

Company Overview (As of October 31, 2022)

Company name:	OHARA INC.
Address:	15-30, Oyama 1-chome, Chuo-ku, Sagami-hara-shi, Kanagawa, Japan
Telephone:	042-772-2101 (representative)
Established:	October 1, 1935
Capital:	5,855 million yen
Business contents:	Manufacture and sale of glass materials for optical and electronics applications
Number of employees:	461 (1,505 for the entire Group)
Website:	https://www.ohara-inc.co.jp/

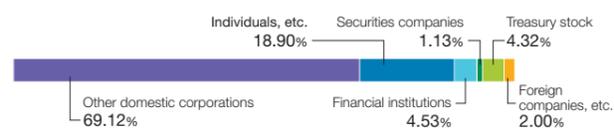
**Stock Information** (As of October 31, 2022)**Status of shares**

Total number of authorized shares:	76,000,000
Total number of issued shares:	25,450,000
Number of shareholders:	9,849

Major shareholders

Name	Number of shares held (thousand)	Investment ratio (%)
Seiko Group Corporation	4,702	19.31
Canon Inc.	4,694	19.28
Kyobashi Kigyo Kabushiki Kaisha	4,688	19.25
Sanko Kigyo Kabushiki Kaisha	1,651	6.78
The Master Trust Bank of Japan, Ltd. (trust account)	987	4.06
TOPCON CORPORATION	673	2.77
Seiko Instruments Inc.	610	2.50
Olympus Corporation	400	1.64
SMBC Nikko Securities Inc.	143	0.59
Custody Bank of Japan, Ltd. (trust account)	110	0.45

(Note) Treasury stock (1,098,000 shares) is deducted in calculating the investment ratio.
Treasury stock includes 108,000 of the company's shares held by the Custody Bank of Japan, Ltd. (Trust E Account), in accordance with the introduction of the "Board Benefit Trust (BBT)" system.

Shareholding Composition**Shareholder Information**

Business year:	November 1 to October 31 of the following year
Record date of dividends of surplus:	October 31 (April 30 for interim dividends)
General Meeting of Shareholders:	Late January of each year
Number of shares per unit:	100 shares
Handling office of shareholder registry administrator:	3-3, Marunouchi 1-chome, Chiyoda-ku, Tokyo Stock Transfer Agency Department of the Head Office, Mizuho Trust & Banking Co., Ltd.
Method of public notice:	Electronic public notice (https://www.ohara-inc.co.jp/) However, if an electronic public notice cannot be issued due to any unavoidable reasons, a notice will be published in the Nikkei.

OHARA Report

2023



Management Philosophy

The OHARA Group continually seeks to instill new value and build a strong organization for the purpose of advancing the well-being of its people and contributing to the prosperity of society.

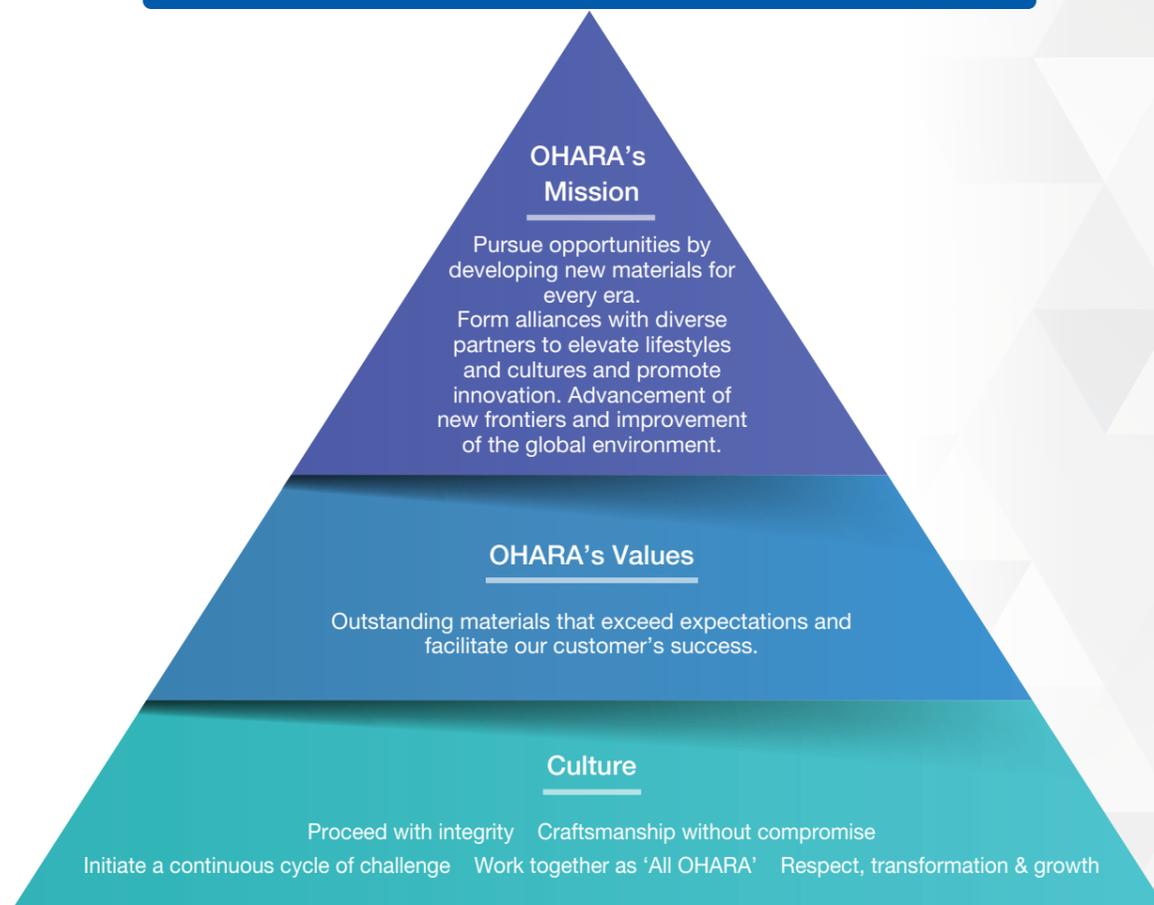
Corporate Message

Brand Slogan

The Future Made Clear

The Society and the Future OHARA Desires

A secure and healthy life. A society that cultivates creativity and aspirations. Sustainable well-being of our planet.



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Editorial Policy

This report is intended to provide the OHARA Group's story of value creation, growth strategies, and other information in order to help our many stakeholders understand our efforts to enhance our corporate value.

We will continue to improve the document to make it easier to understand going forward.

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Scope of Report—This report mainly covers the activities of non-consolidated OHARA INC.

*The figures in the financial reports, however, denote numbers that include the results of the Group companies.

Reporting Period—FY 2022
From November 1, 2021 to October 31, 2022

*There are, however, some references to activities for FY 2023.

Date of Issue—February 2023

Reference Guidelines—GRI, GRI Sustainability Reporting Guidelines
Ministry of the Environment, Environmental Reporting Guidelines 2018

At a Glance

OHARA is a long-established manufacturer of optical glass and special glass materials, and is developing the Optical business and Electronics business.

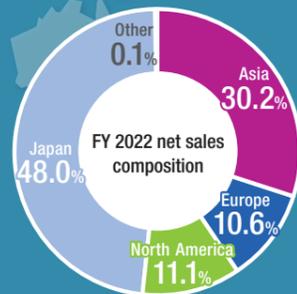
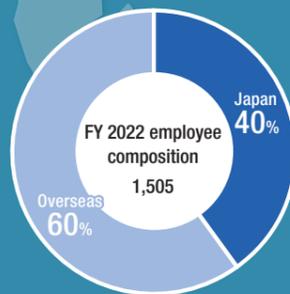
Japan's first manufacturer specializing in optical glass.

Establishment
1935
Pioneer of optical glass in Japan

Number of Product Types
Over **170** types
World-class product lineup
As of February 2023

Number of production bases and group company business bases

[Domestic] **3** bases [Overseas] **9** bases in **5** countries



OHARA sells its products worldwide, with overseas net sales accounting for **52%** of total sales.

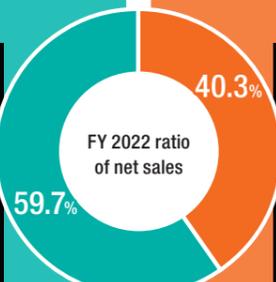
Optical Business

Handles optical glass used mainly for camera lenses.



Electronics Business

Handles special glass and glass ceramics developed using optical glass technology.



OHARA—Supporting Society

OHARA provides a wide range of glass products to society and is highly regarded by various customers. We will continue to draw on our experience to create customer-oriented products, aiming to realize a prosperous future.



Technology supporting the above products and others

Semiconductor exposure equipment



Batteries



Top Message

Aggressive investment in growth for the future.
We will contribute to an affluent society by boosting the potential of materials while greatly expanding the circle of value co-creation.

Hirokazu Saito

President, Chief Executive Officer

● Looking Back on FY 2022 Operating Results

Sales increased and profit grew significantly, exceeding initial forecasts due to increased demand

In FY 2022, as the effects of the COVID-19 pandemic gradually eased and movement in economic activity began to be seen throughout the world again, demand for the glass materials produced and sold by the OHARA Group also recovered significantly. Although the global economy is currently showing signs of a slowdown due to soaring resource and energy prices, rising inflation and interest rates overseas, and the appreciation of the U.S. dollar in exchange rates, strong demand continues for glass materials, especially for semiconductor exposure equipment and optical equipment. Demand for “i-line high homogeneity glass” and “synthetic quartz glass” in particular is extremely strong and is expected to remain so. In addition, we are in the process of expanding our lineup of interchangeable lenses for mirrorless cameras, and demand for such glass materials is expected to continue for some time. On the other hand, demand for glass materials related to the mobile, mobility, and battery (MMB) sector, which is positioned as a priority sector, remained sluggish due to the current situation, in which automobile production cutbacks and sluggish smartphone sales are seen, although we began to see adoptions of NANOCERAM™ for application in smartphones and LICGC™ for application in automotive batteries and as an additive for FY 2023 and beyond.

Amid these circumstances, in FY 2022, we saw improvement in profitability as sales increased and the utilization rate of production facilities improved. Profitability was improved also as a result of increases in semiconductor-related products in the Electronics business and high value-added products for which further advancements in processing were made in the Optical business.

As a result, with regard to consolidated results, consolidated net sales rose by 20.3% from the previous fiscal year to 28,304 million yen, operating income rose by 117.6% from the previous fiscal year to 2,976 million yen, ordinary profit rose by 111.5% from the previous fiscal year to 3,665 million yen, and profit attributable to owners of parent rose by 44.9% from the previous fiscal year to 2,116 million yen, with both sales and profits significantly exceeding initial forecasts.

While we benefited from the progressively weaker yen when converting the results of overseas subsidiaries into yen, the increase in raw material and energy costs had a negative impact on profits. Although we have been able to pass on higher raw material prices for some of our products, as a glass melting manufacturer, rising energy costs continue to be a concern for us.

The production system is currently operating at full capacity. The OHARA Group has been improving production efficiency by shifting the production of optical glass materials, which have become commoditized, to plants in China and Taiwan, and dedicating domestic melting furnaces to high value-added products and products for the semiconductor market, where demand is strong. In order to further promote this shift, it is necessary to remodel the melting furnaces that have been producing optical glass materials in the past, or build new melting furnaces. We have not yet been able to complete this conversion in time to meet growing demand, but we expect to be able to do so within two years.

However, looking at trends over the next 10 years, we expect high demand to continue, so we intend to invest aggressively in expanding production facilities for semiconductors and new products (NANOCERAM™ and LICGC™) for medium- to long-term growth.

In addition, the OHARA Group has been focusing on sales development in recent years by strengthening marketing and developing global markets, and as part of such efforts, we are now working on value co-creation in collaboration with Group companies and external processing companies. In FY2022, these activities have borne fruit, leading to new demand and other results in various locations. We will continue to strengthen internal and external collaboration to expand project activities.

● Progress and Challenges for the Medium-Term Management Plan

Value co-creation initiatives are bearing fruit and making steady progress.

In FY 2022, the OHARA Group launched Long-Term Vision 2035, which aims to achieve “a secure and healthy life,” “a society that cultivates creativity and aspirations,” and the “sustainable well-being of our planet” as we approach 2035, when the OHARA Group will celebrate its 100th anniversary. The management policy to achieve the vision centers on the development of existing businesses in the optics technology field, which stimulates new demand through a fusion of light and sensing, and the construction of multifaceted business through the creation of new businesses, while promoting the reduction of greenhouse gas (GHG) emissions in our business activities as a sustainability initiative.

Backcasting from this long-term vision, we reviewed the previous three-year medium-term management plan (FY 2021–FY 2023) and re-positioned it as the first phase of the long-term vision. Under the slogans of “managing with agility to keep up to date with market changes” and “accelerating organizational metabolism,” the re-formulated

Top Message

medium-term management plan aims to achieve consolidated net sales of 26,500 million yen or higher, operating income of 3,000 million yen or higher, and ROE of 6.5% or higher, by the final year of the plan (FY 2023).

Looking back over the past two years, although some activities have been more sluggish than expected due to the impact of the COVID-19 pandemic, efforts made in collaboration within the Group and with external parties as mentioned above, as well as remote sales support provided online, which was implemented as part of infection prevention and non-contact measures, have made progress and produced positive results.

In the second year of the plan, net sales exceeded the final year target of 26,500 million yen and operating income was close to the target level. In addition to the increase in demand accompanying the market recovery, the situation is such that high value-added and value co-creation initiatives to make further advancements in processing toward downstream processes are making a significant contribution to our operating results.

Although we have seen the above progress regarding the slogans of “managing with agility to keep up to date with market changes” and “accelerating organizational metabolism,” we recognize that we have not yet fully met the strong demands of the market. However, as these structural reforms will not be completed in the three years of the medium-term management plan, they must be continued over a longer time horizon. Therefore, we intend to maintain our efforts in the next medium-term management plan.

Until now, the OHARA Group has been engaged in the business of making and selling materials, but under the medium-term management plan, through value co-creation within the Group and with external parties, the Group is shifting to business development based on the supply chain in terms of how and where materials are processed and to what devices they are supplied. To further promote this conversion, the challenge we should tackle in the future is to change the functions and organizational capacity of each base, including the development of human resources.

