

## OHARA History

-  **1935 October** Established OHARA Optical Glass Mfg. Co. Ltd. in Kamata, Tokyo by Jinpachi Ohara.
-  **1936 November** Started Optical Glass Melting.
- 1944 February** Reorganized as a Joint-Stock Company. Built Sagamihara factory.
- 1954 May** Started Platinum Pot Melting.
- 1958 April** Started Production of "Lanthanum Glass".
- 1961 January** Started Production of "Strip Glass by Continuous Melting Method".
-  **1962 October** Acquired the stock of Ashigara Optical Inc. (Japan).
- 1969 July** Installed OHARA Glass in Apollo 11.
- 1975 August** Started Production of "Low Refractive Index Low Dispersion Glass (S-FPL51)".
- 1981 August** Established Ohara Corporation (USA).
- 1982 March** Installed OHARA Glass in Space-Shuttle "Columbia".
- 1983 March** Started Mass Production of "High Homogeneity Glasses". ( $\Delta nd \pm 0.5 \sim \pm 1.0 \times 10^{-6}$ ).
- 1984 March** Began Supplying "Cherenkov glass" to National Laboratory for High-Energy Physics.
- 1985 May** Introduced New Company Name "OHARA INC.".
- 1986 September** Established TAIWAN OHARA OPTICAL CO., LTD. (Taiwan).
- 1987 March** Started Production of "High UV (365nm) Transmittance Glass".
- May** Established OPC Corporation (Japan).
- 1988 August** Started Production of "Glass Ceramics".
- 1990 January** Established OHARA GmbH (Germany).
- 1991 September** Started Production of "Eco-Optical Glass".
- November** Established OHARA OPTICAL (M) SDN.BHD. (Malaysia).
- 1993 March** Started Production of "Ultra Low Expansion Glass-ceramics (CLEARCERAM™-Z)".
- 1994 November** Started Production of "Glass Ceramics for Hard Disk Substrates".
- 1997 March** Switched All 112 Recommended Optical Glass Types at that time to Eco-Glasses.
- 1998 April** OHARA acquired ISO9001 certification.
- 1999 January** Installed OHARA Glass in Suprime-Cam in Subaru telescope.
- 2000 January** Started Production of "Low Photoelastic Glasses".
- April** OHARA acquired ISO14001 certification.
- October** Started Measurement service for refractive indices at Vacuum UV region.
- 2002 May** Established OHARA OPTICAL (HONG KONG) LTD. (China).
- June** Started Large-scale Continuous Melting.
- December** Established OHARA OPTICAL (ZHONGSHAN) LTD. (China).
- 2005 October** Listed on First Section of Tokyo Stock Exchange.
- 2006 November** Started Production of "Eco-Glasses for optical fiber (for endoscope)".
- 2007 February** Started Production of "Low fluorescence Glasses (for microscope)".
- September** Installed OHARA Glass in the Lunar Orbiter "KAGUYA (SELENE)".
- 2008 July** Ohara Quartz Co., Ltd. (Japan) became a consolidated subsidiary.
- 2011 March** Established NHG-OHARA OPTICS (XIANGYANG) CO., LTD. (China) (JV).
- 2012 March** Established Taiwan Ohara Optical Material Co., Ltd. (Taiwan).
- August** Installed OHARA Glass in Hyper Suprime-Cam in Subaru telescope.
- 2013 May** Began Sales of "Lithium-ion Conductive Glass-ceramics (LICGC™)".
- 2014 February** Withdrew from the "Glass Substrates for Hard Disks" business.
- March** "Ultra Low Expansion Glass-ceramics (CLEARCERAM™-Z)" was adopted in the TMT astronomical telescope.
- December** OHARA Glass was adopted for Hayabusa2 deployable camera (DCAM)
- 2015 March** Began Mass Production and Supply of "Aspherical Glass Mold Lenses".
- October** 80th anniversary of OHARA's foundation.
- December** Began Sales of "Shock Resistant and High Hardness Clear Glass-ceramics (NANOCERAM™)".
- 2016 January** "Shock Resistant and High Hardness Clear Glass-ceramics (NANOCERAM™)" has been used as high-grade filters "WR CERAMIC PROTECTOR" for interchangeable lenses.
- August** Prototype of solid-state battery that use "Lithium-ion Conductive Glass-ceramics (LICGC™)" worked at -30°C.
- 2017 May** For the first time in the world, we have started dealing with optical glasses designed for automotive cameras.
- December** "Ultra Low Expansion Glass-ceramics (CLEARCERAM™-Z)" was adopted to the Super Low Altitude Test Satellite "Tsubame" (SLATS).
- 2018 September** Began operations of new "Aspherical Glass Mold Lenses" factory.
- 2019 February** "Ultra Low Expansion Glass-ceramics (CLEARCERAM™-Z)" was adopted for Japan's largest telescope Seimei

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

Provided by: SIGMA Corporation

### Editorial Policy

The OHARA Report informs readers of OHARA INC.'s business activities and initiatives regarding CSR in an effort to present a more easily accessible format to our stakeholders for their understanding.

