards, promotion of risk assessment	★★★	● Strengthening of quality risk evaluations
	● Standardization of measures to prevent accidents and outflow	● Promotion of reflection of measures in standards	★★★	● Formulation and implementation of effective measures to prevent accidents and outflow ● Promotion of operational improvements by increasing lineup and quality

Quality Assurance System

Based on its quality policy to “enhance quality management and offer products and services that satisfy our customers,” the Group is working to achieve ongoing improvement of the management system. In addition, we promote various activities by setting quality objectives such as improving the level of raw material management, strengthening manufacturing process control, improving the quality of analytical work, and utilizing the in-house Quality Assurance Liaison Committee.

Initiatives in Response to the Voice of the Customer

We are striving to appropriately and quickly respond to complaints and submit delivery specifications and various documents. Quality assurance departments of our plants are responding to opinions of customers from their perspectives. As a result, submission of various documents to customers has become expedited year by year. Considering customer complaints and requests as opportunities for product improvements, process improvement, work improvement, and facilities upgrades, we enhance the level of quality management from a broad perspective.



Safety Management during Product Transport

Item	P	D	C	A
	Targets for 2023	Results in 2023	Achievement	Targets for 2024
Physical Distribution Safety	● Reduction in the number of physical distribution problems	The target for reduction of logistics complaints was achieved, but the target for problems was exceeded.	★★	● Reduction in the number of physical distribution problems

Safe Transport and Delivery Promotion Structure

Each business site organizes conferences with carriers to promote safe transport and safe delivery. The business sites set annual targets at the conferences and confirm the progress and whether rules for carrying out safe operations are being observed through meetings and safety patrols.

In the case of new clients, the business sites confirm clients' receiving facilities in advance to establish the system for safe delivery. If a carrier requests improvement of a client's receiving facility, we ask the client to make those improvements.

Horizontal Deployment of Problem Information

The logistics departments undertake sharing and horizontal deployment of information at all plants by registering problems in shipping and transport in a database. Each business site regularly holds meetings with carriers to share risk information such as examples of actual accidents and close calls in order to raise awareness for the elimination of serious troubles.

Human Capital

P	D	C	A
Targets for 2023	Results in 2023	Achievement	Targets for 2024
Maintenance of employment rate of persons with disabilities of 2.4% or higher	Employment rate of persons with disabilities: 2.48%	★★★	Achieve employment rate of persons with disabilities of 2.5% or higher
Promotion of women's participation and advancement (Period: Five years between April 1, 2021 to January 1, 2026) ● Female hiring ratio: 30% or more among new career-track employees, 20% or more among regular service employees ● Ratio of female managers: 5% (13 as of January 1, 2026)	● Female hiring ratio: 22.50% among new career-track employees, 21.05% among regular service employees ● Ratio of female managers: 4.18% (as of January 1, 2024)	★★	Promotion of women's participation and advancement (Period: Five years between April 1, 2021 to January 1, 2026) ● Female hiring ratio: 30% or more among new career-track employees, 20% or more among regular service employees ● Ratio of female managers: 5% (13 as of January 1, 2026)
Promotion of the prevention of lifestyle-related diseases ● Rate of employees undergoing thorough health examinations: 100% ● Rate of employees maintaining desirable weight: 70% ● Smoking rate: 23% (achieve 15% by 2026) Promote initiatives to make exercise a habit ● Ratio of employees with regular exercise habits: 40%	● Rate of employees undergoing thorough health examinations: 68.5% ● Rate of employees maintaining desirable weight: 60.9% ● Smoking rate: 24.4% ● Ratio of employees with regular exercise habits: 32.9%	★★	Implementation of disease prevention measures and enhancement of health awareness ● Rate of employees undergoing thorough health examinations: 100% ● Rate of employees maintaining desirable weight: 70% ● Smoking rate: 23% (achieve 15% by 2026) ● Ratio of employees with regular exercise habits: 40%

Approach to human capital

In today's rapidly changing business environment, productivity improvement and innovation creation are essential for companies to survive. The Toagosei Group believes that the source of value creation is human resources, and we are working to develop human resources, promote diversity, achieve work-life balance, and promote health management with the aim of realizing an organizational culture in which employees and the company grow together.

We will actively invest in these human resources policies to create an environment in which diverse human resources can demonstrate their abilities and experience success and growth with the view to increase employee engagement and labor productivity, eventually leading to an increase in sustainable corporate value.

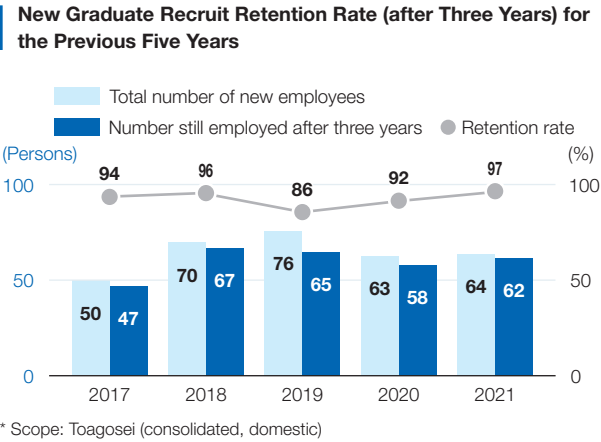


Securing and developing human resources

Recruiting Activities

Our Group actively hires both new graduates and experienced personnel to lead our growth strategy.

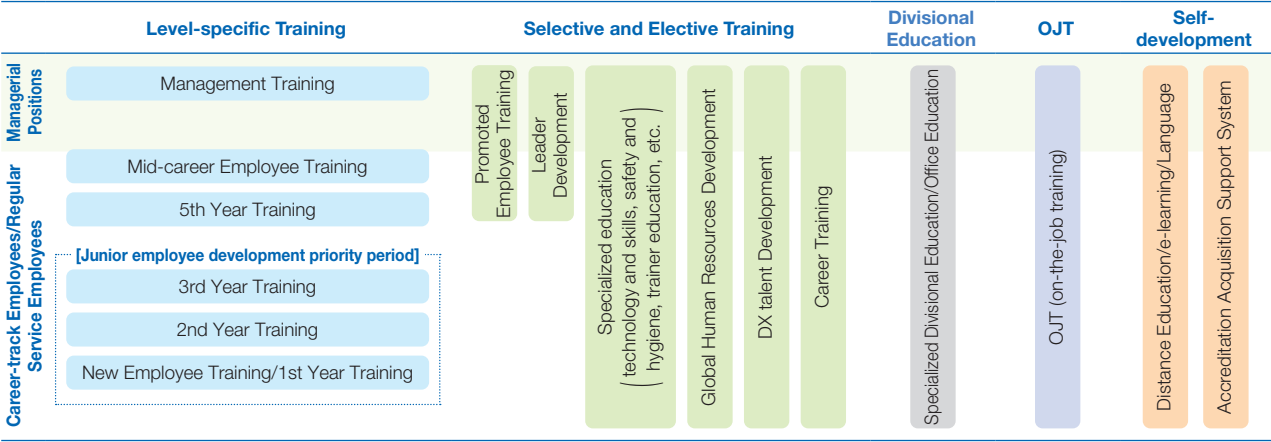
While a diverse range of employees are playing an active role, “people with the enthusiasm and tenacity to think and tackle issues independently and see tasks through to the end” are the ideal character we seek. To achieve this, we place importance on interviews with judging criterion based on whether people are able to contribute and flourish in the Group more than academic qualifications or past track record.



Human Resources Development Policy

The Medium-Term Management Plan focuses on key measures such as expanding overseas operation, strengthening R&D capabilities, and promoting digital transformation (DX). To achieve this, we are focusing on cultivating human resources with an international mindset, human resources capable of generating new value by interacting with different cultures, and human resources capable of bringing about business reform through the use of digital skills. We are also working on creating a workplace environment where each and every employee can take responsibility for their own growth, and contribute to the development of the Company and society.

Human Resources Development Chart



Development of Young Employees

Our Group has designated the first three years of employment as a priority period for cultivating junior employees. During this period, training focuses on developing human resources who can think independently, involve others, and act autonomously. To achieve this, we implement level-specific training to provide step-by-step improvements in employee's fundamental skills of working adults. Working closely with colleagues gives employees the opportunity to identify their own strengths, shortcomings and areas where they can better themselves.

Career Autonomous Development Support

Our Group provides Career Autonomous Development Support to enable each and every employee to plan out a vision for their own career, and take action toward fulfilling it. From 2018, we have run career training by rank, and we are expanding the scope of eligibility for training every year. In 2023, we also developed an environment where employees can have consultations about their career with nationally qualified career consultants.

Furthermore, we provide support for self-development so that employees are able to select and acquire the required skills themselves. In addition to an assistance program under which the Company pays for the cost of e-learning, distance education, English learning apps, and open seminars, we encourage employees to improve their capabilities by encouraging them to acquire official accreditations through our assistance program for qualification acquisition.

Specialized education

The Company provides work-related technical training throughout the entire company to ensure that employees are fully capable at the workplace as early as possible.

In technical education, we promote a wide range of education from basic to practical applications, including acquisition of fundamental knowledge with classroom lectures and e-learning, understanding of process principles with mock-ups using operating simulators, and hands-on training with instruments, equipment and mini-plants. These types of training help to strengthen a trainee's analytical ability and response capability, such as in detecting abnormal signs, responding to abnormal events and identifying their causes. Classroom lectures do not only involve passive lectures, but also provide opportunities for actively engaging in communication and activities, such as discussions and exchanging views amongst other lecture participants.

In safety and health training, we use VR and simulation equipment to increase awareness of safety and sensitivity through hands-on safety training, to cultivate human resources capable of maintaining safe and stable operations, and to transfer the required technologies and skills.



Mini plant training (pipe replacement)

VOICE

Training in Japan for local staff of Toagosei (Thailand) Co., Ltd.