In addition, such issues as the implementation of the updated core system used at the head office also in overseas Group companies to centralize information, the introduction of IT and digitalization to improve operational efficiency, and the improvement of the working environment at production sites also remain as challenges for us to address. These issues will be addressed together with factory reorganization to shift the production system.

In FY 2023, the final year of the plan, we expect sales to increase due to continued strong demand for interchangeable lenses for mirrorless cameras and semiconductor-related products. However, profits are expected to temporarily decline due to the impact of higher raw material and energy costs, which are projected to increase beyond the level

seen in FY 2022, and due to the planned implementation of upfront investment to reinforce production facilities and personnel for future growth.

Based on the above, we forecast consolidated net sales of 29,500 million yen (up 4.2% from FY 2022), operating income of 2,700 million yen (down 9.3% from FY 2022), ordinary profit of 2,900 million yen (down 20.9% from FY 2022), and profit attributable to owners of parent of 2,200 million yen (up 4.0% from FY 2022) for FY 2023.

● Prospects for Achieving the Long-Term Vision

Developing a structure to meet growing demand and capture growth opportunities

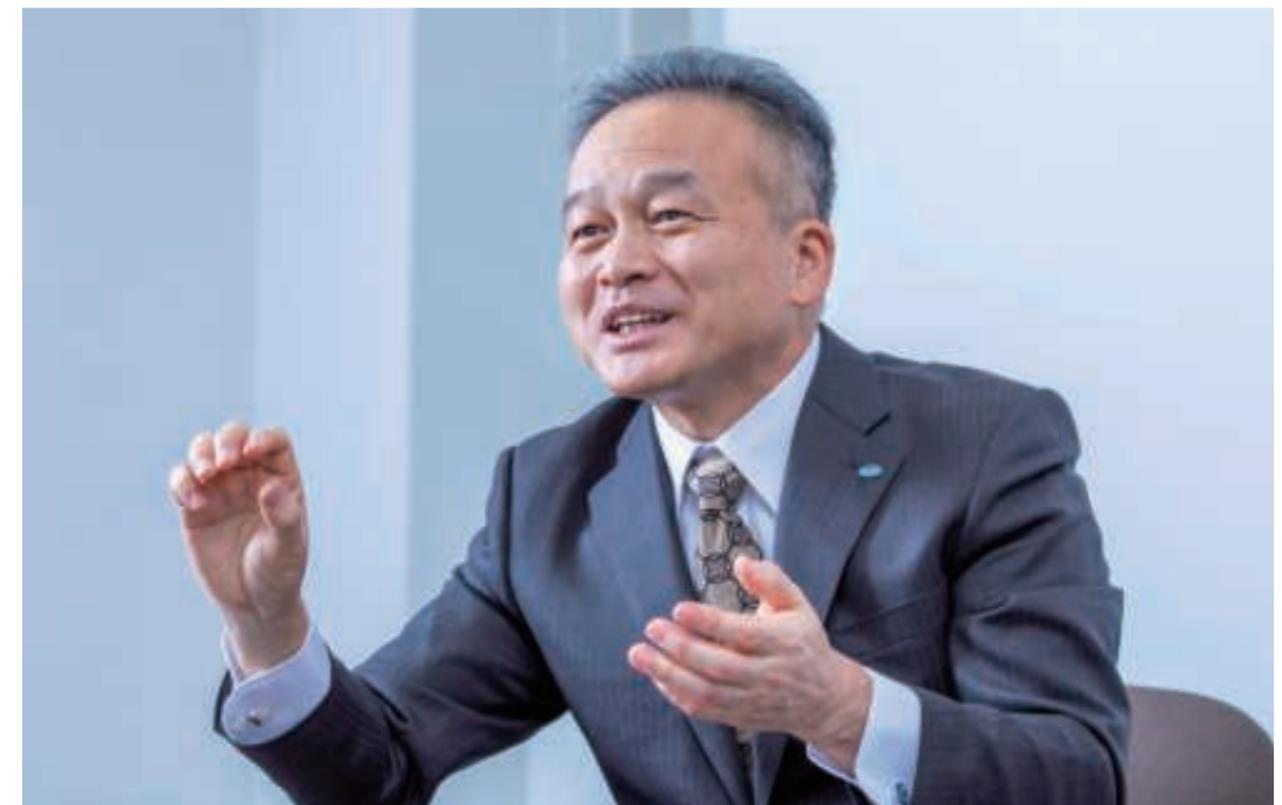
Although we are only beginning to formulate the details of the next medium-term management plan (FY 2024–FY 2026), we believe that, as the second phase of our long-term vision, it will be the one aiming to accelerate growth while continuing to transform our business structure to improve profitability.

The changes in the global economy associated with the prolonged COVID-19 pandemic and the geopolitical risks that have emerged in recent years will have no small impact on the long-term vision promoted by the OHARA Group in the future. Nevertheless, taking a long-term view toward 2035, demand for semiconductor-related products will further expand against the backdrop of the shift to EVs and automated driving, IoT, AI, and the progress of digitalization, and we believe that the OHARA Group will be able to expand its provision of glass materials to the medical and aerospace fields, where high future growth is expected.

In implementing the “value creation model” envisioned in our long-term vision, we will prepare our structure in such a way that enables us to respond to growing demand and capture new growth opportunities while accurately identifying risks due to changes in the environment.

Regarding one of the topics of our long-term vision, “realization of sustainability,” we recognize that enhancing global environmental sustainability, in particular, is an important mission that we must steadily carry out as a materials manufacturer that consumes a large amount of energy. In our business activities, we aim to reduce greenhouse gas (GHG) emissions by 50% (compared to FY 2018) by 2035.

Specifically, we will promote the use of renewable energy at each business site in parallel with the electrification of high-temperature, high-speed melting furnaces with high energy efficiency and gas melting furnaces, and the development and introduction of new melting processes. As part of these efforts, we are in the process of establishing a system at each of our bases to monitor and manage greenhouse gas (GHG) emissions for the entire Group, with



a view to disclosing information related to climate change. At the same time, we intend to actively develop initiatives to contribute to the reduction of the greenhouse gas (GHG) emissions and decarbonization of our customers and users through LICGC™ and other products with high energy-saving efficiency.

● To All Stakeholders

Implementing priority investment in human capital and transforming the corporate culture

This year, we have decided to pay a year-end dividend of 20 yen per share (up 5 yen from the previous year) as planned. Regarding the year-end dividend for FY2023, it is currently planned to be 20 yen.

We will continue to shift production to improve profitability while ramping up production to meet growing demand. After making such investments for growth, we will return more profit to shareholders, and further improve corporate value to meet our shareholders' expectations.

In terms of investment for future growth, we will need to implement priority investment not only in production

facilities, but also in human capital. In order to reform our business structure, make proposals in new areas and new markets that differ from conventional ones, and provide glass materials, it is necessary to strengthen the human resource management of the entire Group while expanding and reskilling our human resources. We will also foster an internal culture of proactively taking on new challenges, focusing on developing human resources who can practice value co-creation, which will lead to sustainable growth and enhancement of corporate value.

Furthermore, in terms of corporate governance, we have begun a review of internal control, and at the same time, we are working to expand risk management based on the “Three-Line Model” to the entire Group.

At the OHARA Group, we will continue to work hand-in-hand with all stakeholders as a company that coexists and co-prospers with them while expanding the circle of value co-creation toward the realization of our brand slogan, “The Future Made Clear.” We would like to ask you for your continued support for many years to come.

Messages from Directors

Aiming for value co-creation and further acceleration of growth with a view to 2035

The OHARA Group is working to enhance our corporate value from a medium- to long-term perspective, based on the management policy and financial indicators set forth in Long-Term Vision 2035.

Here, three directors supervising the execution of the Group's major business operations explain the future direction of the Group toward value co-creation and further acceleration of growth, with a view to 2035.

We will continue to provide the materials needed by society while reducing the burden on the environment to realize our slogan, "The Future Made Clear."

In FY 2022, the global economy showed a general recovery trend despite the impact of the COVID-19 pandemic and Russia's invasion of Ukraine. The Group achieved year-on-year increases in both sales and profits by meeting increased demand for semiconductor-related glass materials and interchangeable lens materials for mirrorless cameras. However, there are currently concerns about economic slowdown in Europe, the U.S., and Asia excluding some countries such as India, in FY 2023.

Even under these circumstances, in the final year of our medium-term management plan, which is the first phase of our long-term vision, we intend to invest aggressively in areas with future growth potential, such as semiconductor and battery-related sectors, in order to further "manage with agility to keep up to date with market changes" and put "accelerating organizational metabolism" into practice.

In order to specifically add value in these sectors, it is essential to establish a supply chain that connects materials to products, and the key to doing so is human resources capable of carrying out value co-creation with Group companies and other companies. As measures to achieve this, we will strengthen human resource management by reviewing the personnel evaluation system and carrying out mid-career hiring of highly skilled and experienced personnel. In addition, given that long-term interest rates are expected to rise this fiscal year, the entire Group will optimize the balance of funds in preparation for capital expenditures.

The Group has been working to realize its brand slogan "The Future Made Clear" by providing materials that support the development and production of advanced technological products in the sectors of space/astronomy and medical devices. We will continue to provide the materials needed by society while reducing the burden on the environment.

Takashi Nakajima Director, Senior Managing Executive Officer, in charge of Corporate Sector



We will achieve the development of superior new materials and new production technologies, promote the reforming of OHARA's business structure, and realize the long-term vision through the achievement of sustainability.

Foresight is necessary for all of our actions, with an awareness of the management policies set forth in "Long-Term Vision 2035" and the significant changes in the environment surrounding us. In particular, the establishment of new business is essential for business structure reform, and focusing too much on existing businesses will cause us to fall behind. Rapid response is required in parallel. Other companies in the same industry, mainly in China, are acquiring technological competence on par with OHARA's current products and current production technology at a tremendous pace, and have already reached the comparable technological level. Their new product releases and business launches continue at a high speed with no end in sight.

Now is the time for the OHARA Group to change its mindset in order to reform its business structure and make it a reality. We have many challenges to overcome, but as the officer in charge of production and technology, I am particularly aiming to break away from a defensive structure, and to achieve individual and organizational growth and business structure reform. Therefore, especially in the mobile, mobility, metaverse, and medical sectors, we will strongly promote proactive activities, including the following, as well as the forward-looking investment in growth areas that accompanies each activity: (i) Development of cutting-edge, new materials (lithium-ion battery materials, high-strength materials, and materials for the metaverse), (ii) Improvement of production technology (high-temperature, high-speed melting technology, digital transformation for automation, establishment of production processes for new business, and flexible open innovation), (iii) Plant reorganization (reducing aging of facilities, automation, and dealing with greenhouse gas (GHG)).

We will gather the wisdom of the OHARA Group and realize these goals through anticipatory actions. We would like to ask you for your continued support and understanding.

Naoyuki Goto Director, Senior Managing Executive Officer, in charge of Production and Technology Sector



We will expand the circle of value co-creation to realize sustainable growth of the company and society.

With ever-changing growth markets and products, business opportunities are expanding beyond the conventional framework of the Optical and Electronics businesses. In the field of optics technology, imaging information is playing an important role in AR/MR and various sensing devices against the backdrop of the advancement of digital transformation. In addition, as greenhouse gas (GHG) reduction efforts accelerate around the world, the power semiconductor and other markets are expected to grow over the medium to long term. Strong demand is expected to continue for OHARA's specialty high-precision optical glass and functional glass-ceramics. In addition, "LICGC™ PW-01," an additive for rechargeable lithium-ion batteries, which we are working on as a new business, will contribute to realizing a low-carbon society with less energy loss by helping to improve the performance of current wet-cell batteries.

Under Long-Term Vision 2035, in addition to OHARA's strength in materials innovation, we are working on accelerating business promotion through value co-creation with stakeholders as an important management challenge. Promoting value co-creation in these growth markets requires technical skills to understand the value sought by customers, the ability to identify problems, and leadership to drive related organizations within the company. The development of marketing staff to carry out these activities is a top priority, and we are working diligently to strengthen strategic thinking and accelerate learning through practice. In these growth markets, we will achieve sustainable growth for the company and society by expanding the circle of value co-creation with stakeholders in both existing and new businesses.

Masatomo Suzuki Director, Managing Executive Officer, in charge of Business Sector



History of Value Creation

From its establishment to the present, OHARA has supported the foundation of the optical industry as a pioneer in the development of the optical glass industry. The following is a chronological introduction of the steps OHARA has taken so far.

From 1935

1935 Established OHARA Optical Glass Mfg. Co. Ltd. (now OHARA INC.) in Kamata, Tokyo by Jinpachi Ohara.



Founder
Jinpachi Ohara

1936 Started optical glass melting.



1944 Reorganized as a Joint-Stock Company. Built Sagami-hara factory.

1954 Started platinum pot melting.

1958 Started production of lanthanum glass.

1961 Started production of strip glass by continuous melting method.

1969 OHARA Glass reached the moon (installed in Apollo 11).



1975 Started production of low refractive index – low dispersion glass (S-FPL51).

From 1980

1982 Installed OHARA Glass in Space-Shuttle “Columbia.”

1983 Started volume production of High Homogeneity Glasses.



1984 Started supplying “Cherenkov glass” to National Laboratory for High-Energy Physics.



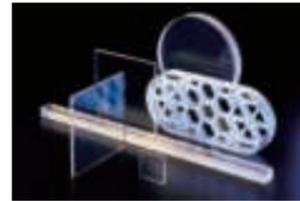
1985 Introduced new company name “OHARA INC.”

1987 Started production of high UV (365nm) transmittance glass.

1988 Started production of “Glass-Ceramics.”

From 1990

1993 Started production of “Ultra low expansion glass-ceramics (CLEARCERAM™-Z).”



1997 Started production of “Glass Disk for Flying Height Tester (GD-FHT).”

1999 Started production of “Glass Substrates for DWDM.”

Installed OHARA Glass in Suprime-Cam in Subaru telescope.



Provided by: National Astronomical Observatory

2000 Started production of “Low Photoelastic Glass.”

2005 Listed on First Section of Tokyo Stock Exchange.

2006 Started production of “Eco-Glasses for optical fiber (for endoscope).”

2007 Started production of “Low- fluorescence Glasses (for microscope).”

Installed OHARA Glass in the Lunar Orbiter “KAGUYA (SELENE).”