In the feature articles, we explain the details on how the corporate message was formulated and the reorganization of the MMB Promotion Project into a new project. Ongoing initiatives of OHARA are reported in a structure that follows OHARA's philosophy based on our corporate principles.

In addition, we introduce employees involved in the operations of our two main products (optical and electronics) in the topics.

We hope the readers become more familiar with OHARA through this Report.

### 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.

**OHARA**  
OHARA INC.

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### Reporting Period

FY 2019

From November 1, 2018 to October 31, 2019

\*There are, however, some references to activities for FY 2020.

### Date of Issue

January 2020

Previous issue: January 2019

Next issue: Scheduled for January 2021

### Reference Guidelines

GRI, *GRI Sustainability Reporting Guidelines*

Ministry of the Environment, *Environmental Reporting Guidelines 2012*

# OHARA Report 2020

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The Future Made Clear

**OHARA**





**Hirokazu Saito**  
President, Chief Executive Officer

## ● Looking Back on FY 2019 Operating Results

### Optical Business and Electronics Business Both Suffered Declines

In FY 2019, product demand in the Optical business decreased amid the shrinking digital camera market, and the Electronics business was also sluggish due to the impact of U.S.-China trade friction on the exposure equipment market. As a result, both consolidated net sales and profits were lower than the targets set at the beginning of the fiscal year and suffered significant declines.

Looking back on the operating results for the Optical business, the shrinking of the overall digital camera market has become more pronounced due to the sluggish demand for mirrorless cameras among the lens exchange types in addition to the weak performance of the compact type. The OHARA Group consequently experienced a drop in net sales of optical lens blanks and optical raw glass and lower profitability resulting from reduced operating rates of melting furnaces. In the meantime, while there has been high praise from customers for optical glass products that meet the needs of high-definition and high-value-added products, including projectors, security cameras, and automotive cameras, they were not able to cover the weak performance of products for digital cameras due to cooling demand.

In the Electronics business, sales of ultra low expansion glass-ceramics were sluggish due to lower demand for organic EL in the exposure equipment market and weaker market for FPD. U.S.-China trade friction also made even greater impact on the previously robust market for semiconductors in the latter half of the fiscal year, slowing down the growth of high homogeneity glass and quartz glass. Shock resistant and high hardness glass-ceramics NANOCERAM™, a key product in the mobile and mobility sector, required improvement for use in smartphone casings and took a long time to develop sales channels, significantly falling behind the sales plan.

## ● Future Outlook and Efforts to Improve Earnings Performance

### Four Initiatives to Overcome the Bleak Environment

The decline in demand for the digital camera market will be likely to further accelerate, and also in the other product fields and the FPD and semiconductor markets, changes in the environment from the latter half of FY 2019, such as economic slowdown caused by U.S.-China trade friction, are expected to have impact for the foreseeable future.

However, in the business environment surrounding the OHARA Group in the next few years, we expect to see growth opportunities in connection with 5G communications, the IoT-related field, the development of electric vehicles (EVs) and automatic driving in automobiles. Furthermore, the prospect of acquiring new demand is increasing in China, which is trying to bolster the semiconductor, telecommunication, and energy sectors as part of its national policy, and in Southeast Asia, where industrial development is progressing. Based on this vision, we will implement the four initiatives explained below in an effort to improve earnings performance and grow further.

The first initiative is to strengthen marketing functions with the newly established Global Marketing Office. We will accelerate the global expansion of the Electronics business and shift our business structure particularly in China and other Asian bases, which have been mainly engaged in the Optical business. These efforts are aimed at creating new demand.

The second initiative is to restructure the production system in response to the shrinking demand for optical glass. We will enhance cost competitiveness, as well as increase the operating rates of overseas factories, by significantly reducing the capacity of melting furnaces for the Optical business at the Sagamihara factory and shifting the production of glass materials, which is required to provide a low-cost supply, to bases in Taiwan and China. As part of efforts for factory reorganization, we will establish a system for production increase for the Electronics business and secure a space for the development of a new melting furnace at the Sagamihara factory.

The third initiative is to implement efforts for the improvement of NANOCERAM™ and the expansion of its applications. We will promptly make improvements to suit customer needs in use for smartphone casings and other mobile devices, which has been an issue, in order to establish sales channels and gain demand large enough for mass-production. It is also our intention to expand the applications of NANOCERAM™ beyond smartphones and mobile devices.