Scene of plant training

Seven members of Toagosei (Thailand)'s polymer manufacturing division took part in training held at Toagosei (Head Office, Nagoya Plant, Hirano Plant) from April 24 to 28, 2023.

This training was organized to compare operations and maintenance management between each plant, to learn from the positive aspects of each, and to identify areas where improvements can be made. While this revealed many areas that were covered with the same management standards as in Japan, there was also a need to enhance maintenance cycles under the harsh, hot and humid environment characteristic to Thailand. Maintenance plans were revised after the training, which are currently being put into practice for stable operations.

The training also presented a good experience for participants to learn about the customs and mindsets of the disciplined Japanese people, which had a positive effect on their daily efforts to improve their workplace environment and their approach toward safety. This valuable experience will continue to be applied into the future.

Training is planned to be held in Japan for Toagosei (Thailand)'s R&D, quality assurance and environmental safety divisions in 2024, as part of efforts to further improve quality.

Diversity Promotion

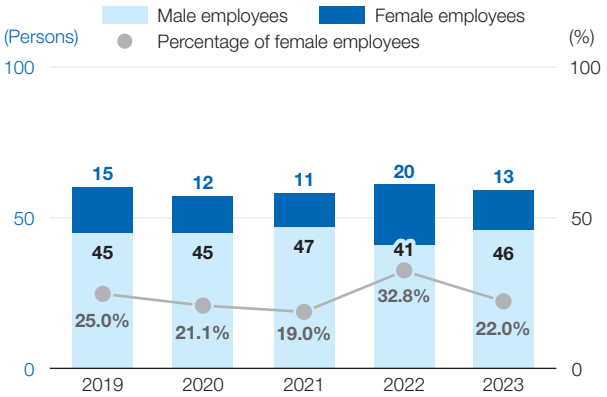
Global Human Resources

As we accelerate our overseas expansion, we believe it is essential to develop global human resources and encourage their active engagement.

In expanding our Group’s production and sales bases around the world, local hires will be key to the development of our overseas bases. As a member of the Group, we are working to share our corporate philosophy and foster a sense of unity in an effort to increase loyalty and motivation. We also provide technical training at our business sites in Japan for locally hired employees, to facilitate interaction among Group employees.

International communication has become increasingly important, given the rise in the number of overseas business trips and online meetings. To address this, we provide support for enhancing English language skills so as to capture more business opportunities with overseas partners. In addition, in order to strengthen a sense of the need for globalization and cross-cultural understanding, we are working to have young employees experience working overseas, and we expect them to play key roles as a driving force for overseas expansion.

Employment Rate of Women among New Graduates in Past Five Years



* Scope: Employees registered at Toagosei

Greater Choice of Workplaces Where Women Can Display Their Capabilities

Since 2015, Toagosei has been assigning women to workplaces at manufacturing sites and working to expand the job categories available to women. Believing that a workplace that is comfortable for women to work in is also friendly to all workers, we are moving to reduce workloads and improve the workplace environment.

In 2023, we set up a new rest area during on-site work complete with sofa beds, and operating valves located at high positions were moved to lower positions.

We will also conduct interviews with women assigned to manufacturing sites and work to create a comfortable working environment, not only in terms of facilities but also when it comes to awareness.

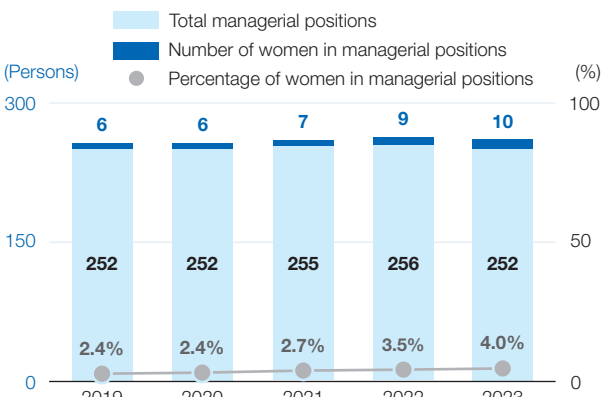
Action Plan Based on the Act on Promotion of Women's Participation and Advancement in the Workplace

Since 2016, we have established the promotion of women’s empowerment as one of our key CSR goals, and have focused on creating a system that enables women to fully exercise their abilities. Our general business owner action plan under the Act on Promotion of Women’s Participation and Advancement in the Workplace extends for five years from 2021, and includes the following goals that we have set.

- Annual female hiring ratio of 30% or more among new career-track employees, 20% or more among general service employees
- Increase in the percentage of female managers to at least 5% by January 1, 2026
- Retention rate of at least 90% as of March 31, 2026 for new female hires in general service employment

In addition, to create an environment in which diverse human resources can play an active role regardless of gender, we will conduct training to raise awareness in the organization and hold internal social events organized by female employees.

Percentage of women in managerial positions in past five years



* Scope: Employees registered at Toagosei

Active senior employees

In 2013, the Group extended the mandatory retirement age from 60 to 65 by introducing a system for retirement at 65.

In order to support even more active and autonomous career development among senior human resources, we provide career training for personnel in their 50s. During the training, participants will look back over their past experiences, organize the knowledge and skills they have acquired, and reevaluate their own sense of values. Based on this, participants will examine their approach to work and ideal position they want to achieve in the future, and harness this as the first step toward achieving their career vision.

Employment of Persons with Disabilities

Our Group includes 49 people with disabilities, ranging broadly in age from their 20s to 60s, and working in 35 departments across the country.

In order to support the independence of people with disabilities, we are working to expand their employment such as ensuring greater choice of workplaces, and as of the end of 2023, the employment rate of people with disabilities across the Group as a whole was 2.48%.

In addition, we have partnered with employment support organizations, (Hello Work and) other groups to promote recruitment activities and create a workplace environment so that people with disabilities can work with peace of mind. We are aiming to cultivate a workplace where diverse human resources, including people with disabilities, feel more rewarding than ever before.

Promotion of Work-life Balance

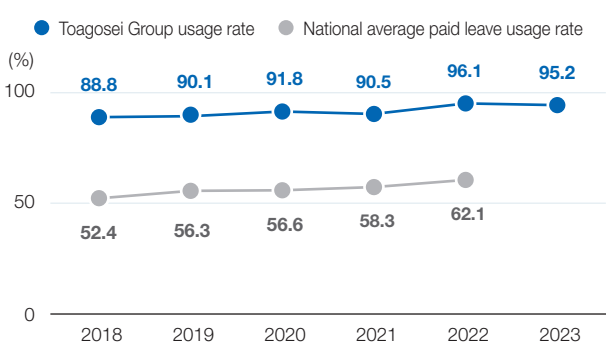
Flexible work styles

Our Group has striven to achieve work-life balance based on the belief that when employees spend their days feeling fulfilled in both their personal and professional lives, they can apply their abilities to the fullest, which leads to growth and development of our business.

We encourage employees to actively take their annual paid leave, and the Group’s annual paid leave usage has remained at a high level since 2016. In 2024, we are also introducing an “Inter-shift Interval System” that ensures at least 11 hours of rest between the end of one workday and the start of the next day’s workday, as part of ongoing efforts to limit long working hours.

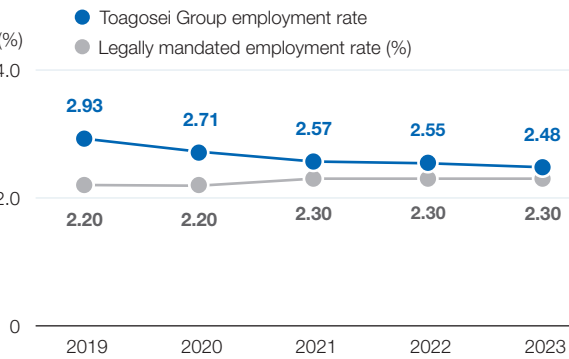
Furthermore, we have established various systems to promote flexible work styles among employees in the belief that doing so will help foster an autonomous corporate culture and improve productivity. We have created a “Teleworking System” that gives employees the option of working from home or other locations in one-hour increments for up to ten sessions per month, and an “Annual Leave by Hourly Increment System” that allows employees to take their annual paid leave in one-hour increments, thereby promoting workstyle flexibility and how employees can take time off.

Change in Annual Paid Leave Usage



* National average paid leave usage rate: General Survey on Working Conditions (Ministry of Health, Labour and Welfare)
* The Company permits annual paid leave past the statutory expiration date (up to 40 days) to be retained, and this figure has been calculated including the amount of this leave that has been taken.
* Scope: Toagosei (consolidated, domestic)

Change in employment rate of persons with disabilities in past five years



* Scope: Toagosei (consolidated, domestic)

Support in balancing work with parenting/nursing care

To create a fulfilling working environment for a diverse workforce, we commit ourselves to supporting employees in balancing work with parenting and/or nursing care. Since 2021, we have conducted an annual employee awareness survey on job satisfaction and work environment congeniality, and expanded our support systems for balancing work and home life. As a result of these efforts, we were certified by the Minister of Health, Labour and Welfare as a “child-care supportive institution” (Kurumin certification) in 2023.

To help employees balance work and parenting, we changed our system to enable employees to extend their childcare leave until the end of March after their child reaches the age of three if they are unable to enroll their child in a daycare center. Furthermore, eligibility for shortened working hours for childcare has been expanded to include children in the third grade of elementary school and younger.

Regarding support for balancing work and nursing care, the upper limit on the period for shortened working hours for nursing care has been abolished, and the number of days granted for nursing care leave has been increased to 20 days per year. In addition, we have established a financial support system under which the Company provides a certain percentage of remuneration for a portion of the nursing care leave period.

We have also developed a “Retained Annual Leave System” that allows employees to accumulate expired annual paid leave and use it for childcare, nursing care or other purposes. “Family Hospital Care Assistance” and “Infertility Treatment” have been added to the scope of this system from 2024, ensuring a system capable of catering to a wide range of employee life events in addition to childcare and nursing care.