Illustration: Akihiro Ikeshita

From 2010

2012 Installed OHARA Glass in Hyper Suprime-Cam in Subaru telescope.

2013 Launched Lithium-ion Conductive Glass-ceramics (LICGC™).



2014 CLEARCERAM™-Z was adopted in the TMT astronomical telescope.



Provided by: National Astronomical Observatory
In cooperation with: Mitsubishi Electric Corporation

OHARA Glass was adopted in the Hayabusa2 deployable camera (DCAM).



Provided by: JAXA

2015 Started mass production and supply of aspherical glass mold lenses.

Released Non-Browning Optical Glass.

Released Shock Resistant and High Hardness Clear Glass-ceramics (NANOCERAM™).



From 2016

2016 Activated a solid-state battery prototype using LICGC™ at -30°C.

NANOCERAM™ was adopted in the high-grade filter for interchangeable lenses.



Provided by: SIGMA CORPORATION

2017 NANOCERAM™ was adopted in screen protector glass for smartphones.

Launched the world’s first optical glass material dedicated to automotive cameras.

CLEARCERAM™-Z was adopted in the Super Low Altitude Test Satellite “Tsubame” (SLATS).

2018 Commenced operation of new factory for aspherical glass mold lenses.



2019 CLEARCERAM™-Z was adopted for the first micro-satellite produced by Canon Electronics Inc.

CLEARCERAM™-Z was adopted in Japan’s largest telescope Seimei.

From 2020

2020 OHARA’s solid additive “LICGC™ PW-01” extends the life of lithium-ion batteries fourfold.



2021 OHARA Glass was adopted in NASA’s Mars rover “Perseverance.”

2022 NANOCERAM™ was adopted as a camera protector for the micro-optical satellite “KITSUNE.”



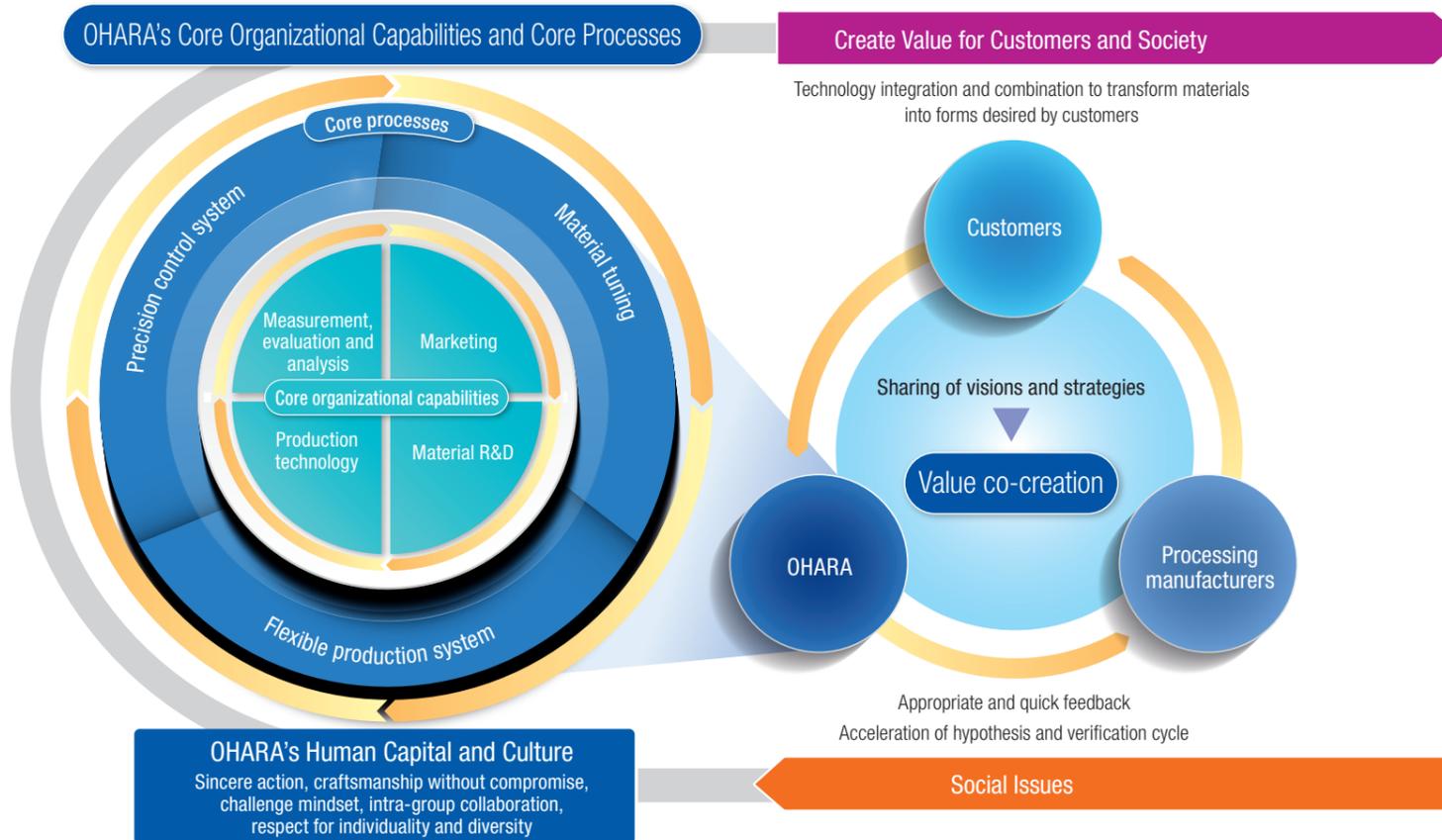
Provided by: HAK Consortium

Value Creation Model

The OHARA Group's "value creation model" is an initiative to realize its brand slogan, "The Future Made Clear."

- Create outstanding materials that exceed expectations by pursuing the possibilities of glass with core organizational capabilities and processes, and open up the future through value co-creation with customers and processing manufacturers.
- Contribute to elevating lifestyles and cultures, advancing new frontiers, and improving the global environment by addressing social issues.

By putting this value creation model into practice, we will realize the society and the future that OHARA desires.



Points of the Value Creation Model

OHARA's "Core organizational capabilities" refers to a system that serves as a source of value creation to build strong relationships with stakeholders and to support the sustainable growth of the OHARA Group. We recognize that OHARA's core organizational capabilities consist of the following four elements: **marketing** that enables us to stay in close contact with our customers, identify their demands as soon as possible, and quickly develop them within the company; **material R&D** that makes full use of the optical glass know-how we have accumulated over many years; **production technology** that can handle high-mix, small-lot, and ultra-high quality production; and **evaluation, measurement, and analysis** that can handle ultra-precision fields that cannot be measured using commercial equipment.

In addition, "core processes" refers to a series of activities that connect our customers with our core organizational capabilities to swiftly provide OHARA's products and services. We recognize that we can provide materials that can be used confidently through activities such as tuning materials by applying our materials research and development capabilities, manufacturing materials in a timely manner with a flexible production system that can handle small-scale to mass production, and achieving the physical property values requested by customers through a precision control system.

We believe that activities such as providing outstanding materials by combining and utilizing OHARA's core organizational capabilities and core processes, and by having customers, processing manufacturers, and OHARA work together to co-create value will be the basis of the OHARA Group's value creation and the source of establishing competitive advantage.

In addition, in order to solve these social issues and enhance value creation capabilities, it is necessary to strengthen the OHARA Group's human resources and organizational culture. Based on social conditions and the Company's strategies, we will spiral up our value creation model by fostering a corporate culture of sincere action, craftsmanship without compromise, challenge mindset, intra-group collaboration, and respect for individuality and diversity, and by further strengthening our core organizational capabilities and core processes.

Commitment to Society through the Value Chain



In order to contribute to the achievement of the SDGs, OHARA is promoting the creation of new values to solve various social issues, to connect with customers' "ability to succeed" and to realize the society and the future OHARA desires.

Under the "Basic Policy for Sustainability," we will make various efforts both from the perspective of minimizing negative impacts on the environment, human rights, and other sustainability issues throughout the value chain, and the perspective of aiming to have a positive impact on society by solving social issues and creating new social values.

Long-Term Vision 2035

Founded in 1935, OHARA will celebrate the 100th anniversary of its founding in 2035. Global conditions are changing at an accelerating pace. To become a 100-year-old company that is needed by society in the years to come in an era where we face difficulties in foreseeing the future business environment, we formulated the Long-Term Vision 2035, aiming to become a company that can change proactively and take swift actions.

Realizing the Corporate Message with the Value Creation Model

The OHARA Group created the Corporate Message in FY 2020 to clarify its future path and its future vision. Our initiatives towards becoming a company that brings about "The Future Made Clear," the brand slogan set forth in the Corporate Message, have been summarized in OHARA's value creation model.

The Long-Term Vision 2035 is about realizing the Corporate Message by implementing the value creation model. We believe that the achievement of the Long-Term Vision 2035 is itself the achievement of sustainable growth and the realization of sustainability of the OHARA Group.

Management Policy under Long-Term Vision 2035

Under the Long-Term Vision 2035, we aim to improve our corporate value from a medium- to long-term perspective by strengthening our management base through the structural reforms of existing businesses and creation of new businesses, based on the following management policy and financial indicators.

■ Contribute to optics technology

Contribute to technological innovation in the optics technology field that is expected to grow to build a strong earnings base

■ Develop new businesses through value co-creation

Accelerate efforts to develop new businesses through value co-creation with customers and processing companies
Diversify the business mix and increase resilience to downward pressures on business performance to realize sustainable growth

■ Increase value creativity, efficiency, and profitability

Improve value creativity by diversifying human resources and fostering a challenge culture
Strengthen financial management that supports growth and improve capital efficiency and profitability

Concept behind Financial Indicators and Business Mix

The OHARA Group's business mix and resource allocation will be optimized based on a medium- to long-term perspective, considering factors such as consistency with the long-term vision, competitive advantage, capital efficiency, and profitability for sustainable growth.

Under the Long-Term Vision 2035, ROE will be used as a financial indicator. We aim to achieve ROE of 8.0% or higher by improving efficiency and profitability.

Positioning of the Medium-Term Management Plan

The period up to 2035, the final year of the long-term vision, will be promoted in five phases, with three-year medium-term management plans. The first phase, which is currently underway, will serve as a period for strengthening the value creation model by backcasting from 2035 and laying the foundation for our revenue base to achieve further growth in the second phase.

It will be particularly important to firmly strengthen marketing and launch new businesses through value co-creation with customers and processing manufacturers, even amid the restrictions on movement due to the COVID-19 pandemic, and to promote activities to address social issues, especially greenhouse gas (GHG) reduction. By strengthening the value creation model, we aim to become a company that can change proactively and nimbly respond to changes in the environment.

Corporate Message



A secure and healthy life

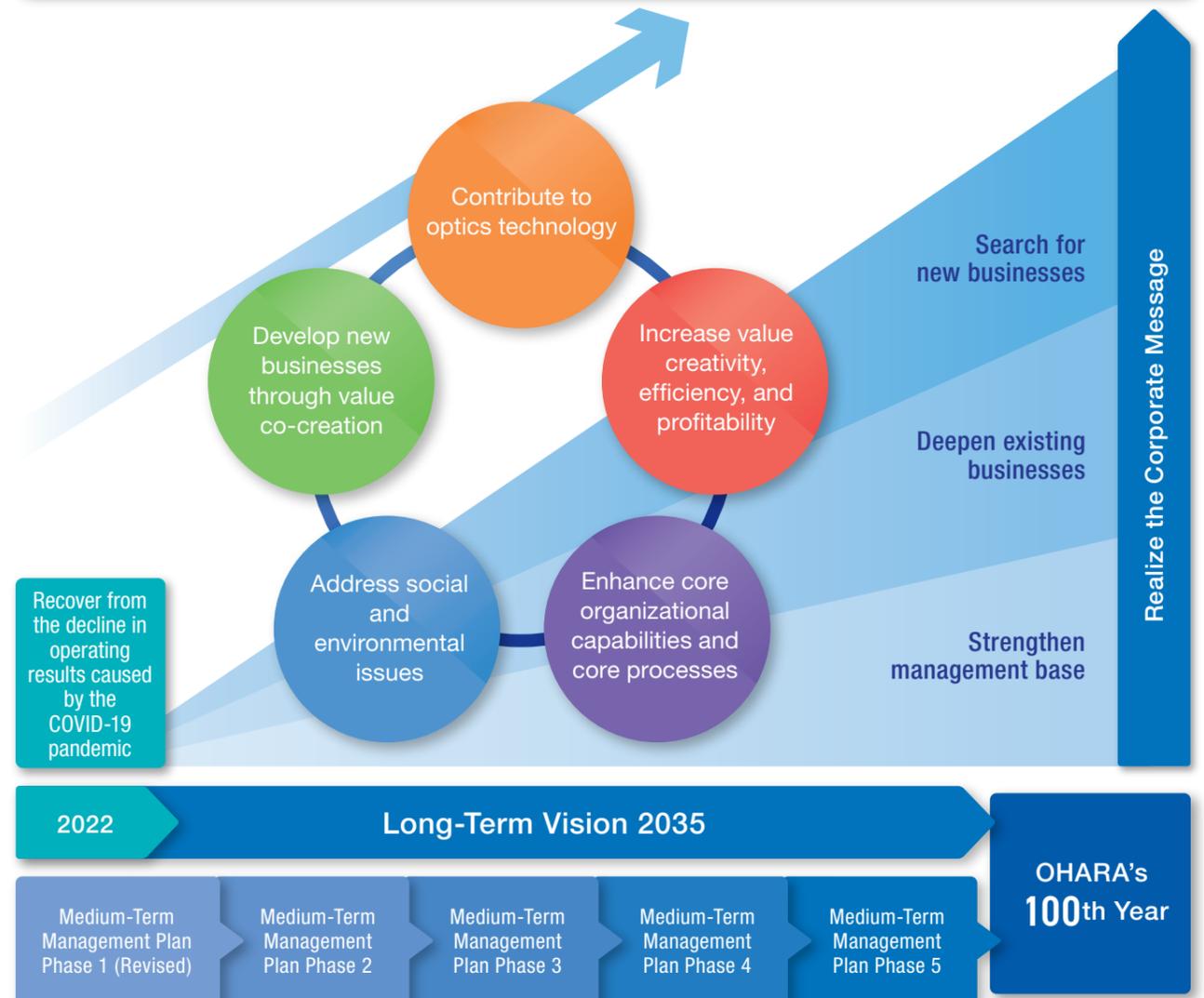


A society that cultivates creativity and aspirations



Sustainable well-being of our planet

The Society and the Future OHARA Desires



Risks & Opportunities

We will proactively address social issues for which we can leverage the strengths of the OHARA Group, with an aim to realize the “Society and the Future OHARA Desires” outlined in the Corporate Message.