▶ Leave System for Spouse Relocation and Reentry System

Toagosei has introduced the Leave System for Spouse Relocation Overseas, which allows leave of up to three years for employees accompanying their spouses on overseas assignment—this had been used by two employees as of 2023. From 2024, the system has been expanded to include employees accompanying their spouses on domestic and international transfers, providing for greater flexibility in catering to the family circumstances of employees.

We also have a “Reentry System” that handles people wishing to reapply for employment with the company as candidates for reemployment after they have resigned. From 2023, this system has been available not only to cater to employees’ family circumstances such as childcare or nursing care, but also for those who leave the company to advance their careers such as job changes or higher education, creating an environment where diverse human resources can continue with their careers.

◆ Health Management Promotion

▶ Promotion of health management

We are promoting efforts to maintain and improve the health of our employees because we believe that creating a vibrant and creative organization in which each and every employee can work in comfort and with vitality that will eventually lead to the growth of the company. Through these efforts, we aim to achieve zero occurrence of long-term absences from work (three consecutive months or more) due to illness by 2025.

To reduce the risk of illness among employees, we have established a Health Management Promotion System in cooperation with occupational physicians, health staff, the Health Management Promotion Section, the Health Insurance Association, Health and Safety Committee, and labor unions, and are implementing the PDCA cycle for health measures.

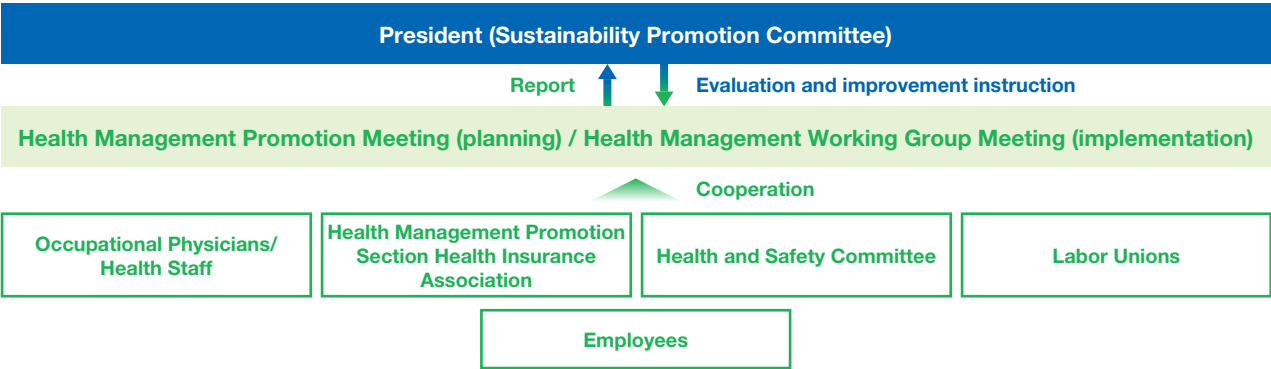
▶ Promotion of disease prevention

We focus on the prevention of lifestyle-related diseases to help employees reduce the risk of disease and work with vigor and vitality.

In addition, the health management system is being used to increase the sophistication of the health management system by promoting appropriate health guidance through company-wide monitoring of employee health status and identification of issues by health staff. We have also introduced a web-based health consultation service, which allows employees to consult anonymously with their healthcare providers.

In our efforts to promote smoking cessation, we displayed posters promoting smoking cessation in our offices, held quit smoking seminars for management staff, and ran a quit smoking campaign for those seeking to quit smoking.

| Health Management Promotion Chart



▶ Health maintenance and promotion

During 2023, we ran seminars with a focus on teeth and mouth health, and women’s health problems as part of efforts to assist employees maintain health. In addition to seminars held throughout the Company, a range of unique health-related seminars like mindfulness seminars were held at each business site.

A company-wide walking event is also held annually utilizing a smartphone app with the aim of establishing regular exercise habits. Teams comprising various generations are assembled, with chat and ranking functions utilized to invigorate communication within the workplace. In addition, the company provides financial support for the use of gymnasiums and other recreational activities to promote health and wellness in local communities.



Teeth and mouth health seminar



Mindfulness seminar

▶ Sports Yell Company certification

We were certified with “Sports Yell Company 2024” as a company actively engaged in promoting sports as a means of promoting the health of employees. This certification program is run by the Japan Sports Agency with the aim of promoting sports for the generation in the prime of life and fostering social momentum for sports. This program recognizes companies that are actively promoting sports activities to improve employee health.



▶ Excellent Corporations for Health Management

We have been certified as an Excellent Corporation for Health Management under the Certified Health & Productivity Outstanding Management Organization Recognition Program since 2019. This program is implemented by the Ministry of Economy, Trade and Industry (METI) in collaboration with Nippon Kenko Kaigi (the Japan Health Council), which is comprised of leaders from the business community, medical-related organizations, and local governments, to recognize corporations that are implementing particularly excellent health management practices.

We will continue to strengthen our health management practices as we regard the physical and mental health of each employee to be an important asset.



COLUMN

VegeCheck® Measurement Session

In 2023, we ran “VegeCheck® Measurement Sessions” together with the “Dietary Lifestyle Improvement Seminars” held at the Toagosei Head Office and Nagoya Plant.

“VegeCheck® (provided by Kagome Co., Ltd.)” estimates vegetable intake levels by measuring how much carotenoid, which is contained in vegetables, is stored in the body (contained in the skin). Measurements can be taken easily on-site, providing an exciting way to review dietary lifestyles by comparing one another’s readings or sharing tips on how to increase readings. These sessions will be held at more business sites through 2024, with the view of having more employees examining their own diets and making improvements.

* VegeCheck® is a registered trademark of Kagome Co., Ltd.



VegeCheck® Measurement Session

◆ Other welfare programs and initiatives to improve engagement

▶ Introduction of Employee Stock Compensation Plan

The “Employee Stock Compensation Plan” was introduced in 2023 with the aim of enhancing the welfare and benefits plan as well as increasing employees’ awareness of the Company’s business performance and increasing the share price, and increasing the Company’s corporate value over the medium to long term.

The Plan is an incentive plan whereby money contributed by the Company will be used to establish a trust, and Company Shares will be granted to employees through the trust based on points awarded to the employees who satisfy certain conditions.

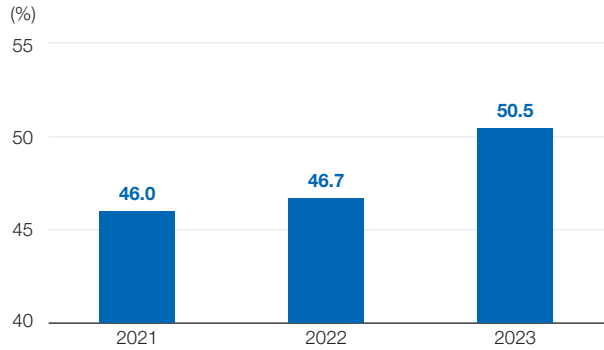
By introducing this plan, employees will be able to benefit economically from increases in the price of company shares, which is expected to provide an incentive for employees to execute business operations mindful of share price and to increase their motivation for participating in management.

▶ Increasing the incentive ratio of the Group Employee Stock Ownership Association

We also raised the incentive ratio of the Group Employee Stock Ownership Association in October 2023 from the stance of providing greater welfare benefits, such as support for long-term and planned asset building, as well as to raise awareness of participating in management.

As a result, the membership ratio in the Association reached 50.5%.

| Group Employee Stock Ownership Association membership ratio



* Toagosei Group employees in Japan ÷ No. of members (each year-end)

Sustainability Management

Enhancement of Contributions to Society and Local Communication

Activities for Social Contribution, Aesthetic Maintenance and Conservation of Biodiversity

Our Group conducts activities for social contribution, aesthetic maintenance and conservation of biodiversity, including donations and gifts, sports support, volunteer cleanups, and sponsorships.

We have raised “Contributing to society by cultivating the next generation” as our sustainability goal, and to this end, have made annual donations to the “Children’s Future Support Fund (led by the central government)” and the “Ashinaga Foundation” since 2021—in 2023 we made our third donation in order to provide financial support where it is required the most.

The main results for 2023 are shown in the following table. We will continue actively promoting social contribution activities into the future.



Receiving certification of appreciation for the “Children’s Future Support Fund (led by the central government)” from Ayuko Kato, Minister of State for Special Missions

Results in 2023

Site	Activity contents
Site in Japan	Local and neighborhood cleanup activity
Head Office	<ul style="list-style-type: none">• T-League sponsorship• Support for the MINATO City Half Marathon 2023 in Minato-ku, Tokyo• Donations to the Children’s Future Support Fund (led by the central government) and the Ashinaga Foundation• Turkey-Syria Earthquake Relief• Donation to the Tobitate! Study Abroad Initiative• Donation to the Chemistry Personnel Cultivation Program• Donation to the Japanese Foundation for Cancer Research (supporting technical development for cancer treatment)
Nagoya Plant	Higashiyama Zoo sponsorship, donation of equipment to the Social Welfare Council, participation in “Corporate Forest Development” activities
Tokushima Plant	Donation to Tokushima Forest Development Promotion Organization Partnership Agreement
Hirono Plant	Sponsorship of Iwaki FC
Toagosei America Inc.	Donations to local municipalities and neighborhood sports organizations
Toagosei (Zhuhai) Limited	Donation of books and teaching resources to Zhuhai City Welfare Center
Toagosei (Zhangjiagang) New Technology Co., Ltd.	Visits to welfare schools, donations to the local community
Toagosei KOREA Co., Ltd.	Donation to UNICEF, participation in blood donations drives and volunteer activities

Communication with local communities

Our Group organizes events such as plant tours, school visits and on-site lectures at each business site.