Focused markets and technologies	Social issues to be addressed	Opportunities	Risks
Lifestyle quality Advanced information terminals Automotive technology Medical technology	<ul style="list-style-type: none"> Realization of a safe and secure society Contribution to healthy living 	<ul style="list-style-type: none"> Provision of materials for advanced technologies that realize advanced information terminals Provision of materials that realize advanced driver assistance systems (ADAS) Provision of materials for advanced technologies that realize advanced medical services 	<ul style="list-style-type: none"> Delays in business activities Emergence of alternative technologies Loss of social credibility
Industry and infrastructure Semiconductor manufacturing equipment Advanced infrastructure technology Space development	<ul style="list-style-type: none"> Contribution to innovation in optical and sensing technology Contribution to advanced miniaturization technology Contribution to space development and utilization 	<ul style="list-style-type: none"> Provision of materials for advanced sensing technology Provision of materials for advanced semiconductor manufacturing technology Contribution to technological development for the development and utilization of outer space Technological contribution in the astronomical research field 	<ul style="list-style-type: none"> Delays in business activities Emergence of alternative technologies Loss of social credibility
Environment and energy GHG reduction Low-energy melting technology Next-generation batteries	<ul style="list-style-type: none"> Development of products that lead to solving environmental issues Coexistence with the natural environment and reduction of environmental impact Sustainable procurement of critical raw materials (CRM) 	<ul style="list-style-type: none"> Development of technology to reduce, utilize, capture and decompose CO₂ Provision of materials that improve the performance of lithium-ion batteries (LIB) and realize solid-state batteries Reduction and reuse of glass waste, energy and resource saving activities Reduction of greenhouse gas (GHG) emissions in factories and transportation Development of raw material procurement routes 	<ul style="list-style-type: none"> Emergence of alternative technologies Delays in environmental response activities and higher environmental response costs Soaring energy prices Resource depletion, problems with raw material procurement, soaring prices
Strengthening governance	<ul style="list-style-type: none"> Respect for diversity Development of a great place to work 	<ul style="list-style-type: none"> Improvement of value creativity through synergistic effects of diversity Improvement of working environment, productivity and motivation 	<ul style="list-style-type: none"> Decline in safety and productivity due to delayed activities, labor shortage Decline in core organizational capabilities, delays in marketing activities

Progress of Medium-Term Management Plan Phase 1

Phase 1 of the medium-term management plan, a three-year plan covering the period from the fiscal year ended October 31, 2021 to the fiscal year ending October 31, 2023, focuses on recovering from the decline in operating results caused by the COVID-19 pandemic, rebuilding the business structure, and improving profitability. Although we are making strong progress toward the sales target due to the recovery in demand for interchangeable lenses and semiconductor-related materials and the depreciation of the yen, the operating income target is likely to be difficult to achieve due to soaring raw material and fuel prices.

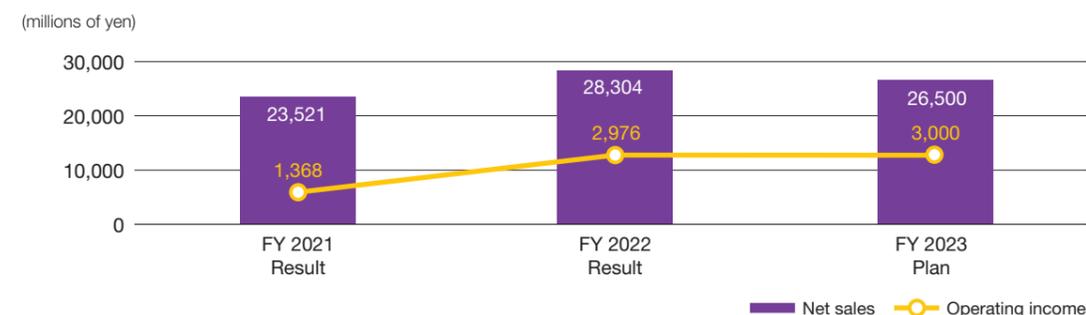
Main Measures of the Medium-Term Management Plan

For the first phase of the medium-term management plan, we incorporated our objectives to create new, highly profitable businesses by firmly enhancing our marketing functions even amid restrictions on activities due to the COVID-19 pandemic and implementing a strategy of three-way partnership with customers and processing companies, while responding to soaring demand in the steady optics market, as well as to realize sustainable management by back-casting from the Long-Term Vision 2035 and carrying out activities that lead to solving social issues.

Topics	Key Activities
Contribute to optics technology	<ul style="list-style-type: none"> Expand sales in mobile, mobility and medical fields Capture demand for semiconductors and FPD exposure equipment, 5G investment, etc. Develop materials that contribute to technological evolution and expand product variation
Increase value creativity, efficiency, and profitability	<ul style="list-style-type: none"> Promote diversification of human resources, improve productivity, and foster a challenge culture Strengthen group management accounting
Enhance core organizational capabilities and core processes	<ul style="list-style-type: none"> Expand research topics that lead to next-generation growth strategies Establish production technology to meet material needs in new business areas Expand measuring methods that assure the quality and performance of new materials
Address social and environmental issues	<ul style="list-style-type: none"> Reduce greenhouse gas (GHG) emissions Develop and commercialize environmentally friendly products
Develop new businesses through value co-creation	<ul style="list-style-type: none"> Develop global markets and build supply chains Implement a strategy of three-way partnership with customers and processing companies

Progress Against Numerical Targets of Medium-Term Management Plan Phase 1

	FY 2021 Result	FY 2022 Result	FY 2023 Plan
Net sales	23.5 billion yen	28.3 billion yen	26.5 billion yen or higher
Operating income	1.3 billion yen	2.9 billion yen	3.0 billion yen or higher
ROE (return on equity)	3.8%	5.0%	6.5% or higher



The first phase of the medium-term management plan will serve as a period for strengthening the value creation model through these activities and laying the foundation for our revenue base to achieve further growth in the second phase. We aim to achieve the management ratios of 26.5 billion yen or higher in net sales, 3.0 billion yen or higher in operating income, and 6.5% or higher in return on equity (ROE).

Optical Business



Optical glass is used in various optical devices such as mirrorless cameras, projectors, television cameras, automotive cameras, security cameras and medical devices.

The optical parts of optical devices are composed of combinations of optical components, including spherical lenses, aspherical glass mold lenses, prisms and filters, which are made with multiple types of optical glass with characteristics in its refractive index and/or its transmittance.

At OHARA, we meet all optical design needs with a line-up of over 140 types of optical glasses with the characteristics that enable optical devices to attain higher performances, miniaturization and cost reduction. In addition, depending on requests from our customers, we supply lens blanks in a suitable shape to be processed, finished lenses and so on. OHARA provides customers with optical glass products in a wide variety of types, from glass materials to optical components. The cutting-edge glass materials of the highest quality that OHARA provides support people around the world in their smiles and sense of wonder.

Overview of FY 2022

As for the environment surrounding the Optical business in FY 2022, although the impact of COVID-19 infections remained in the first half of the year, the market continued to recover as infection control measures and economic activities became more compatible. On the other hand, from the second half of the year, uncertainty increased due to the situation in Russia and Ukraine, lockdowns in Shanghai, soaring raw material and fuel prices due to global inflation, cooling business confidence due to rising interest rates mainly in the U.S. and Europe, and changes in customers' production plans due to unstable semiconductor procurement.

Net sales in the Optical business increased 21.2% from the previous fiscal year to 16,900 million yen, mainly due to an increase in sales of lens materials for optical equipment as a result of the expansion of the lens lineup for mirrorless cameras, despite the impact of the production adjustment trend in projectors, automotive cameras, and security cameras. In terms of profit and loss, operating income amounted to 1,100 million yen (up 55.0% from the previous fiscal year), mainly due to an improvement in the utilization ratio of production facilities as a result of increased demand for optical glass.

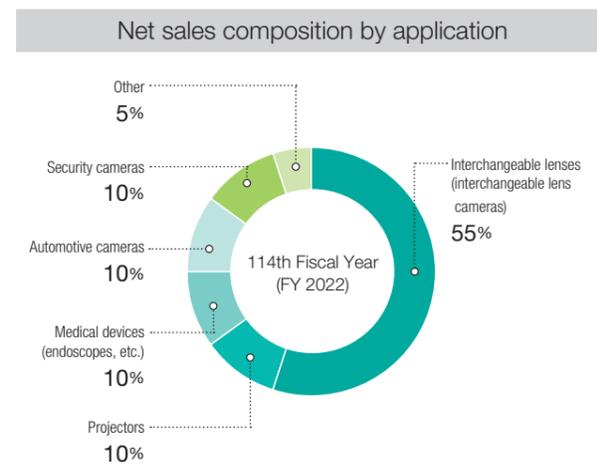
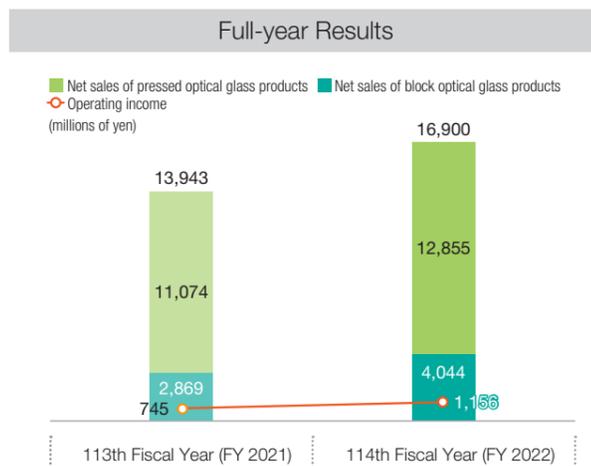
Future initiatives

We are planning to release new high-performance optical glasses that will realize higher performance, smaller size, and lower cost of optical devices, and we will continue to brush up our lineup of more than 140 types of distinctive optical glasses.

In addition, we will build a strong supply chain together with the optical component processing companies that are our business partners in order to supply optical components such as high-precision spherical lenses and aspherical glass mold lenses, thereby strengthening our ability to make proposals to our customers.

In addition to the imaging sector, where high precision and high functionality are being developed, the target markets include the mobile, mobility, and medical sector, where growth is expected, and for the purpose of contributing to optics technological innovation, OHARA will work with customers to deepen its technologies and create new demand by integrating OHARA's optics technologies with sensing technologies.

Financial Summary



Pressed optical glass products

Reheat Pressings



Products molded in heat press to shapes suitable for spherical polished lenses and prisms

Polished Lenses



Finished lenses produced by polishing, centering and coating

Polished Preforms



Spherically polished product in a suitable shape to be processed into aspherical glass mold lenses

Glass Mold Lenses



Products fabricated by heating and softening polished preforms and transferring it in an ultra-high accuracy aspheric mold and then supplied after centering and coating

Block optical glass products



Glass materials in block form or products cut and rounded into customer-specified shapes

Results of OHARA Product Adoption



Medical endoscope (Provided by: Olympus Corporation)



EOS R3 (Provided by: Canon Inc.)

Applications

Mobile <ul style="list-style-type: none"> Smartphones 	Automotive <ul style="list-style-type: none"> Automotive cameras 	Security <ul style="list-style-type: none"> Security cameras
Imaging <ul style="list-style-type: none"> Digital cameras Projectors TV cameras 	Industrial <ul style="list-style-type: none"> FA cameras 	Medical <ul style="list-style-type: none"> Endoscopes

Electronics Business



Based on the glass composition, manufacturing, and measurement technologies developed in the optical glass business, we have developed materials with new properties that are used by customers in a wide range of applications, including space industries, semiconductor/FPD manufacturing equipment, optical communications, and environment and energy.

The Electronics business is supported by “glass ceramics” technology, which can impart properties not found in the base material by applying additional precision heat treatment to the fused and molded glass base material. Unique materials with high functional value have been commercialized, such as CLEARCERAM™-Z with extremely low expansion, NANOCERAM™ with high impact resistance, and LICGC™ that conducts lithium ions. There are also conventional glasses, such as i-line high homogeneity glass in which the variation of the internal refractive index distribution is reduced to the sub-ppm level, and synthetic quartz glass, which has been commercialized based on optical fiber manufacturing technology and exhibits excellent transmittance from deep ultraviolet to near infrared. Both are used in core components for precision applications, such as lenses for semiconductor exposure equipment used to manufacture nano-level IC circuits.