In 2023, we participated in the “Kids’ Chemistry Experiment Show 2023” summer event that involves chemistry experiments for elementary school students and that was held for the first time in four years since 2019. We also participate in the “Riko-challe Summer of 2023” program run by the Cabinet Office and the Ministry of Education, Culture, Sports, Science and Technology to support female junior and senior high school students in their choice of career paths in the science and engineering fields. These activities foster an interest in chemistry and understanding of our Company among residents of local communities and the next generation of students and children.

Results in 2023

Site	Activity contents	Site	Activity contents
Site in Japan	Participation in plant tours and community events	Takaoka Plant	Lectures at Kanazawa Institute of Technology and University of Toyama
Head Office	Participation in the “Kids’ Chemistry Experiment Show 2023” summer event	Tokushima Plant	Work experience at Kitajima Junior High School
Nagoya Plant	<ul style="list-style-type: none">• Published the “Seiryu” local newsletter• Participation in “Riko-challe Summer of 2023”• Exhibited at the Minato Ward Citizens’ Festival (craft class)	Sakaide Plant	Factory tour by Sakaide Technical High School students
Yokohama Plant	Plant tour for the National Defense Academy	Hirono Plant	Summer Internship, National Institute of Technology, Fukushima College

Corporate Governance

P	D	C	A
Targets for 2023	Results in 2023	Achievement	Targets for 2024
Further strengthening of capital policy based on the Medium-Term Management Plan	● Disclosure of “Toagosei, Group’s initiatives to improve our PBR”	★★★	Further strengthening of capital policy based on the Medium-Term Management Plan
Strengthening corporate governance	● Revised effectiveness evaluation questionnaire ● Held free-form discussion at Board of Directors based on results of questionnaire survey	★★★	Strengthening corporate governance
Further disclosure of non-financial information	● Publication of English translations of financial results summaries and governance reports ● Website posting of an evaluation report on our company by an investment appraisal agency ● Publication and website posting of quarterly financial results presentation materials	★★★	Further disclosure of non-financial information
Perform efficient self-inspection and steadily implement improvement items	● Analyzed accounting data of overseas subsidiaries using tools for auditing techniques ● Implemented internal audits based on analyzed data	★★★	Respond proactively to the amended internal control reporting system
Enhance control of financial processes of overseas subsidiaries	● Checked and reported on asset management processes of overseas subsidiaries	★★★	Promote autonomous internal control for group companies

Our approach and policies (Vision)

Our Group has established the Toagosei Group Basic Policy on Corporate Governance. Based on the corporate philosophy of “Through the endless possibilities of chemistry, we bring happiness created by highly functional materials,” the Group strives to fulfill its corporate social responsibility by positioning the enhancement of corporate governance as a key priority for management. The Group pursues transparent, fair, swift and resolute decision-making through effective corporate governance, to achieve sustainable growth and to increase its corporate value over the medium- to long-term. The Group is committed to the continuous enhancement of corporate governance.

The Group’s basic approach to corporate governance is shown on the right.

Basic Approach to Corporate Governance

1. Respect shareholders’ rights and ensure their equality.
2. Consider the interests of various stakeholders, including shareholders, customers, business partners, employees and local communities. Build good relationships with these stakeholders and cooperate appropriately with them.
3. Disclose corporate information appropriately and ensure transparency.
4. Strive to ensure effective supervisory functions for business execution by the Board of Directors.
5. Engage in constructive dialogue with shareholders who have an investment policy that aligns with medium- to long-term shareholder profits.

Corporate Governance System

We are a company with an Audit and Supervisory Committee, and have a system to accelerate decision-making by securing management oversight functions. This is done by separating business execution by directors and executive officers from the supervision by the Board of Directors, which includes outside directors, of management decision-making and business execution.

Progress of initiatives to strengthen corporate governance

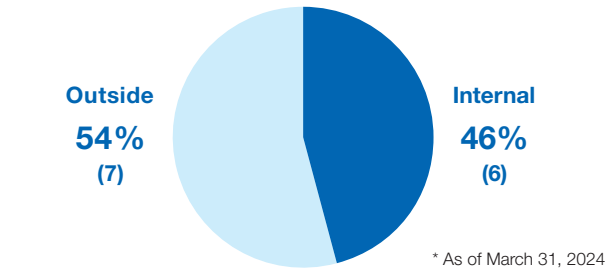
Year	Item	Change in the number of outside directors
2001	Introduction of Executive officer system	
2003	Appointment of outside directors started	
2006	Internal Control Section established Basic Policy on Internal Control system established by resolution	1
2016	Toagosei Group Basic Policy on Corporate Governance established Transition to a company with an audit & supervisory committee	
2017	Start of assessment for the effectiveness of the Board of Directors	
2018	The proportion of outside directors in the voluntary Nomination Committee/Remuneration Committee increased to a majority	5
2019	Increase the number of outside director to seven	
2020	Introduction of stock compensation plan	
2022	Outside Directors will be in the majority for the first time (6 internal and 7 outside). Move to the Tokyo Stock Exchange Prime Market	7
2023	Disclosure of initiatives for improving PBR	

► Directors and the Board of Directors

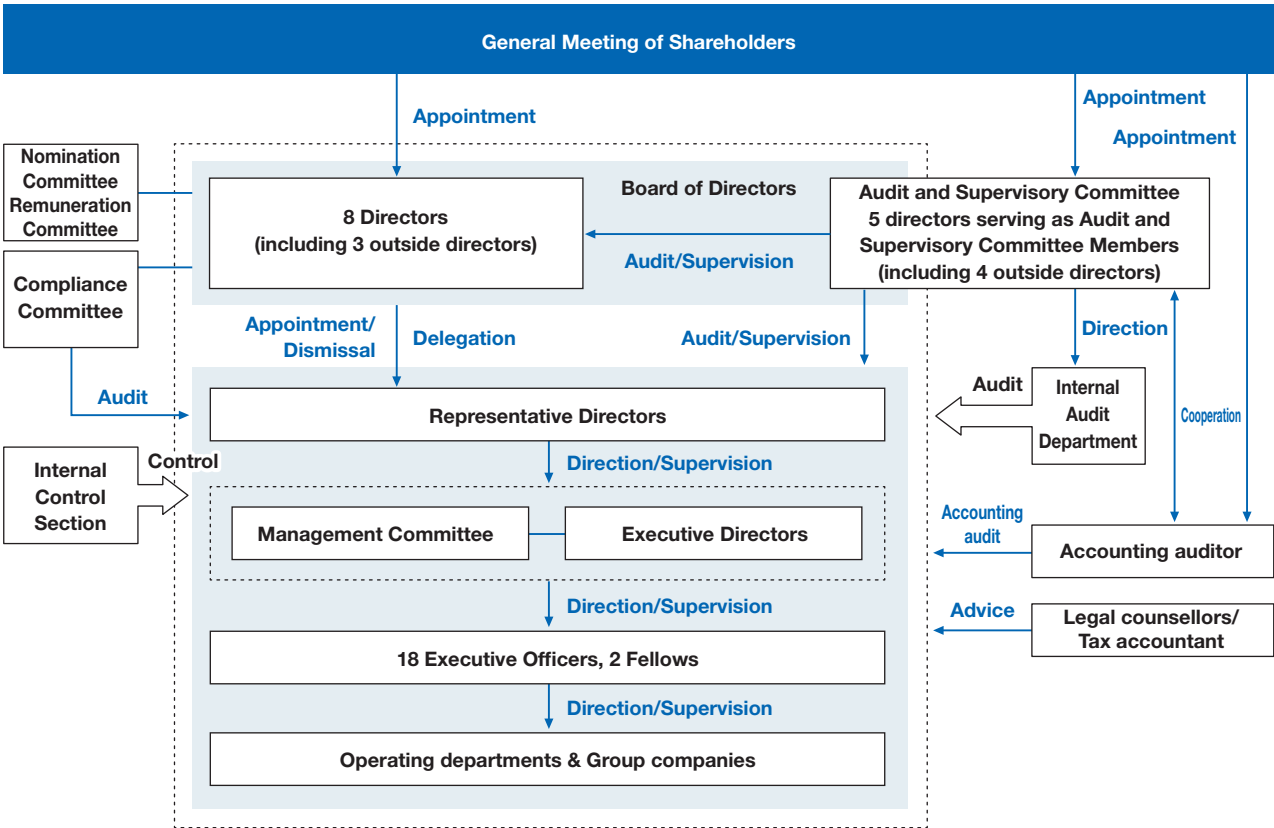
Toagosei's Board of Directors consists of 13 directors (including five directors who serve as Audit and Supervisory Committee Members). The seven independent outside directors play the roles mainly in strengthening the Board's oversight over the management. At the meetings of Toagosei's Board of Directors, the directors, including outside directors, engage in lively discussions. The Board of Directors makes decisions on important management matters, such as Toagosei's management policy and management strategy, and fulfills the role of supervision of business execution of directors and executive officers.

The Company selects a well-balanced mix of candidates for directors who possess extensive experience and abundant knowledge in various business fields including R&D, technology, production, sales, corporate administration, financial accounting, legal affairs, labor affairs, while also focusing on the digital transformation (DX) and global sustainability fields. The Board also includes a female director, as part of the Company's efforts to maintain the diverse structure of the Board of Directors.

Composition of the Board of Directors



Corporate Governance System



► Audit and Supervisory Committee

The five-member Audit and Supervisory Committee consists of one director who serves as a full-time Audit and Supervisory Committee Member and four outside directors. The Audit and Supervisory Committee is responsible for contributing to the Company's sound and sustained growth through the audit of legal compliance with respect to the performance of duties by directors and other officers, the appropriateness of the Company's business operations, the status of internal control systems construction and operation, financial conditions, and other matters.

The Audit and Supervisory Committee met 21 times during FY2023, and in addition to performing internal audits related to our Group's compliance conditions and appropriateness of business operations, received reports from Directors and employees regarding matters discussed at the Management Committee and important matters that have an impact on operations and business performance.