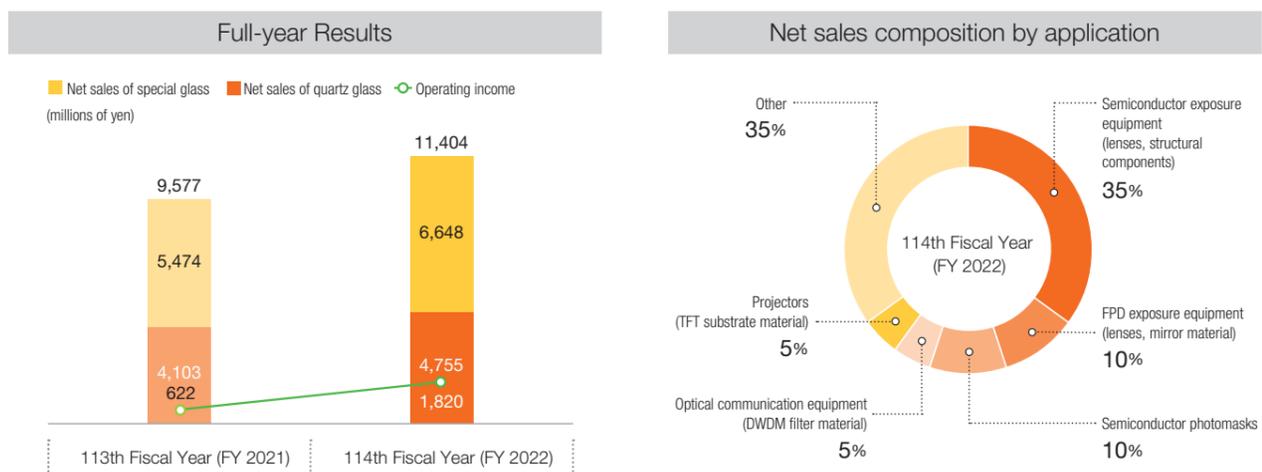
Overview of FY 2022

In 2022, restrictions on behavior due to the COVID-19 pandemic gradually eased, and although a complete recovery is yet to be seen, signs of a return of social and economic activities toward the pre-COVID-19 level were seen. OHARA's electronics products have contributed to remote work so far during the COVID-19 pandemic and the manufacturing of hardware for high-capacity data communication, mobile terminals, and data centers as the critical infrastructure that make remote work possible, but in 2022, customer needs were even stronger and inquiries exceeded OHARA's supply capacity. In particular, there is a striking gap between supply and demand for i-line high homogeneity glass and quartz glass for the optical parts of semiconductor manufacturing equipment, which is a manifestation of the growing demand for OHARA's high quality and high performance material products in recent years. In the second half of 2022, we revised product prices, mainly due to higher raw material and energy costs resulting from the Russia-Ukraine conflict.

Future initiatives

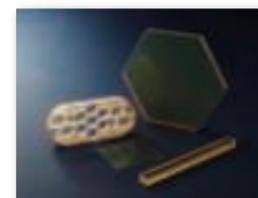
In the immediate future, we will address the recent rises in raw material and energy costs, while in the mid- to long-term, we will realize launch of new businesses that will become the pillars of the next generation of our business. We will also combine items that exhibit unique and outstanding functional values as materials, such as NANOCERAM™ and LICGC™, with the marketing tools we have developed during the COVID-19 pandemic and provide technical support to meet customer needs, thereby connecting these “outstanding materials” to our customers' ability to succeed. The OHARA Group will also focus on the creation of new business seeds for the next generation on a group-wide scale, and will implement a good cycle of deepening the expansion of existing businesses and exploring the creation of new businesses, aiming to become an organization that contributes to the growth and expansion of the OHARA Group as well as to the advancement of society and improvement of quality of life through such activities.

Financial Summary



Special Glass

Ultra Low Expansion Glass-ceramics (CLEARCERAM™-Z)



Glass-ceramic of zero-expansion, developed by our knowledge of the homogeneous glass melting and nanocrystallization technologies.

This product is used as a mirror material for semiconductor exposure equipment and high-powered telescopes requiring a high degree of precision.

Lithium-ion Conductive Glass-ceramics (LICGC™)



Glass-ceramics with top class ion conductivity from its oxide-based solid electrolyte materials, and high levels of chemical stability and water resistance.

This product is expected to be applied in solid-state batteries, which are attracting attention as next-generation batteries, and as a cathode additive.

Shock Resistant and High Hardness Clear Glass-ceramics (NANOCERAM™)



Glass-ceramic which we have further improved OHARA's nanocrystallization technology, achieving both superior shock resistance and high transmittance.

This product is used in covers for automotive sensors and cover glass for smartphones where high strength is required.

i-Line High Homogeneity Glass



Optical glass with excellent internal transmittance and optical homogeneity.

This product is used for lenses for semiconductor exposure equipment and high-precision inspection devices where homogeneity of the refractive index is crucial.

Glass-ceramic Substrate for DWDM Thin-Film Filters (WMS™-15)



Glass-ceramic which achieved the best thermal expansion coefficient and the optimal Young's modulus for multilayer filters.

This product is an ideal material for DWDM filter substrates for optical communications.

Non-browning Glass



Optical glass that suppresses glass coloration under irradiation due to its special composition.

This product can withstand long-term use in strong radiation environments such as outer space.

Quartz Glass

Synthetic Quartz Glass



Synthetic quartz glass with high purity and high quality that has excellent properties from deep ultraviolet to far infrared, developed from manufacturing technologies of optical fiber.

This product is used in semiconductor/FPD exposure equipment and as a semiconductor substrate material.



Super Low Altitude Test Satellite "TSUBAME" (SLATS) (Provided by: JAXA)

Applications

Mobile <ul style="list-style-type: none"> Smartphones 	Batteries <ul style="list-style-type: none"> Batteries 	Semiconductor/FPD Exposure Equipment <ul style="list-style-type: none"> Semiconductor exposure equipment FPD exposure equipment
Space and Astronomy <ul style="list-style-type: none"> Satellites High-powered telescopes 	Optical Communications <ul style="list-style-type: none"> Dense wavelength division multiplexing (DWDM) 	

Promotion of Global Market Development



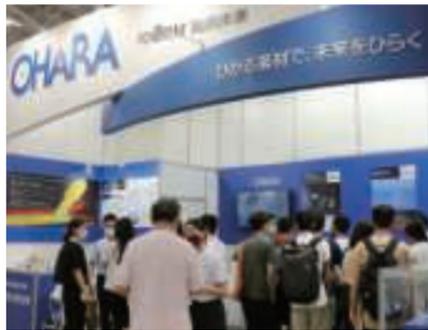
Global Market Development Project

Since November 2019, we have been promoting the Global Market Development Project, which consists of members from the Global Marketing Office at the head office and Group companies, to promote marketing of the OHARA Group. This is the OHARA Group's first attempt to embark on a project specialized in promoting marketing together with its Group companies. We aim to expand the OHARA Group's business by linking OHARA's materials with high functional value to market needs.

Overview of FY 2022

Established new marketing methods for the "with-COVID" and "post-COVID" eras

The COVID-19 pandemic struck soon after the project was launched, intermittently preventing us from visiting domestic and international customers and exhibiting at trade shows until the first half of 2021. During that time, however, we worked to adopt and launch new marketing methods with an eye toward the "with-COVID" and "post-COVID" eras, such as the introduction of marketing automation tools, virtual exhibiting online, and distributing ads on social media. This use of such information technology has made it possible to both prevent the spread of infection and carry out marketing in this "with-COVID" era. Subsequently, from late 2021 to 2022, regulations on behavior were relaxed in rest of the world ahead of Japan, allowing us to travel overseas to visit customers and exhibit, and face-to-face communication with customers resumed. This has made it possible to combine the aforementioned new marketing methods established in the "with-COVID" era using IT technology with traditional face-to-face communication skills, and in this way a new form of OHARA Group marketing is being established for the "post-COVID" era.



OHARA in Taiwan
SEMICON TAIWAN 2022 Exhibition



OHARA in Malaysia
SEMICON Southeast 2022 Exhibition



Social media advertising (Taiwan)



Social media advertising (Southeast Asia)

Future initiatives

Shift from demonstrative activities in the project to core organizational capability building of the OHARA Group

In 2022, project members working around the world won contracts for new development projects for semiconductor manufacturing equipment in China, AR/VR optical devices in Taiwan, laser processing machines in Europe, and space and astronomical equipment in the U.S. OHARA Group companies, which have mainly sold products for camera applications, are also developing new applications other than cameras, in addition to deploying toward camera applications. In November 2022, the first face-to-face meeting for the project was held at the OHARA head office since the project was launched, where discussions were held on the OHARA Group's marketing results, methods, and human resources. In 2023, the final year of the project, the new form of OHARA Group marketing for the "post-COVID" era established so far will be deployed to Group companies and divisions to achieve even greater business results than before.

Research & Development and Intellectual Property



Research & Development and Technology

In order to realize "a secure and healthy life," "a society that cultivates creativity and aspirations," and the "sustainable well-being of our planet" as set forth in the Long-Term Vision 2035, we will promote the development of new next-generation products that are environmentally friendly and strengthening of the competitiveness of existing products by further deepening the fundamental technologies we have cultivated and evolving our core technologies.

In order to provide the world with key materials required by society in the near future, we are actively engaged in research and development and will continue to expand the possibilities of the glass industry and pursue new technological possibilities through "value co-creation" with our customers so that our products will be adopted in the most advanced sectors. Furthermore, as a manufacturer of materials that consume large amounts of energy, we recognize environmental issues as a major challenge and are making tireless research and development efforts to create products and establish technologies that are friendly to the earth and do not place a burden on the environment.

"From the cell-level to the universe." Valuing people's curiosity in wanting to see, know, and try, we contribute to society with outstanding materials in all sectors.

Continue to pursue the potential of technology

OHARA's technological capabilities

- Optical glass
- Glass ceramics
- Optical glass melting and processing
- Measurement, evaluation and analysis
- Powdering

Elevation of lifestyles and cultures

- Advanced information terminals
- In-vehicle technology
- Medical technology

● LiDAR

● Smartphones

Advancement of new frontiers

- Semiconductor manufacturing technology
- Advanced infrastructure technology
- Space development

● Semiconductor exposure equipment

● AR/MR

Improvement of the global environment

- Reduction of greenhouse gas (GHG)
- Low-energy melting technology
- Next-generation batteries

● New melting and heating technology

● Lithium-ion batteries

OHARA's Intellectual Property Activities

The OHARA Group aims to return the results of its business activities to a sustainable society, and by utilizing intellectual property as a management resource, we will promote intellectual property activities from the proposal of intellectual property to the integrated management of intellectual property.

We will miss no opportunity to create inventions in each department, and will contribute to securing profits and increasing corporate value by building and executing IP strategies that can respond to the creation of new businesses and the deepening of existing technologies.

Talent Development

Related SDGs



Human Resources Vision

OHARA's Corporate Message presents our aspirations for the shape of the future society, and we raise "elevation of lifestyles and cultures," "advancement of new frontiers," and "improvement of the global environment" as our mission to realize these aspirations. In addition, in order to fulfill this mission, we have established the culture that should be shared by all employees of the OHARA Group. This culture is defined as OHARA VALUES, and consist of five elements: (1) challenge and creation, (2) self-control and growth, (3) collaboration and acceptance, (4) expertise and carrying on craftsmanship, and (5) sincerity and integrity. These elements form our human resources vision that will lead to the solution of social issues and sustainable growth of the OHARA Group.



OHARA Value Initiatives

(1) Challenge and creation

- Build a framework to evaluate employees and encourage them to take on challenges by prompting them to think for themselves and take on challenging actions.

(2) Self-control and growth

- Conduct career interviews to support employees' autonomy and growth through career design, leading to job satisfaction.

(3) Collaboration and acceptance

- Foster a culture of respect for diversity by providing opportunities for cross-organizational projects, etc.

(4) Expertise and carrying on craftsmanship

- Expand the scope of support for internal and external learning as an environment for pursuing expertise.
In addition, enhance the operation of the master system as an incentive for the development of younger generations.

(5) Sincerity and integrity

- We will retain this as a culture that has been passed down as part of the company's DNA, and we will continue to provide in-house training that will be passed on in the future.

Priority investment in human capital (for sustainable growth and expansion of corporate value)

Expansion of human resources

In terms of recruitment, in addition to hiring new graduates, we are also actively recruiting mid-career employees. Among them, we are particularly strengthening the recruitment of diverse human resources, including women, foreign nationals, and those needed to strengthen our functions.

Talent development (taking on the challenge of new things and practicing them)

We provide training for general employees to foster the initiative to practice value co-creation, and training for managers to encourage employees to take on challenges and bring about organizational reform. We also strive to build a reskilling environment where employees can learn on their own initiative.

In addition, we have been providing training to promote women's participation to female employees selected through workplace recommendations and other means. Subsequently, we have established opportunities for discussions between independent outside officers and female employees, and have begun measures to establish an environment in which female employees can play an active role of their own accord with reference to outside knowledge.

As part of the Group's talent management, we first select the next generation of leaders for the domestic group, and then conduct domestic group training aimed at sustainable growth and expansion of corporate value.



Training for next-generation leaders

Job satisfaction measures

The company conducts career interviews for all employees. Based on these career interviews, we will develop career designs for each individual, establish the environment necessary for skill acquisition, and provide opportunities for practice to respond to the diverse work motivations of our employees.

Measures for a better workplace

We are reviewing our work styles by expanding the number of workplaces eligible for fully flexible working hours and introducing an hourly paid leave system. In particular, the hourly paid leave system, which allows employees to take paid leave in one-hour increments, contributes to work-life balance and is highly valued by employees.

Fostering a challenge climate

Under the title of OHARA AWARD, all employees of the OHARA Group are encouraged and awarded for their challenging activities toward the achievement of Long-Term Vision 2035. By continuing this measure, we are fostering a challenge culture in the Group.



Through these measures, the Company will embody the Corporate Message by fostering a corporate culture of taking on challenges, thereby leading to the resolution of social issues and sustainable growth.

OHARA Group's Sustainability

OHARA Group's sustainability efforts are focused on the realization of its Long-Term Vision 2035 (the fulfillment of the Corporate Message through the implementation of the value creation model). Based on this idea, the Group formulated the Basic Policy for Sustainability to enhance corporate value from a medium- to long-term perspective and contribute to the sustainable development of society.

Basic Policy for Sustainability

Based on the Management Philosophy and Corporate Message, the OHARA Group will contribute to the sustainable development of society by creating outstanding materials that exceed expectations.

This leads to realizing a better society, and opening up the future through collaboration and co-creation rooted in trusting relationships with stakeholders.

OHARA Group's Sustainability Efforts

The OHARA Group is engaged in sustainability activities based on the three pillars: resolving environmental and social issues through corporate activities, building strong relationships with stakeholders, and complying with laws and regulations and respecting human rights.



Social Initiatives through Corporate Activities



Initiatives to preserve the global environment

OHARA has set one of its top management priorities as caring for the irreplaceable Earth, in other words, harmony with the global environment. OHARA and its Group companies and business partners are actively working together.

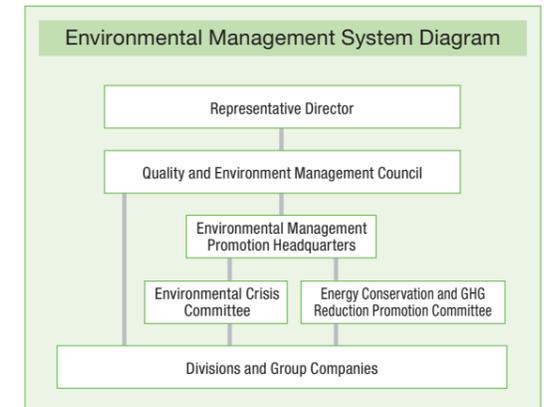
Environmental management

OHARA has set ISO14001 (environmental management system) as the objective to harmonize corporate activities with the global environment, and is promoting various efforts under the Environmental Policy.

In addition to compliance with laws and regulations, we will make group-wide efforts to reduce greenhouse gas (GHG) emissions in response to climate change, reduce waste in consideration of biodiversity, promote recycling, and use resources efficiently.

Environmental management system

All OHARA Group companies are working as one to promote a variety of activities with the philosophy and policies for environmental management, aiming at harmony between corporate activities and the global environment. In FY2022, certain part of OHARA's environmental management promotion system was expanded to include the entire group, and the Energy Conservation and GHG Reduction Committee was established to strengthen the Group's system for addressing environmental issues, particularly the reduction of greenhouse gas (GHG) emissions.



Environmental initiatives in manufacturing processes

Reduction of greenhouse gas (GHG) emissions is a major challenge in glass manufacturing, which consumes a large amount of energy. OHARA is working hard on development of the technologies to increase energy efficiency through the use of special precious metals, which is unprecedented in optical glass production. We believe that producing optical glass at temperatures above the limit of general optical glass melting may lead to technological innovation for our customers, not only from an environmental standpoint, but also through the discovery of new materials and increased efficiency.

Initiatives to counter climate change

Reduce greenhouse gas (GHG) emissions

As international efforts to become carbon neutral grow, OHARA will reduce emissions of greenhouse gases (GHG), including carbon dioxide, generated from the melting of materials in the Company. We will work to reduce greenhouse gas (GHG) emissions by 50% (compared to FY 2018) by 2035, toward achieving the "sustainable well-being of our planet," which is the society and the future OHARA desires, as set forth in the Long-term Vision 2035 formulated in FY 2021.

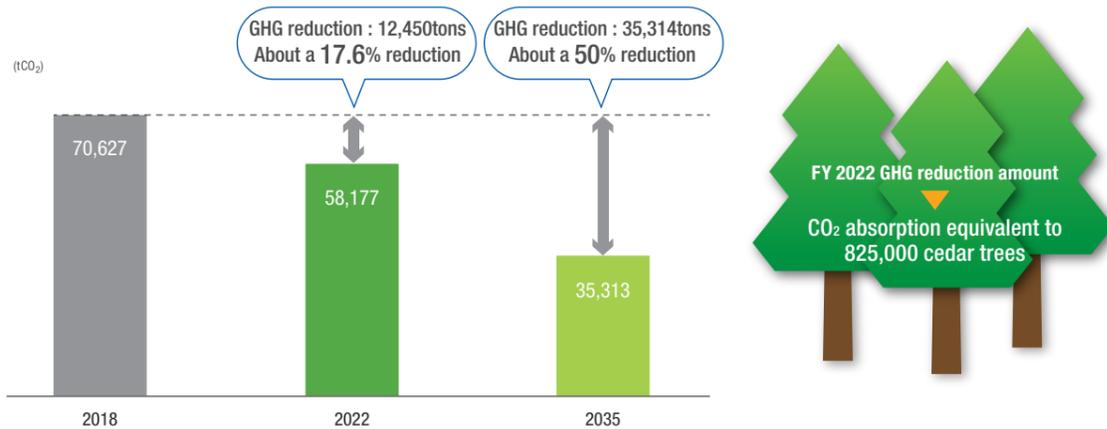


OHARA Group's Greenhouse Gas (GHG) Emissions*

Overall emissions in FY 2022 were 58,177 tons, a 17.6% reduction compared to FY 2018.

*Includes outsourcing of melt processing, which is classified as Scope 3, Category 1, and transportation between Group bases in Category 4.

Comparison of reductions of greenhouse gas (GHG) emissions



*Calculated using values data from "Measures Using Green Sink Sources to Prevent Global Warming," Ministry of the Environment/Forestry Agency.

Specific initiatives

- Reducing electricity consumption through technological development for melting methods
- Reducing greenhouse gas (GHG) emissions in society through development of eco-friendly materials
- Switching power use to renewable power
- Installing solar panels
- Switching air conditioning and lighting equipment etc. to energy-saving commercial products
- Promoting a modal shift in transportation activities for materials, processed goods, products, etc.



Installing solar panels on a factory roof

In July 2022, 478 solar units (956 panels) were installed on the roof of the OHARA OPTICAL (ZHONGSHAN) LTD.'s factory.

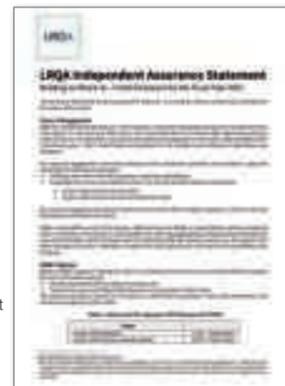
Initiatives to leverage our global network

- Utilize the Group's production sites to make use of national and regional measures against greenhouse gas (GHG) emission in production processes.
- We aim to establish a global network that contributes to streamlining and greenhouse gas (GHG) reduction throughout the entire supply chain, taking into account the characteristics of each site, including raw material procurement and outsourced processing.

Obtain a Third-party Verification Statement

Since 2021, we have undergone third-party verification by LRQA to improve the reliability of our environmental data and compliance with greenhouse gas (GHG) emissions (Scope 1 and Scope 2), and we disclose the verification results to our stakeholders via our website. In 2022, the scope was expanded to include two domestic group company sites, and we received verification regarding tabulation and analysis methods as well as the accuracy of data. We will continue to make more effective use of third-party verification and expand the scope of verification to further enhance data reliability.

Third-party Verification Statement

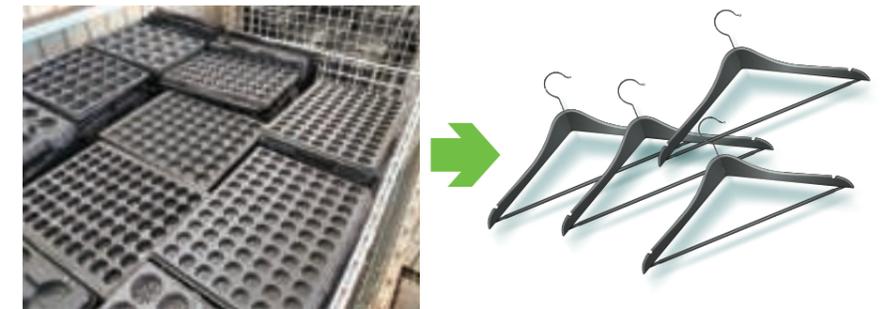


Initiatives to Achieve Zero Emissions

The final waste disposal rate in FY2022 was 26%. Glass that is no longer needed in production is being recycled (as base course material), but some of it is being disposed of in landfills. We will continue to promote waste reduction and reuse.

The "Act on Promotion of Resource Circulation for Plastics" was enacted in April 2022 to address the environmental impact of the increasing amount of marine plastic waste. In OHARA's head office operations, 25% of the 60 tons of plastic waste generated annually is converted to material recycling for use in recycled plastic products.

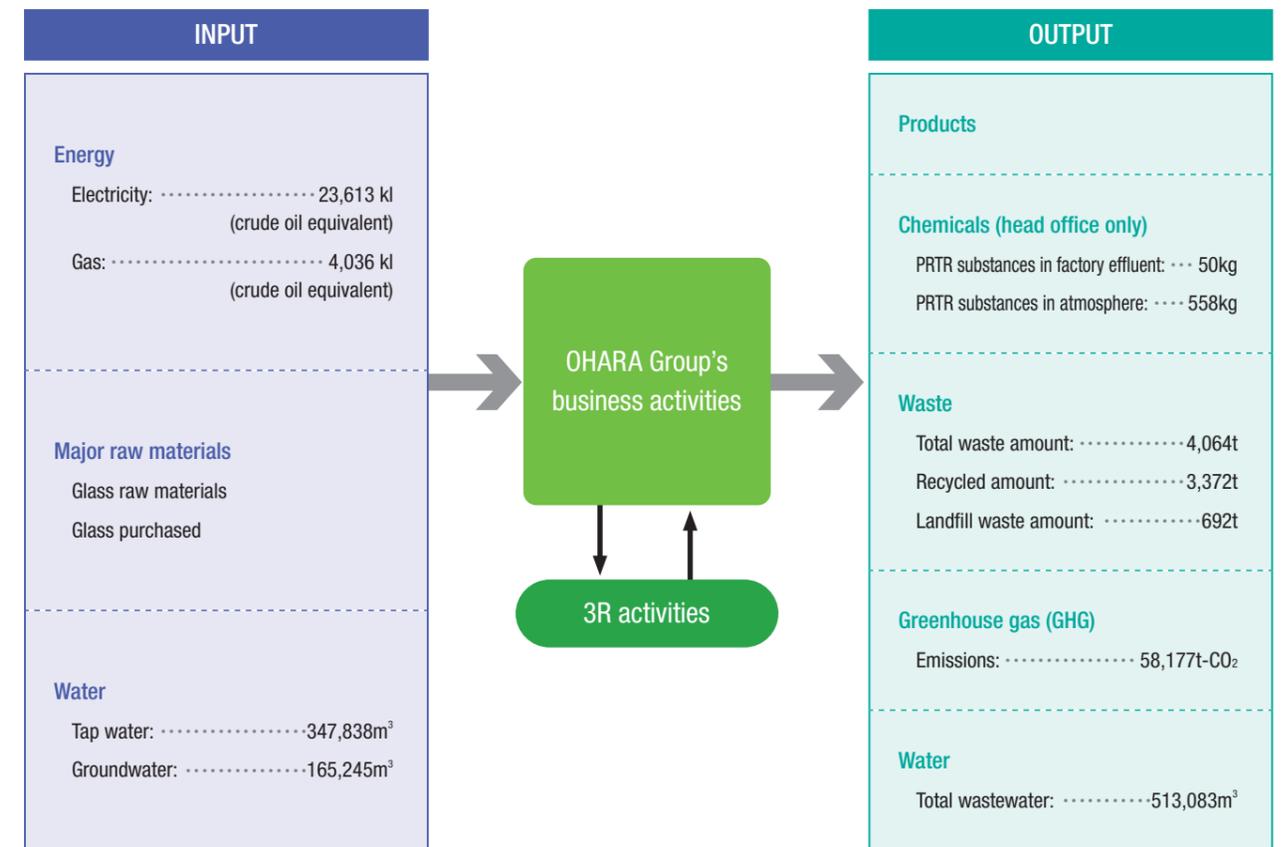
Activities for resource circulation



Recycling used plastic trays, etc. as clothes hangers

Material Balance

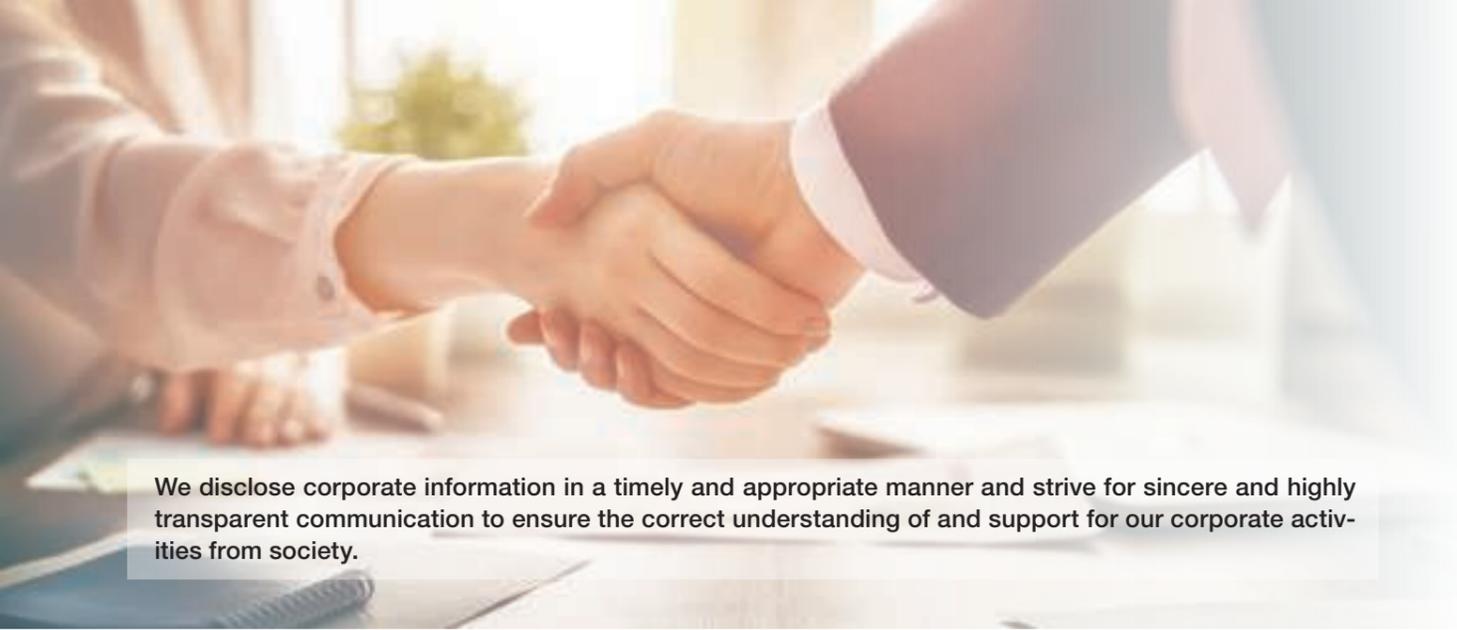
The OHARA Group develops environmental conservation activities by quantitatively measuring the amount of energy and resources used in its business activities (INPUT), as well as the products and environmental loads generated by those activities (OUTPUT).