► Management Committee

The Management Committee, composed of five executive directors, meets every week, in principle, for the purpose of accelerating management decision-making and improving the efficiency of business advancement. It engages in practical discussions, from an operational perspective, of matters delegated to it based on resolutions by the Board of Directors.

► Profile of Directors

		Fields of experience								
Name		2023 Attendance at the Board of Directors meetings (times)	Corporate management/ planning	Sales/ marketing	R&D technology/ production DX	Finance/ accounting	Legal affairs	HR/ labor affairs	Global	Sustainability
Mikishi Takamura		13 / 13	●			●		●		●
Hidehori Kobuchi		10 / 10*	●	●	●					
Taizo Serita		13 / 13		●	●	●	●	●		●
Etsuzo Marumoto		-			●					●
Shoji Takayama		-	●	●						
Yuichiro Mori Outside		13 / 13					●		●	
Takashi Kato Outside		10 / 10*			●				●	●
Masahiko Ito Outside		-	●	●	●					●
Yoshihito Takahashi	Audit and Supervisory Committee Members	-			●	●		●		●
Nobuhiko Takano Outside		13 / 13				●				
Kiyoko Ishiguro Outside		13 / 13					●			●
Masahiko Yasuda Outside		13 / 13	●			●			●	
Toshiyuki Teramoto Outside		-	●			●				

* Since appointment to office in March 2023

► Nomination Committee, Remuneration Committee

To enhance objectivity and transparency in corporate management, the Board of Directors has established, as its advisory bodies, the Nomination Committee and the Remuneration Committee, comprising one director who is not an independent outside director and several independent outside directors.

Upon request from the Board of Directors for advice, the Nomination Committee deliberates and reports to the Board of Directors on matters such as succession planning for representative directors, procedures for appointing candidates to directorships or representative directorships, candidate qualifications and reasons for appointment, as well as on independence criteria for independent outside directors, including perspectives on diversity of personal attributes and skills.

The Remuneration Committee, upon request from the Board of Directors for advice, deliberates on the remuneration system for directors as well as individual director's remuneration, and reports to the Board of Directors. The amounts of remuneration of individual directors (excluding directors who serve as Audit and Supervisory Committee Members) are determined by the members of the Remuneration Committee, which is entrusted with the task, in line with the calculation criteria established by the Board of Directors, based on the results of deliberation submitted by the Remuneration Committee, and by resolution of the Board of Directors.

► Selection of Directors

The Company has prescribed the selection standards for the Company's directors (excluding directors who also serve as Audit and Supervisory Committee Members and independent outside directors who do not serve as Audit and Supervisory Committee Members) as follows to clarify the qualities expected of directors:

- Persons who possess outstanding knowledge and abilities and extensive experience in regard to the business administration and operational management of the Group, or persons who possess sufficient understanding of the Group's business activities, along with the experience and knowledge needed to appropriately and fairly supervise the business execution of the Company's directors and other personnel, thereby contributing to the achievement of the Group's medium- to long-term management plans.
- Persons who are fair-minded and possess excellent character, views, and job execution capabilities as well as have the ability to execute fair and appropriate supervision of business administration, operational management, and business execution based on high ethical standards.

The Nomination Committee deliberates on matters such as appointment procedures, qualification and reasons for appointment regarding proposals on candidates for directorships prepared by the representative director, and reports on the deliberation results to the Board of Directors.

► Remuneration for Directors

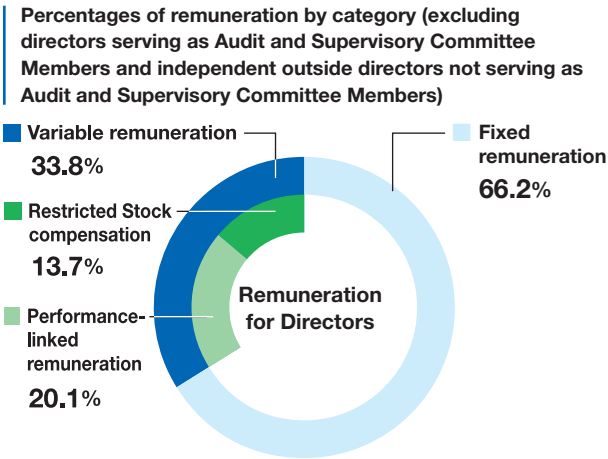
Remuneration for the Company’s directors consist of three parts, namely, fixed remuneration, performance-linked remuneration, and share-based remuneration, and is paid within the amount approved by the General Meeting of Shareholders.

The amounts of fixed remuneration are determined and paid in consideration of each director’s duties, responsibilities, performance and other matters. For the directors who serve as Audit and Supervisory Committee Members, fixed remuneration is paid in consideration of the role and duties of each director.

The amounts of the performance-linked remuneration are determined and paid based on the Company’s performance in the previous business year, such as consolidated operating income, as well as duties and responsibilities according to the positions and the business environment, among other factors. Performance-linked remuneration is not paid to directors who serve as Audit and Supervisory Committee Members or to independent outside directors, in light of their important role in overseeing corporate management from independent viewpoints.

Under the stock compensation plan, the Company allocates restricted shares as remuneration to eligible directors, in a

number commensurate to the duties and responsibilities of each director, for the purpose of providing incentives to them to sustainably enhance the Company’s corporate value and to further promote the sharing of value with the Company’s shareholders. As with performance-linked remuneration, the Company does not pay stock-based compensation to directors who serve as Audit and Supervisory Committee Members or to independent outside directors.



► Breakdown of Remuneration for Directors (January 2023-December 2023)

Classification	Total amount of remuneration (Millions of yen)	Total amount by remuneration type (Millions of yen)			Number of directors (Persons)
		Fixed remuneration	Performance-linked remuneration	Restricted Stock compensation	
Director (not serving as Audit and Supervisory Committee Member)	194	138	33	22	10
of which, Outside Directors	28	28	—	—	4
Director (Audit and Supervisory Committee Member)	54	54	—	—	5
of which, Outside Directors	38	38	—	—	4

► Internal Control Section

The Company has established the Basic Policy on Internal Control by the resolution of the Board of Directors in order to strengthen corporate governance. In accordance with the said policy, the Internal Control Section confirms the operating status of internal control from an independent perspective, reports such results to the Audit and Supervisory Committee Members, and performs duties related to internal control (duties to ensure appropriate financial reporting), based on Japan’s internal control reporting system (J-SOX).

In cooperation with the Internal Audit Department (an auxiliary organ of the Audit and Supervisory Committee Members) and the accounting auditor, the Internal Control Section ensures that the Group’s business operations as a whole are conducted appropriately in compliance with relevant laws and regulations.

► Assessment for the Effectiveness of the Board of Directors

Each year, the Company’s Board of Directors conducts a questionnaire survey of all directors and analyzes and evaluates the effectiveness of the Board of Directors based on the results of the survey and the opinions received. We assign a third party to tabulate, analyze, and evaluate the questionnaires to ensure objectivity and transparency of the assessment. Based on the issues identified as a result of the evaluation and the feedback received, the Board of Directors discusses and strives to make improvements.



1 Questions asked in the survey

This year, we adopted the same details and format of questionnaire survey that was significantly modified last year, with responses mainly involving open-ended comments in which subjects are identified by name.

The following items are answered on a 3-point scale and with free response

Structure and operation of the Board of Directors	Enhancement of Board Meeting agenda and discussions	System supporting the Board of Directors	Constructive dialogue with shareholders	Contribution to the Board of Directors (self-assessment)
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2 Assessment results

The following is a summary of the results of the survey conducted in January 2024.

- Overall, the effectiveness of the Company’s Board of Directors is generally secured.
- The format of the questionnaire included more space for free comments and opinions and the requirement for directors to provide their names. However, there was no indication that directors were reluctant to respond to the questions, and the Board was pleased to note that many opinions were received, including those that were severe and those that reflected on themselves, indicating an awareness of the need to take the Board of Directors one step further than before.

Items eliciting high ratings

- Proceedings and selection of agenda items for the Board of Directors
- Opportunities and atmosphere conducive to free and vigorous discussions
- ★ Opportunities for Audit and Supervisory Committee members to obtain information and support frameworks
- ★ Development and operation of the internal control and risk management systems
- ★ Discussions and responses to issues surrounding sustainability
- ★ Sharing of opinions from shareholders and investors

★ = evaluation improved from the previous year

Items identified as future issues

- Operational innovations to enhance board discussions
- Discussion on the future structure of the Board of Directors
- Overall approach to discussions by the Remuneration Committee and Nomination Committee, and information-sharing
- Overall approach to successor development and policies

3 Issues and future initiatives

The following measures are planned to be implemented in 2024 to further enhance the effectiveness of the Board of Directors.

- Create multiple opportunities for free discussion on topics that should be addressed from broad-ranging perspectives, such as capital policy and financial strategy, sustainability, and internal control and risk management.
- To ensure more productive discussions, the Board of Directors will adopt more appropriate reporting methods and agenda management based on proposals raised in the open-ended comments in the effective evaluation questionnaire.
- Revise the Nomination Committee and Remuneration Committee and develop a system that allows for more in-depth discussions, and regularly report details of deliberations to the Board of Directors.
- Further enhance opportunities to exchange information and opinions with Outside Directors away from the Board of Directors.
- Support the participation of Internal Directors in external seminars that involve Directors from other companies.