Trusting Relationships with Stakeholders

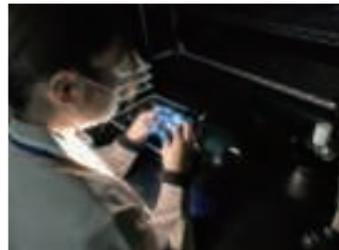
Related SDGs



We disclose corporate information in a timely and appropriate manner and strive for sincere and highly transparent communication to ensure the correct understanding of and support for our corporate activities from society.

Pursuit of Quality

OHARA has been working on value co-creation with customers by providing products of stable quality through the development of materials and production technologies for “outstanding materials” that other companies cannot keep up with, with a primary focus on solving customers’ problems. In order to continue to deliver satisfaction to our customers, we will strive to improve high product quality and reliability through logical production and quality assurance by utilizing IoT, AI, and digitalization.



OHARA's Quality Assurance

OHARA brings together its best technologies to provide glass materials that are the basis of key devices in all kinds of industries. As a material manufacturer that relies on the trust of customers, we strive to ensure high product quality and reliability through a consistent quality management system in all departments, from product development and manufacturing to quality assurance and service.

The special materials used in the optical glass and electronics sectors are highly evaluated by overseas customers, and OHARA is becoming more globalized every year. In addition, due to the globalization and increasing complexity of the supply chain, we aim to strengthen our system to promote the independence of our overseas bases to cope with globalization by deepening collaboration with overseas Group companies and partners in quality assurance activities. We aim to achieve the same level of quality for the various materials supplied from our overseas bases as those made in our mother factories in Japan. We will move towards value co-creation with customers by building strong relationships with them and solving problems.

Suppliers

OHARA sources high-quality raw materials and other materials at reasonable prices by establishing a procurement policy. In partnership with our suppliers, we carry out procurement activities based on CSR principles throughout our supply chains in order to pursue customer satisfaction and fulfill our social responsibility. We also require our supply chain partners to comply with laws, regulations, and social norms of the countries and regions where they operate.

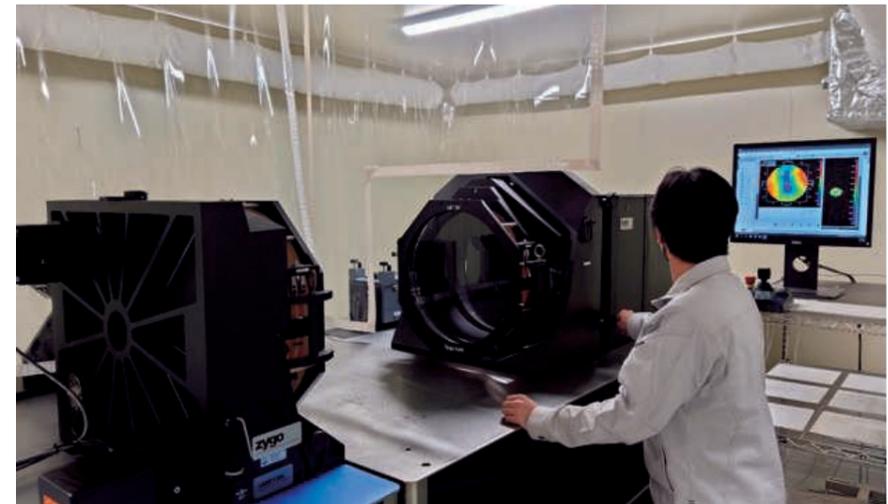
Procurement Methods

- (1) Sincere corporate activities
- (2) Open door procurement
- (3) Promotion of fair transactions
- (4) Procurement based on partnerships
- (5) Green procurement
- (6) Prohibition against receipt of personal gain

Material Measurement Technology

The evolution of semiconductor products is enriching our lives and advancing society. The volume of data transmission will increase while we advance ultra-fine technology known as nanotechnology, and we will grow along with the evolution of 5G smartphones, digital transformation (DX), autonomous driving, and a clean energy society. The quality of our lens materials, which make up the optical parts of the equipment that supports semiconductor exposure technology, depends on the homogeneity of the refractive index. Highly homogeneous lens material enables electronic circuits with extremely small line widths to be accurately transferred to semiconductor devices. This homogeneity is measured using OHARA's optical interference technology to guarantee the quality of optical glass. Using a laser as the light source, the homogeneity of the refractive index of large-diameter lens (up to 450 mm in diameter) materials can be measured with an accuracy of 1×10^{-6} .

OHARA's measurement technology is positioned as our core technology, and we will establish measurement, evaluation, and analysis technologies in line with the evolution of materials (new materials) in measurement technology, connecting the market and materials. This activity will refine new measurement and evaluation technologies that take into account new domains related to electronics as well as time horizons further into the future, from those developed in optical glass.



The homogeneity of the refractive index of large-diameter lens (up to 450 mm in diameter) materials can be measured with an accuracy of 1×10^{-6} .

Communication with All Shareholders and Investors

OHARA discloses corporate information in a timely and appropriate manner and strive for sincere and highly transparent communication to ensure the correct understanding of and support for our corporate activities from society.

At the annual general meeting of shareholders held in late January of each year, we strive to communicate OHARA's vision and strategies in an easy-to-understand manner so that all shareholders can understand them. However, at the 113th Annual General Meeting of Shareholders, due to the public announcement of the priority measures to prevent the spread of the COVID-19 infection in Kanagawa Prefecture due to the spread of the disease, we ask shareholders to consider exercising their voting rights in advance in writing or via the Internet as much as possible and to consider refraining from attending the meeting.

On OHARA's website, you can find timely disclosure materials, information on the general meeting of shareholders, dividend status, stock information, stock procedures, and other stock-related information, as well as the Integrated Report (this report). In addition, we provide information for individual investors to enable them to better understand OHARA, including our features and improvements. Furthermore, we hold financial report briefing sessions four times a year for institutional investors and securities analysts, and our IR division also responds to individual interviews as needed.

Local Communities

OHARA strives to maintain proper corporate activities and proactively carry out social contribution activities as a “good corporate citizen,” while valuing harmony with local and international communities.

Basic Stance on Local Communities

We build strong trusting relationships with local communities and engage in social contribution activities so that OHARA will remain as an indispensable company for local communities 100 years from now. The rose garden on the company’s premise has been enjoyed by local residents as the OHARA Rose Garden for over 60 years. We will continue to make efforts to contribute to the realization of a sustainable society.

Opening of the rose garden

The company’s second president Tadayoshi Akita, who had a passion for growing roses, started growing roses in the 1950s to create a park on the factory’s premise and give back to the community. The rose garden is now open to local residents to encourage them to feel more familiar with OHARA. Many people come and enjoy the garden during the rose blossoming seasons in spring and autumn.



Rose Garden in OHARA's premise

Participation in the Sagami River Cleanup Operation

OHARA has been participating in the Sagami River Cleanup Operation since 2006, which is a cleanup activity initiated to clean up the Sagami River, a recreational area for Sagami citizens. Though we were not able to participate in this activity due to COVID-19 from FY 2020 to FY 2021, we have been continuing our active participation from FY 2022.



Employees

OHARA strives to improve our abilities to create value and respond to changes by creating a safe, comfortable working environment and a free, open corporate culture both of which praise challenges and foster a workplace where diverse human resources can play active roles.

Ideal talents for the OHARA Group are those who possess the five elements of OHARA's culture described in the Corporate Message, challenge themselves to shine and influence people around them in a positive way, and create value, thus contributing to the Group's sustainable growth and the development of society.

To foster a workplace where such talents can play active roles, we will provide training designed to encourage people to take on challenges, accept diversity, and work in partnership with other people, thereby creating new value and enhancing organizational metabolism.

Also, we will actively hire mid-career professionals to acquire diverse human resources, including those with specialized knowledge and non-Japanese residents.

Complying with Laws and Regulations and Respecting Human Rights

Related SDGs



Compliance Promotion System

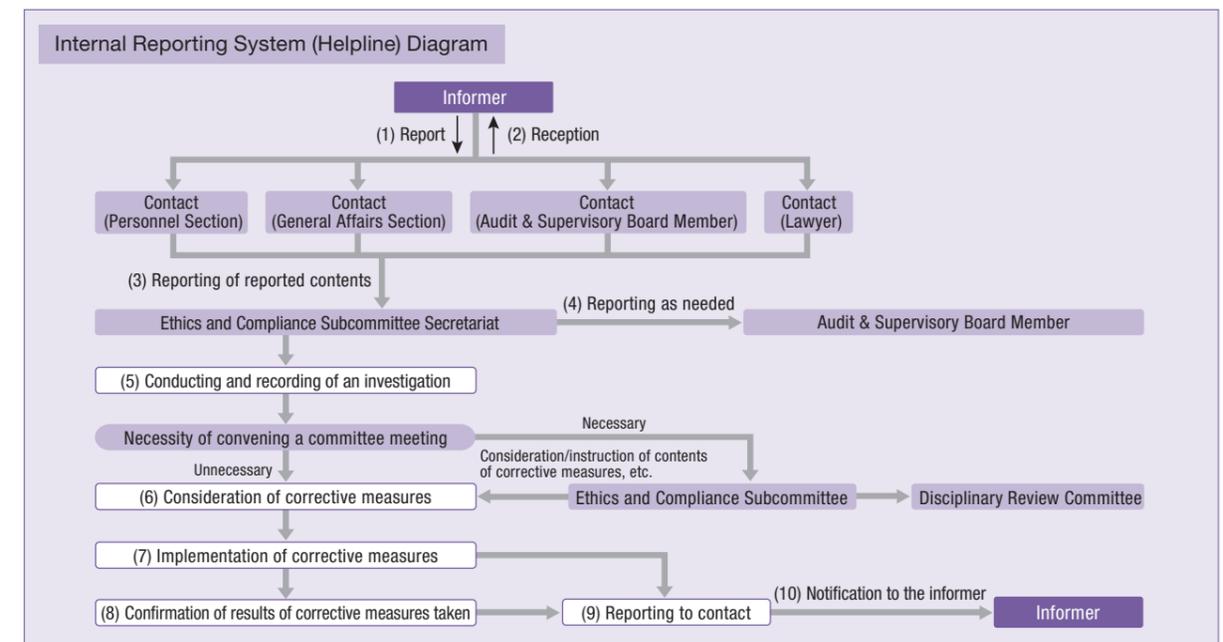
OHARA has established the “Guidelines of Conduct” in accordance with OHARA's philosophy based on its corporate principles. A variety of in-house seminars are held in accordance with such Guidelines on a continuous basis in order to ensure that directors and all employees comply with laws and regulations and execute business activities with a high sense of ethics and in a fair and proper manner.

Efforts to Reinforce Ethics and Compliance

- Compliance seminar for all employees**
 Compliance seminars are held regularly for all employees working at OHARA. In FY 2022, training was held on the topics of “Business and Human Rights” and “Internal Reporting System.”
- Seminar on export control**
 OHARA regularly conducts training to deepen the knowledge of laws and regulations and internal procedures related to security export control.
- Seminar on laws and regulations**
 We provide legal training for employees to ensure thorough compliance with laws and regulations and to appropriately respond to legal amendments and new laws related to our business operations.
- Ensuring awareness of and adherence to the Codes of Conduct: Guidelines**
 Based on OHARA's philosophy based on its corporate principles and the Guidelines of Conduct, OHARA has stipulated the Codes of Conduct: Guidelines, which specify major points of laws and regulations, response policies and matters of caution to be complied with in conducting business activities and has been holding compliance seminars and providing educational activities for all employees using the intranet.

Human Rights Initiatives

- Operation of internal reporting system (Helpline)**
 OHARA has established an internal reporting system (Helpline) in which a person seeking advice (or informer) can report directly to the Ethics and Compliance Subcommittee. We also created and disseminated the “Internal Reporting (Helpline) Operation Guidelines” to ensure proper operation of the internal reporting system.



Respect for human rights

Based on OHARA's philosophy based on its corporate principles and the Guidelines of Conduct, OHARA has stipulated the Codes of Conduct: Guidelines, which specify major points of laws and regulations, response policies and matters of caution to be complied with in conducting business activities and has been holding compliance seminars and providing educational activities for all employees using the intranet.

Corporate Governance

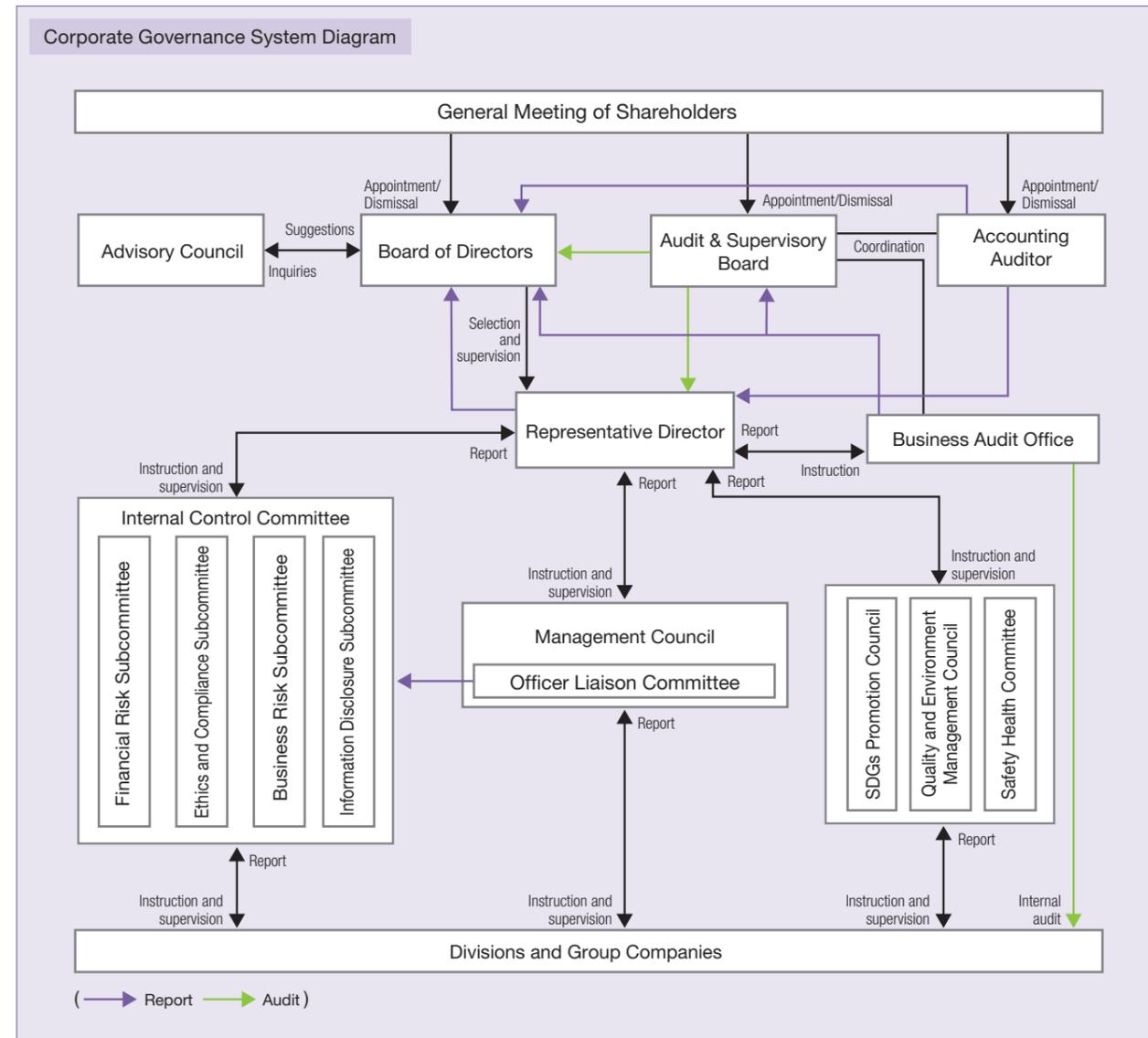
Basic Views on Corporate Governance

OHARA's Management Philosophy is that "The OHARA Group continually seeks to instill new value and build a strong organization for the purpose of advancing the well-being of its people and contributing to the prosperity of society," and we conduct our business activities in accordance therewith.