Corporate Governance

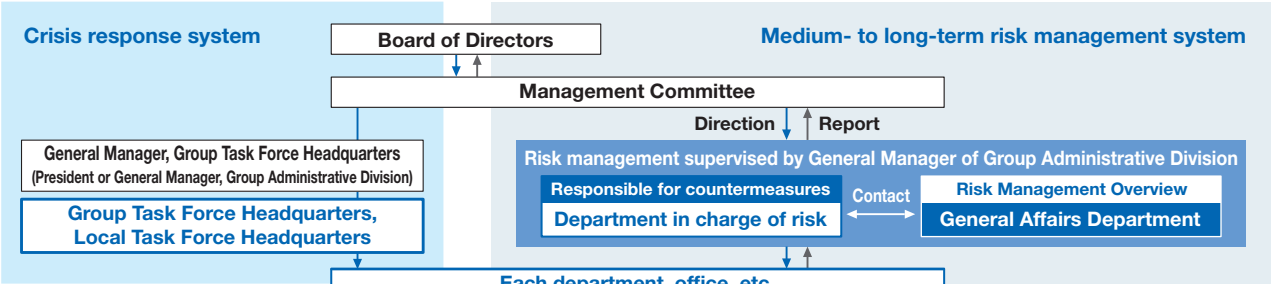
Risk Management

P	D	C	A
Targets for 2023	Results in 2023	Achievement	Targets for 2024
Development and operation of new risk management system	Continue operation of a risk management system that enables departments and workplaces to respond more autonomously and flexibly	★★★	Continue making improvements to the risk management system
Continuation and enhancement of a crisis response drill	Continued and strengthened training through collaboration with overseas offices and introduction of new methods	★★★	Conduct crisis response training in response to new potential risks
Improvement of drills at each site in preparation for earthquakes, accidents, etc.	Disaster prevention drills and safety confirmation drills, etc., conducted at each site	★★★	Improvement of drills at each site in preparation for earthquakes, accidents, etc.

Our approach and policies (Vision)

Based on the Toagosei Group Risk Management Regulations, the Toagosei Group designates a department in charge of each risk and implements appropriate risk countermeasures, including the formulation of a business continuity plan (BCP) and risk management for the purpose of prevention and avoidance, led by the department in charge. In addition to each department evaluating and responding to risks, the Management Committee and Board of Directors regularly assess the overall risk picture of the Group and confirm the adequacy of countermeasures, to ensure swift response to risks and management of company-wide risks. In the event that a risk materializes, a Group Task Force is established to respond flexibly to the crisis situation.

Risk Management System



Risk Management and BCP

To continue business operations even in the event that a risk is materialized, our Group has formulated the BCP that determines the standards for businesses that should be prioritized to continue operation, as well as the target recovery time according to the damage status.

The Toagosei Group has established the Toagosei Group Crisis Response Rules that specify the organizational framework and concrete measures in the event of a crisis. Moreover, the Emergency Action Manuals have been prepared according to respective phenomenon and office, and training is conducted regularly.

In addition, risks are assessed based on their probability of occurrence and degree of impact, which are then used for overall risk management and to prioritize countermeasures.

Information Security Risk Countermeasures

Multi-layered defense is used for security measures at entrances, exits and interior levels. The main countermeasures include firewalls, anti-virus software, behavior detection, and restrictions on sending and receiving e-mails.

With the increase in information security risks such as cyber-attacks, we also conduct monitoring and security diagnostics via security vendors.

Crisis response training

We conduct crisis response training under a range of different scenarios, to ensure that we can take swift and appropriate action in the event of a crisis incident. We use a variety of training methods based on the circumstances of each situation and the approach we take, including training demonstrations and drills based on diagrams. Issues identified during the training are also shared with each department, and actions are taken to improve them.

In 2023, we conducted a crisis preparedness training in coordination with our overseas offices for the first time. This revealed the fact that each country and region has different issues like the methods of obtaining and sharing overseas information, and we were also able to address issues unique to overseas sites, such as evacuation of expatriates and delegation of authority. We are currently moving ahead with developing response measures based on these issues.

Support System for Outside Directors

We have taken various steps to establish the environment that enables outside directors to properly supervise that medium- to long-term management directions are deliberated in a multi-dimensional way and the Company's management strategies are executed appropriately. Specifically, we provide outside directors with opportunities to visit each business site of the Company periodically with a view to deepen their understanding of the Company's business. Furthermore, they receive monthly briefings regarding the contents discussed by the Management Committee, and share their understanding of the Company's management issues, constructively exchanging opinions as needed through attendance at important meetings regarding research and development, sustainability policy, etc.

Dialogue with Shareholders and Investors, and Information Disclosure

Basic Policy and Framework In the Toagosei Group Basic Policy on Corporate Governance, the Company stipulates that we “respect the rights of our shareholders and ensure their equality,” and that we “engage in constructive dialogue with shareholders who have an investment policy that aligns with medium- to long-term shareholder profits.”

In terms of information disclosure, we act in compliance with rules on the handling of important information (insider information) specified in the Financial Instruments and Exchange Act, etc., the Regulation on Fair Disclosure, the Rules of Tokyo Stock Exchange (TSE) and other related regulations. In addition, in order to disclose information to all stakeholders in a timely, appropriate, and fair manner, and to enable an accurate understanding of our Group, we are actively promoting the disclosure of release text and financial statements in English in order to eliminate uneven amounts of information depending on the language.

General Meeting of Shareholders We disclose the notices of convocation on the Company's website and through the TSE, before the day on which the notices are sent, for early information disclosure to our shareholders to ensure that the General Meeting of Shareholders is a place for more productive dialogue. In addition, in view of the increase in the number of foreign shareholders, a summary of the notice of convocation, reference documents and the notice of resolution are translated into English and disclosed on the Company's website and through the TSE concurrently with the Japanese version.

Live streams of the General Meeting of Shareholders that had been adopted as part of measures against the spread of COVID-19 infections will continue to be used for the General Meeting of Shareholders in March 2024, in order to make the meeting available to as many shareholders as possible.

Financial Results Briefing and Information Disclosure

We strive to disclose information proactively based on not only legal disclosure under applicable laws and regulations and timely disclosure under the Rules of Tokyo Stock Exchange, but also the voluntary disclosure of information that does not meet the above disclosure standards. We hold financial results briefings (twice annually) and individual interviews with institutional investors and the media, and we disclose transcripts of the briefings for stakeholders who were unable to attend the financial results briefings. From FY2022, briefing materials for the first quarter and third quarter financial results are also available on our website.

<https://www.toagosei.co.jp/ir/library/presentations/>

Dialogue with stakeholders The Company actively holds individual dialogue with analysts and institutional investors in Japan and overseas, with dialogue held a total of 98 times in 2023. The General Manager of the Corporate Communication Department is the primary person to meet with shareholders, but other officers or employees may be in attendance depending on the topic of the agenda or discussion. In 2023, for example, internal and outside directors attended dialogue at the request of shareholders or the topic of discussion.

The dialogue covers a broad range of topics, including the Company's Medium-Term Management Plan, initiatives to improve our PBR, and a summary of our financial results.

The status of meetings and shareholders' opinions are also reported to the Board of Directors as appropriate through the Director in Charge of Investor Relations (IR) overseeing these matters.

Number of individual interviews held	2021	63 times
	2022	63 times
	2023	98 times



Financial results briefing for fiscal year ended December 31, 2023

Corporate Governance

Compliance

P	D	C	A
Targets for 2023	Results in 2023	Achievement	Targets for 2024
Continuous compliance education Compliance Handbook revision	<ul style="list-style-type: none">Compliance courses held for newly hired and promoted employeesHarassment education held at each siteCompliance Handbook Version 3 published	★★★	Continuous compliance education
Continuation of monitoring and checks by the Compliance Committee	<ul style="list-style-type: none">Compliance Committee meetings held (twice)	★★★	Continuation of monitoring and checks by the Compliance Committee
Development of overseas personnel information system	<ul style="list-style-type: none">Studied personal information protection laws at overseas sitesConcluded agreement for migrating data within the Group	★★★	Monitor trends in personal information protection laws at overseas sites
No major violation	<ul style="list-style-type: none">Zero cases of administrative guidance	★★★	No major violation

Corporate Ethics and Legal Compliance

Code of Conduct and Manual of Behavioral Standards

As fundamental guidelines and the basis for the correct behavior for all officers and employees to act as exemplary citizens, the Group has established the Toagosei Group Code of Conduct and the Toagosei Group Manual of Behavioral Standards.

Both of these are included in the Compliance Handbook, which is carried by everyone in the Group, to ensure that all employees are aware of them.

Compliance Committee

The Company has established the Compliance Committee that includes external members (outside legal counsel). The Committee periodically monitors the status of implementation of compliance measures at Toagosei’s sites and Group companies (including overseas subsidiaries) and provides recommendations for improvement in order to ensure management that emphasizes compliance. The Compliance Committee met two times in 2023, and members discussed the reported matters. We maintain the Group’s compliance system by defining methods for improvements and making recommendations on matters that require improvements.

Compliance regarding Business Activities

To ensure that the Group’s business activities are in compliance with laws and regulations, we establish rules and conduct reviews by internal organizations.

For example, regarding the Antimonopoly Act and the Subcontractor Act, we stipulate Toagosei’s guidelines and describe initiatives in the Antimonopoly Act Compliance Manual, conduct pre-screening of legal content when concluding contracts, and also require a review by the Antimonopoly Act Compliance Committee upon the revision of product prices as part of efforts to prevent any violation of laws and regulations.

Compliance Education

In order to instil awareness of compliance, we are implementing education by employee position, Group-wide education, and voluntary education at workplaces. In addition to providing education for new employees and managers by job rank, the Group ordinarily conducts training at each workplace using a compliance handbook and other materials. In an easy-to-understand manner, the handbook describes various matters to be careful about in business activities as well as relevant laws and regulations, contributing to comprehensively raising awareness among employees.

Furthermore, we provided intensive anti-harassment education at all Toagosei plants and major group companies during 2023, holding more than 190 sessions in total, with more than 1,500 employees participating. This education took the form of group discussions after viewing a video on power and sexual harassment scenarios. Participants were encouraged to express their thoughts in a positive manner and to listen to different opinions, thereby enhancing their understanding of harassment that may be present around them.



Scene of group discussion

Human Rights Policy

The Group supports international human rights standards and principles, including the UN Guiding Principles on Business and Human Rights and the Guidelines for Respecting Human Rights in Responsible Supply Chains formulated by the Japanese government. We do not engage in human rights abuses, including forced labor, child labor, discrimination, and harassment.

To clarify this thinking, the Group has established the Toagosei Group Human Rights Policy, approved by our Board of Directors in 2022, which has been published on our website. In addition to the officers and employees of our Group, this policy expects suppliers and other business partners to support this thinking. In accordance with this policy, we are also establishing a human rights due diligence mechanism and working to identify, prevent and mitigate human rights issues, as well as setting up “Corporate Ethics Helplines” to provide assistance in the case of violations of human rights.

Conduct of Human Rights Due Diligence

Our Group conducts human rights due diligence in accordance with the “Toagosei Group Human Rights Policy.” We identify and evaluate human rights risks based on the “Practical Reference Materials for Respecting Human Rights in Responsible Supply Chains” developed by the Ministry of Economy, Trade and Industry. Identified issues are examined by sending survey forms to relevant suppliers and contractors, and the required action to be taken is considered and implemented based on the results of the survey. The implementation of human rights due diligence is also reported to the Compliance Committee to verify that it is deemed appropriate.

Past initiatives In 2023, we distributed the Sustainable Procurement Guidelines to major suppliers that are covering relatively high-risk raw materials. We also conducted a survey on the status of overall sustainability initiatives and received responses from 17 out of 17 companies (100% response rate). The survey did not

reveal any significant issues related to human rights or sustainability at the relevant suppliers. Looking ahead, we will be expanding the scope of companies surveyed and making improvements to our survey methods.

In 2023, we distributed our Human Rights Policy to companies consigned with work for our plants, urging them to make an effort to respect our principles on human rights. We then conducted a survey on human rights and received responses from 55 out of 57 companies (96.5% response rate). The results of the survey revealed that there were no major risks identified that conflict with the International Labor Organization’s Core Labor Standards and other international norms (elimination of forced labor, abolition of child labor, elimination of discrimination, a safe and healthy working environment, etc.) or with various domestic laws and regulations. We were able to confirm that companies employing foreign workers in particular are implementing appropriate measures in compliance with the Ministry of Health, Labour and Welfare’s Guidelines for Employment Management of Foreign Workers and other relevant guidelines. Meanwhile, some companies face challenges when promoting human rights awareness on their own, so we will continue to provide support by supplying information and other measures to assist them to improve their human rights activities.

Corporate Ethics Helplines

The Group has both in-house and external Corporate Ethics Helplines, which is a grievance mechanism for early detection and resolution of compliance and human rights issues. The Helpline is available via dedicated telephone line or email.

Furthermore, the Group has established a dedicated helpdesk for sexual harassment, etc., in an effort to provide a better work environment regardless of gender. In 2022, we established company policy improve the effectiveness of the whistleblowing system and provide whistleblowers with the protection of anonymous reporting.

TOPICS

Compliance Handbook Version 3 published

In 2023, our Group published Version 3 of the Compliance Handbook for all our officers and employees. This new version includes Q&A related to concerns that employees have about harassment, such as “Difference between guidance and harassment” and “Avoiding harassment,” as well as additional factors to be aware of that are commonly present at work, such as precautions for information management and precautions when using copyrighted materials. We have also increased the scope of handbook to cover sustainability and respect for human rights, and it has been designed to disseminate information about how to act as a member of our Group and the appropriate mindset.

Looking ahead, our Group is aiming to become a company with an even higher level of compliance by adopting the handbook for education.



Compliance Handbook

Directors (As of March 28, 2024)



1 Mikishi Takamura

President and
Representative Director

April 1980 Joined the Company
March 2010 Director of the
Company
Since November 2015 Current
Position

2 Hidenori Kobuchi

Vice President and
Representative Director

April 1988 Joined the Company
March 2023 Director of the
Company
Since January 2024 Current
Position

3 Taizo Serita

Director

April 1985 Joined Aronkasei
Co., Ltd.
Since March 2022 Director
of the Company and Current
Position

4 Etsuzo Marumoto

Director

April 1987 Joined the Company
Since March 2024 Director
of the Company and Current
Position

5 Shoji Takayama

Director

April 1985 Joined the Company
Since March 2024 Director
of the Company and Current
Position

6 Yuichiro Mori

Outside Director

Since March 2021 Director of
the Company

Main concurrent positions:
Attorney (Jones Day Law Offices,
a foreign law firm), Supervisory
Director at DREAM Private REIT Inc.

7 Takashi Kato

Outside Director

Since March 2023 Director of
the Company

Main concurrent positions:
Professor, Department of Chemistry
and Biotechnology, School of
Engineering, The University of Tokyo;
Deputy Director, Research Center
for Water Environment Technology,
Graduate School of Engineering,
The University of Tokyo; Director,
Asahi Glass Foundation

8 Masahiko Ito

Outside Director

Since March 2024 Director of
the Company

Main concurrent positions:
Chairman of the Board of Directors,
Fujikura Ltd., Chairman of the
Japanese Electric Wire & Cable
Makers' Association

9 Yoshihito Takahashi

Director (Audit and Supervisory
Committee Member)

April 1986 Joined the Company
Since March 2024 Director
of the Company and Current
Position

10 Nobuhiko Takano

Outside Director (Audit and
Supervisory Committee Member)

Since March 2018 Director (Audit
and Supervisory Committee
Member) of the Company

Main concurrent positions:
Certified Tax Accountant (Nobuhiko
Takano Tax Accountant Office),
Outside Auditor of NICHIAI
Corporation

11 Kiyoko Ishiguro

Outside Director (Audit and
Supervisory Committee Member)

Since March 2019 Director (Audit
and Supervisory Committee
Member) of the Company

Main concurrent positions:
Attorney at Law (Noda Memorial
Law Office), Outside Auditor of
TORAJI Corporation

12 Masahiko Yasuda

Outside Director
(Audit and Supervisory
Committee Member)

Since March 2019 Director
(Audit and Supervisory Committee
Member) of the Company

Main concurrent positions:
Certified Public Accountant
(Masahiko Yasuda Certified Public
Accountant Office), President and
Representative Director of Benedi
Consulting Co., Ltd.

13 Toshiyuki Teramoto

Outside Director
(Audit and Supervisory
Committee Member)

Since March 2024 Director
(Audit and Supervisory Committee
Member) of the Company

Main concurrent positions:
Representative Director and
President, Executive Officer,
HORAI Co., Ltd.

Message from Newly Appointed Outside Director



Maximizing corporate value with a monitoring-focused Board of Directors

Masahiko Ito
Outside Director

| Past experiences

I served as the President of the power cable manufacturer Fujikura Ltd. for six years from 2016. At the time of appointment, net sales was 680 billion yen and ROE was 5%. We embarked on a five-year Medium-Term Management Plan ending in 2020, with the plan to facilitate a fresh approach and increase earning power through advanced investment in growth areas. The Board of Directors at the time comprised the heads of the company's business and corporate divisions, and nine of the ten members were internal Directors.

In FY2017, the Company changed its institutional design to a company with an Audit and Supervisory Committee, and increased the number of Outside Directors to four. Yet the advanced investment projects that had already been approved were based on subjective business plans by project managers, and I feel that there were insufficient mechanisms in place to discuss the risks of those projects from an objective and multifaceted stance.

As a result, the Company's financial results for FY2019 slid into the red. The Company suddenly launched the "100-Day Plan" with reforms focused on the key measures of "rigorous selection and concentration of existing businesses" and "strengthening of group governance." The strengthening of group governance in particular involved halving of the number of internal Directors and Executive Officers, respectively, leading to major reform facilitated with intensive discussions by a small group. The Company achieved a V-shaped recovery in around 1.5 years, and ROE exceeded 20% in the financial results of FY2021. Yet this level of restructuring proved to be a painful experience for employees.

| Appointment as Outside Director

I believe that discussions held by the Board of Directors should be kept distinct from the Management Committee and other operating executive committees. Regarding the Board of Directors I mentioned earlier, I realized how important it was to have a "Monitoring-focused Board of Directors" capable of deliberating the creation of a governance system that ensures that executive officers can discuss in full the risks of advanced investment projects from an objective and multifaceted viewpoint.

As someone who recognizes the importance of the significance of the Board of Directors, I consider it crucial to see if our Company's Board of Directors is actually "monitoring-focused." An example that illustrates this is that a system in place for a business to take a fresh approach during ordinary conditions has a major impact on ensuring sustainable corporate value. Any type of business comes with a shelf-life. Those in charge of businesses with signs of maturity and starting to stagnate are desperate to restructure their operations, but they do need to make decisions about continuing the business based on objective facts.

I believe that the true role of an Outside Director is to monitor processes for setting decision-making KPIs, to accept KPIs in a timely manner, and to fulfill their responsibility of monitoring the creation of scenarios through to improvements being implemented. While this role covers monitoring and supervision, it does not mean that there needs to be any conflict with the executive officers. I hope to spend ample time communicating everyone involved and build up a relationship of mutual trust with them.

| Message to investors

I recognize that the core mission of the Board of Directors is to maximize the corporate value of the Company. The indicator that I feel best represents corporate value is PBR = (ROE x PER). I think the Company requires measures to address the ROE. I recognize that it will be important to hone the so-called "ambidexterity" and improve earning capabilities. To achieve this, it will be important to discuss matters like increasing how business can take a fresh approach and examining business portfolios, but such discussions will not be possible without any differentiating technologies available.

I feel that the area that the Company can stand out from others is its "material development capability," where improvements are made all the way back to the raw materials in order to extract better performance. I believe that this materials development capability can contribute to maximizing the corporate value of the Company by stimulating discussions on "selection and concentration of businesses" during normal times.



Focusing on transparency and speed to enhance corporate value

Toshiyuki Teramoto
Outside Director
(Audit and Supervisory Committee Member)

| Appointment as Director

I served as an executive responsible for the credit and risk management divisions at Sumitomo Mitsui Banking Corporation, and subsequently as a Director (Audit and Supervisory Committee member) at Sumitomo Mitsui Financial Group, Inc. a holding company of the same Group I am currently the Representative Director and President of HORAI Co., Ltd. that is listed on the Standard Market of the Tokyo Stock Exchange.