OHARA endeavors to streamline internal organizational structure and administrative schemes and take necessary measures to realize the above Management Philosophy. Moreover, toward our various stakeholders including shareholders, customers, employees and local communities, OHARA strongly believes that fulfilling responsibility as a public instrument of society will maximize our corporate value, and management with transparency and soundness in line with our corporate philosophy is the best approach to corporate governance.

Basic Policies on Corporate Governance

Based on the intent and spirit of the Corporate Governance Code, OHARA has established the "Basic Policies on Corporate Governance," with the objective of pursuing the best corporate governance and its enhancement, for the sustainable growth and the improvement in the corporate value of the OHARA Group.



Board of Directors

The Board of Directors consists of eight directors and meets once a month in principle. As a management decision-making body, the Board makes decisions on important matters such as management policies and supervises the execution of duties by directors and executive officers. The Board of Directors currently consists of four full-time directors and four outside directors (including one female). Two of the outside directors are independent outside directors.

Expertise and Experience of Directors

Name	Position	Corporate Management	Manufacturing/Technology/R&D	Sales/Marketing	Finance/Accounting	Legal/Compliance	Personnel/Human Resources Development
Hirokazu Saito	President, Chief Executive Officer	○		○			○
Takashi Nakajima	Director, Senior Managing Executive Officer	○			○	○	
Naoyuki Goto	Director, Senior Managing Executive Officer	○	○	○			
Masatomo Suzuki	Director, Managing Executive Officer	○		○	○		
Makoto Ichimura	Outside Director	○	○				○
Go Tokura	Outside Director	○	○				
Akira Nokina	Outside Director Independent	○		○			
Yukako Makino	Outside Director Independent					○	

Evaluation of the Effectiveness of the Board of Directors

OHARA evaluates the effectiveness of the Board of Directors in accordance with its Basic Policies on Corporate Governance. In the analysis and evaluation for FY 2021, full-time officers (directors and audit & supervisory board members) made self-evaluation based on a questionnaire, and then opinions of independent outside directors were heard, after which the Board of Directors had discussions and carried out analysis and evaluation by referring to the collected results.

A summary of the results of this analysis and evaluation follows. With regard to the streamlining of reporting items, which was identified as an issue in FY 2021, we confirmed that improving the explanations provided in advance led to a positive effect to a certain extent. On the other hand, while there was some discussion on challenges surrounding sustainability, the need for further study was recognized. Therefore, we will make further efforts for adequate advance preparations, information exchange and awareness sharing, and increase opportunities for discussion on management issues, thereby enhance the effectiveness of Board of Directors' meetings.

Advisory Council

The Advisory Council is established as a voluntary body and consists of the chairman of the Board of Directors and three independent officers (two independent outside directors and one independent outside audit & supervisory board member). It works to ensure management objectivity and transparency by deliberating and reporting on matters regarding the appointment and dismissal of senior management (executive officers concurrently serving as directors), appointment of directors and audit & supervisory board members, and remuneration of directors.

Internal Control Committee

The Internal Control Committee, chaired by President and Chief Executive Officer, has been established to check and strengthen the status of internal controls whose four purposes are to improve the effectiveness and efficiency of operations, ensure the reliability of financial reporting, comply with laws and regulations, and preserve assets. There are four subcommittees under the Internal Control Committee: the Financial Risk Subcommittee, the Ethics and Compliance Subcommittee, the Business Risk Subcommittee, and the Information Disclosure Subcommittee. The Internal Control Committee monitors internal controls of the OHARA Group as a whole, including these subcommittees.

Financial Risk Subcommittee

The Financial Risk Subcommittee is in place to establish and build a system for ensuring the appropriateness and efficiency of the OHARA Group's operations as well as the reliability of financial reporting. The subcommittee considers and supervises action plans and measures to improve the effectiveness and efficiency of operations and ensure the reliability of financial reporting.

Ethics and Compliance Subcommittee

The Ethics and Compliance Subcommittee is in place to establish an ethics and compliance system for the OHARA Group as a whole and to realize corporate governance that fulfils its social responsibility through the execution of fair and appropriate business activities. The subcommittee practices the OHARA Group's philosophy based on its corporate principles by providing educational programs related to ethics and compliance to raise awareness about legal compliance and ethics and prevent iniquity.

Business Risk Subcommittee

The Business Risk Subcommittee is in place to effectively and efficiently manage risks of the OHARA Group. The subcommittee designs policies, systems, and measures pertaining to the Group's risk management, raises awareness about the prediction and prevention of potential risks, formulates and operates annual risk management plans, conducts overall coordination of risks of departments and subsidiaries, and studies measures to minimize damage in the event of crises.

Information Disclosure Subcommittee

The Information Disclosure Subcommittee is in place to disclose important financial, social, and environmental management-related information about the OHARA Group in a fair, timely, and appropriate manner. The subcommittee fulfils corporate accountability and ensures management transparency by considering whether a specific piece of management-related information constitutes a material fact that should be disclosed and taking appropriate measures.

Financial & Non-Financial Highlights

Financial

	2019	2020	2021	2022	(FY)
Main Financial Results (millions of yen)					
Net sales	23,407	17,873	23,521	28,304	
Gross profit	7,012	3,568	6,480	9,190	
Gross profit-to-net sales ratio (%)	30.0	20.0	27.6	32.5	
Operating income	901	(1,724)	1,368	2,976	
Operating income-to-net sales ratio (%)	3.8	(9.6)	5.8	10.5	
Ordinary profit	1,146	(1,319)	1,733	3,665	
Ordinary profit-to-net sales ratio (%)	4.9	(7.4)	7.4	13.0	
Profit attributable to owners of parent	466	(4,243)	1,460	2,116	
Profit-to-net sale ratio (%)	2.0	(23.7)	6.2	7.5	
Net assets	41,813	36,183	40,111	45,262	
Total assets	55,036	49,621	53,606	60,678	
Net cash provided by (used in) operating activities	1,927	2,479	1,938	2,303	
Net cash provided by (used in) investing activities	(335)	(2,405)	(780)	(1,993)	
Net cash provided by (used in) financing activities	(1,013)	1,380	(1,409)	(760)	
Depreciation	1,664	1,791	1,282	1,400	
Purchase of property, plant and equipment	(2,144)	(659)	(803)	(1,405)	
R&D expenses	949	952	538	717	
Main Indicators (%)					
Equity capital ratio	76.0	72.9	74.6	74.2	
ROA (return on asset)	2.0	(2.5)	3.4	6.4	
ROE (return on equity)	1.1	(10.9)	3.8	5.0	
PER (price earnings ratio)	78.49	—	23.09	13.95	
Payout ratio	78.3	—	25.0	23.0	
Average exchange rate during the period	USD (yen)	109.68	107.61	108.22	127.39
	EUR (yen)	123.30	121.18	129.15	135.64

Segment Data (millions of yen)					
Optical business	Net sales	14,205	9,527	13,943	16,900
	Operating income	118	(977)	745	1,156
	Operating income-to-net sales ratio (%)	0.8	(10.3)	5.3	6.8
Electronics business	Net sales	9,201	8,345	9,577	11,404
	Operating income	782	(747)	622	1,820
	Operating income-to-net sales ratio (%)	8.5	(9.0)	6.5	16.0

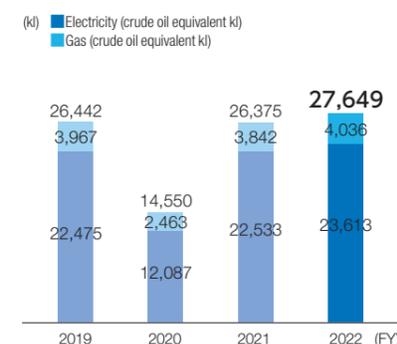
*As the method of allocating certain expenses was changed to match the actual situation of each segment, segment data for FY 2019 and FY 2020 shows profit or loss after the change.

Per Share Data (yen)					
Net assets	1,717.98	1,485.94	1,641.75	1,848.95	
Net profit	19.16	(174.34)	59.99	86.90	
Dividend	15.00	10.00	15.00	20.00	

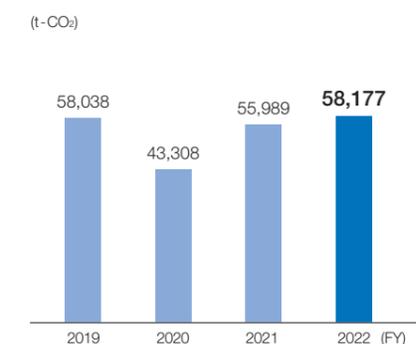
* Dividend Policy
OHARA's basic dividend policy is to return profits to shareholders in a stable, continuous manner through a year-end dividend, while also accumulating the necessary internal reserves for strengthening management foundations and future business expansion.

Non-Financial

OHARA Group's Electricity and Gas Use (Crude Oil Equivalent)

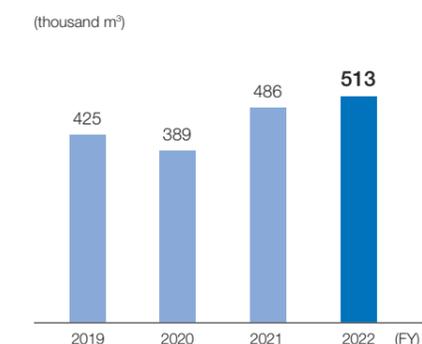


OHARA Group's Greenhouse Gas (GHG) Emissions



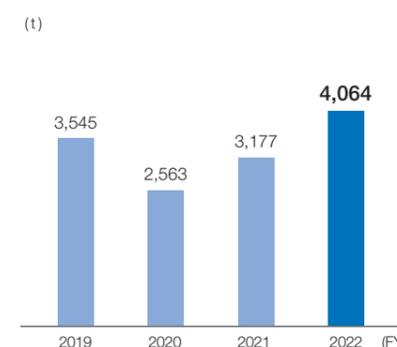
*Greenhouse gas (GHG) emissions from (some) transportations of products and materials and affiliated melting companies in Scope 3 are included.

OHARA Group's Water Use

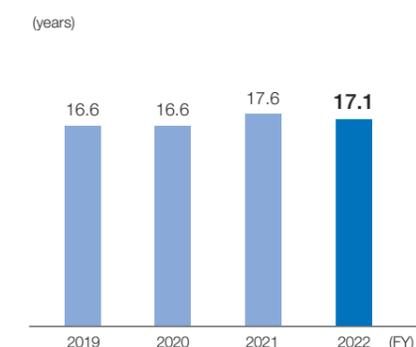


*Including groundwater

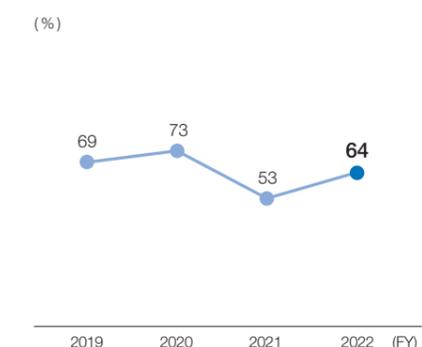
OHARA Group's Waste Volume



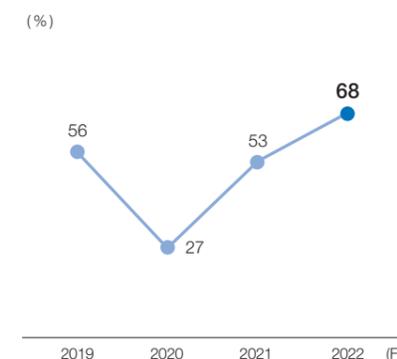
Average Duration of Employment*1



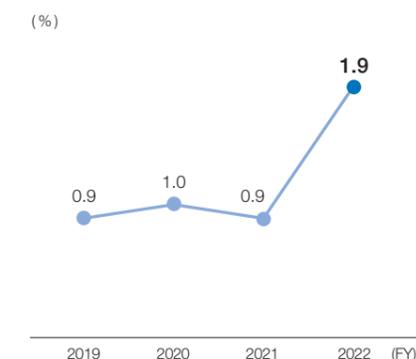
Average Paid Leave Acquisition Rate*2



Percentage of Mid-career Hires*1



Percentage of Foreign Employees*1



IR information email newsletter

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URL

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*1 Non-consolidated figures of OHARA.

*2 In FY 2021, the paid leave acquisition rate decreased since special leaves were provided to employees due to COVID-19 reasons.