Following my appointment to this position, I would like to outline from my experience the roles that are expected of Directors (Audit and Supervisory Committee Members), what viewpoints should be held during discussions, and what is expected of the Company.

| Addressing shareholder expectations and boosting corporate value

The main responsibility of Directors is to address the expectations that shareholders have, and to boost the corporate value of the Company. I think that these are two main factors underpinning these.

The first is to check that a broad scope of internal controls are functioning properly and that the Company is well prepared for risks. This means whether the top management's decisions and mindsets are reaching each and every employee, and whether there is compliance with execution rules—I hope to work with the Internal Audit Department and others to make sure that every aspect of management is functioning properly throughout the Company.

The other important factor is to ensure that the Company's management is appropriately responding to "changes," and that "self-transformation" is being promoted.

During my tenures at banks, I was positioned in the Approval Department during financial shock precipitated by the collapse of Lehman Brothers. I witnessed many companies either growing or slumping depending on whether or not they were able to successfully respond to changes in the economic environment. I also observed companies either rising or falling according to their management "systems," even if the direction they were taking was correct.

In the face of such "changes," I believe that it is my role to "anticipate" any required "transformations" in an appropriate

manner, and suggest how to become a "success" and monitor progress.

| Supporting transparent management with a sense of speed

As I touched on earlier, correctly discussing changes in the environment and responding with a sense of speed are essential for increasing our corporate value. Based on my experience, I can think of two key points we need to consider in this regard.

The first is incorporating "process checks" as part of management. When making management decisions, discussions need to be held in a transparent manner, including whether potential risks are factored in properly and "preparations" have been made. In many cases, decisions are made while overlooking risks because they are high-profile projects.

The next is a "sense of speed." In light of recent circumstances, significant changes have occurred to social and economic conditions, both domestically and internationally. There has also been a rapid rise in expectations, such as requests from the Tokyo Stock Exchange to strengthening governance reforms from the perspective of shareholders. Responding in a swift manner is essential when facing such changes. As a Director, I would like to identify the directions that changes are occurring, ensure that the discussion are "transparent" and encourage a "speedy" response.

| Converting changes to opportunities

Throughout its extensive history, the Company has been one with a record of engaging in self-transformation by researching, developing and supplying products needed at the time, and has forged an indispensable position for the Japanese economy. Every era calls for reform, and we must continue to adapt to respond to these various changes.

With my experience in executive, supervisory and managerial positions, I have witnessed firsthand how challenging it can be to meet the expectations of shareholders and society, to transform oneself, and to develop the company in a stable manner. This is why I would like to apply my experience to help make the Company transform to something even stronger, and to ensure steady growth.

Financial Data Highlights

		Phase 102 2014	Phase 103 2015	Phase 104 2016	Phase 105 2017		Phase 106 2018	Phase 107 2019	Phase 108 2020	Phase 109 2021	Phase 110 2022*4	Phase 111 2023
Key financial results												
Net sales	(Millions of yen)	148,912	139,848	135,382	144,708		150,066	144,955	133,392	156,313	160,825	159,371
Operating income	(Millions of yen)	12,015	12,347	16,147	17,543		16,408	13,782	12,336	17,676	14,382	12,499
Ordinary profit	(Millions of yen)	12,892	13,201	16,935	18,492		17,403	15,230	13,054	18,983	16,446	14,503
Net income attributable to owners of parent	(Millions of yen)	8,414	6,696	13,801	12,911		12,748	10,387	8,142	13,771	12,494	12,179
Net assets	(Millions of yen)	157,349	163,020	173,003	187,487		191,296	198,579	197,642	206,612	210,807	212,518
Total assets	(Millions of yen)	201,168	208,018	219,520	239,338		241,164*3	247,211	241,832	258,955	265,135	272,285
Cash flows from operating activities	(Millions of yen)	16,098	23,313	21,989	15,166		19,841	18,615	20,671	21,219	10,988	21,638
Cash flows from investing activities	(Millions of yen)	(13,981)	(4,592)	(17,673)	(23,186)		(11,910)	(15,855)	(11,362)	(10,239)	(3,579)	(3,528)
Cash flows from financing activities	(Millions of yen)	(3,063)	(3,949)	(3,939)	(4,047)		(4,908)	(4,582)	(8,491)	(8,644)	(9,464)	(15,524)
Key indicators												
Net assets per share*1	(Yen)	1,159.65	1,201.46	1,276.10	1,387.36		1,416.24	1,472.09	1,505.69	1,613.90	1,700.75	1,816.10
Net income per share*1	(Yen)	63.88	50.86	104.83	98.08		96.85	78.91	62.43	108.14	101.31	102.78
Net worth ratio	(%)	75.9	76.0	76.5	76.3		77.3*3	78.4	79.8	77.9	77.7	77.7
ROE (ratio of net income to shareholders' equity)	(%)	5.7	4.3	8.5	7.4		6.9	5.5	4.2	7.0	6.1	5.8
Ratio of ordinary profit to total assets (ROA)	(%)	6.5	6.4	7.9	8.1		7.3*3	6.2	5.3	7.6	6.3	5.4
PER (price earnings ratio)	(times)	15.0	20.5	11.0	14.6		12.5	16.1	19.4	10.7	11.0	13.3
Other indicators												
Capital investment	(Billions of yen)	7.8	5.8	5.1	10.0		12.5	15.8	13.6	11.9	22.8	15.4
R&D expense	(Billions of yen)	3.9	3.7	3.6	3.7		3.6	3.7	4.0	4.3	4.7	5.0
Interest-bearing debt	(Billions of yen)	13.2	12.6	12.3	12.1		11.6	11.5	11.3	11.2	11.0	11.0
Cash dividend per share*2	(Yen)	12.00	18.00	26.00	26.00		28.00	30.00	30.00	36.00	36.00	53.00
Payout ratio	(%)	37.6	47.2	24.8	26.5		28.9	38.0	48.1	33.3	35.5	51.6
Total return ratio	(%)	37.6	47.2	24.8	26.5		28.9	38.0	95.4	62.1	69.7	100.5
Number of employees	(employees)	2,442	2,441	2,411	2,393		2,429	2,473	2,527	2,539	2,517	2,554

*1 The Company has implemented the share consolidation of common stocks at a ratio of one share per two shares effective on July 1, 2015. Net assets per share and net income per share are calculated assuming that the share consolidation was executed at the beginning of the 98th term.

*2 For the 103rd term (fiscal 2015), the total annual dividend of ¥18 per share consists of an interim dividend of ¥6 per share and a term-end dividend of ¥12 per share. As the Company implemented the share consolidation of common stocks at a ratio of one share per two shares effective on July 1, 2015, the interim dividend of ¥6 per share is an amount before the share consolidation and the term-end dividend of ¥12 per share is an amount after the share consolidation.

*3 Effective from the beginning of the 107th term (fiscal 2019), the Company has adopted the "Partial Amendments to Accounting Standard for Tax Effect Accounting" (ASBJ Statement No. 28 issued on February 16, 2018), etc., and figures for the consolidated financial position for the 106th term have been restated by retrospective application of the said accounting standard, etc.

*4 The Accounting Standard for Revenue Recognition (ASBJ Statement No. 29, March 31, 2020) has been applied from the beginning of the 110th term, and the key management indicators for the 110th term are those after the application of the said accounting standard.

Non-Financial Data Highlights

		Phase 102 2014	Phase 103 2015	Phase 104 2016	Phase 105 2017	Phase 106 2018	Phase 107 2019	Phase 108 2020	Phase 109 2021	Phase 110 2022	Phase 111 2023
Human Resources/Ease of Work											
Number of employees*1	(employees)	2,442	2,441	2,411	2,393	2,429	2,473	2,527	2,539	2,517	2,554
Percentage of annual paid leave usage*2	(%)	73.9	93.4	88.2	89.6	88.8	90.1	91.8	90.5	96.1	95.2
Average years of continued employment*3	(Year)	20.9	21.6	22.3	22.3	21.6	21.4	21.0	20.4	20.0	19.7
Turnover rate*4	(%)	1.1	1.3	1.2	1.2	1.3	1.5	1.3	1.9	1.9	1.9
Percentage of female employees*4	(%)	10.8	11.1	11.6	11.8	12.5	13.2	13.6	13.8	14.6	14.6
Percentage of women in managerial positions*4	(%)	1.2	1.2	1.2	1.6	1.6	2.4	2.4	2.7	3.5	4.0
Percentage of employees taking childcare leave*4	(%)	9.4	3.8	14.8	16.1	13.2	15.6	20.0	41.2	60.0	50.0
Environment*5											
CO ₂ emissions (Scope1+2)	(thousand tons)	431	406	395	395	367	363	347	329	324	321
from 2013 level	(%)	100	94	92	92	85	84	81	77	75	75
Crude oil equivalent energy consumption	(1,000 kl)	190	184	182	186	184	184	178	184	189	179
Water consumption	(Million m ³)	55	50	51	51	50	51	55	57	56	51
Industrial waste final landfill rate	(%)	0.04	0.02	0.16	0.01	1.70	0.55	0.15	0.12	2.00	0.59
Chemical substance atmospheric emissions (Subject to PRTR)	(tons)	105	94	34	44	43	53	35	44	32	44
Accident Statistics											
Frequency rate of occupational accidents*6		0.23	0.70	0.23	0.23	0.46	0.46	0.93	0.23	0.93	0.00

*1 Scope: Toagosei (consolidated) *2 Scope: Toagosei (consolidated, domestic)
*3 Scope: Toagosei (non-consolidated) *4 Scope: Employees registered at Toagosei
*5 Scope: Toagosei Group Production Sites in Japan (refer to scope of Business Activities and Environmental Impacts on p52)
*6 Number of fatalities and injuries caused by workplace accidents per 1 million total working hours (scope applies to Toagosei Group employees in Japan)