The fourth initiative is to advance lithium-ion batteries and realize next-generation batteries using lithium-ion conductive glass-ceramics (LICGC™). In FY 2019, we successfully developed LICGC™ into a cathode additive product that enhances the performance of lithium-ion batteries, and established a foothold for expanding sales to Korean and Chinese customers by giving out its samples. Going forward, we will aim for full-scale adoption by battery manufacturers and commercialization in the future.

## ● Entering the Final Year of the Medium-term Management Plan

### Solidifying a Long-term Vision for the Next 15 Years

FY 2020 is the final year of the three-year medium-term management plan with “OHARA — a Materials & Solutions provider” as its key concept, and will be the year that concludes the Long-term Vision 2020. As mentioned above, we expect the business environment to remain bleak for the foreseeable future, and the earnings forecast for FY 2020 assumes that net sales and profits will decline. Regrettably, this means that “30.0 billion yen or more in net sales” and “3.5 billion yen or more in operating income” among the numerical targets in the medium-term management plan will be significantly underachieved.

In the coming year, it will be important to successfully capture demand for the Electronics business in the global market and maintain the operating rates of melting furnaces, while shifting melting resources from the Optical business. In parallel with these efforts, we will use the 85th anniversary of the company's founding in October 2020 as an opportunity to solidify the “OHARA 100-Year Vision (Long-Term Vision 2035)” for the next 15 years.

As a first step, we have developed a corporate message (detailed in the next page) that clarifies what direction the company should take and what OHARA aims to be, and set up a brand slogan “The Future Made Clear”. Based on a growth strategy derived from this, we will formulate the next medium-term management plan that will be the first phase of the OHARA 100-Year Vision (Long-Term Vision 2035).

## ● To All Stakeholders

### Towards realizing the Society and the Future OHARA Desires

This year, the year-end dividend was 15 yen per share (down 15 yen from the previous year), as revised downward on September 11, 2019. Although profits are forecasted to decline in FY 2020, we plan to pay out 15 yen per share, the same amount as this fiscal year, to maintain stable dividend payout. By speeding up the pace of business structure reform, we will achieve quick performance improvement and expand shareholder returns.

The above-mentioned corporate message demonstrates the vision of “the Society and the Future OHARA Desires” and ensures that the importance of contributing to solving social issues through corporate activities is recognized throughout the Group. Since glass melting, a core technology of the OHARA Group, requires a large amount of energy consumption, we understand that products created as a result should have effects in reducing environmental burdens, such as making energy use more efficient. We will pursue manufacturing that contributes to energy conservation in the world, while promoting innovation in melting processes and improving the efficiency and saving resources in manufacturing processes.

We would like to ask for long-term support of our stakeholders, and for them to have expectations for the OHARA Group's further growth.



## Branding Project

OHARA's current medium-term management plan (FY 2018-2020) has entered the final year of the Long-Term Vision 2020 formulated in FY 2009. Under this circumstance, a corporate message was formulated to clarify what path OHARA should undertake and what OHARA wishes to be in the future.

Our corporate message is a philosophical system that summarizes a company's vision, mission, strengths, and action guidelines. In creating the corporate message, we deeply delved our DNA and identity by

reflecting on the company's history since its founding and revisiting the Management Philosophy. We also anticipated social issues and a future that may await us in 2035, when OHARA celebrates its 100th anniversary, and beyond.

OHARA will share each and every word included in the corporate message and the thoughts embodied in it with everybody throughout the Group and will create a bright future.

### Management Philosophy

The OHARA Group is honored to keep on creating unique and new values in order to establish a strong company structure for its employees' happiness and for the prosperity of the society.

## 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.**

These express how OHARA desires to connect with society and what kind of future society OHARA hope for. They explain not only the connections with processing vendors and customers with whom we do business as a materials manufacturer on a daily basis, but also the form of social

contributions beyond them. With a belief that recognizing the link and cycle from materials to social contributions and establishing the value of OHARA will lead to OHARA's growth, we included this item.

## OHARA's Mission

**Pursue opportunities by developing new materials for every era.  
Form alliances with diverse partners to elevate lifestyles and cultures and promote innovation.  
Advancement of new frontiers and improvement of the global environment.**

This defines the universal mission that OHARA will fulfill.

We express our determination of pursuing the potentials of new materials, by leveraging the core technologies cultivated in the production of optical glasses and glass ceramics, establishing broader and deeper technologies, and going beyond the glass and glass ceramics domains.

Moreover, it is indispensable for a materials manufacturer to have partners because it exists at the upstream in the supply chain. OHARA will not only respond to customer needs, but also use seeds to voluntarily carry out its evolution and change, turning materials into reality.

## OHARA's Values

**Outstanding materials that exceed expectations and facilitate our customer's success.**

This expresses the value that OHARA will be offering in a condensed form.

It embodies our intent to provide outstanding, appealing materials that go beyond the boundary of optical glass in which OHARA's roots lie.

Also, it shows our desire to realize what customers expect or want to

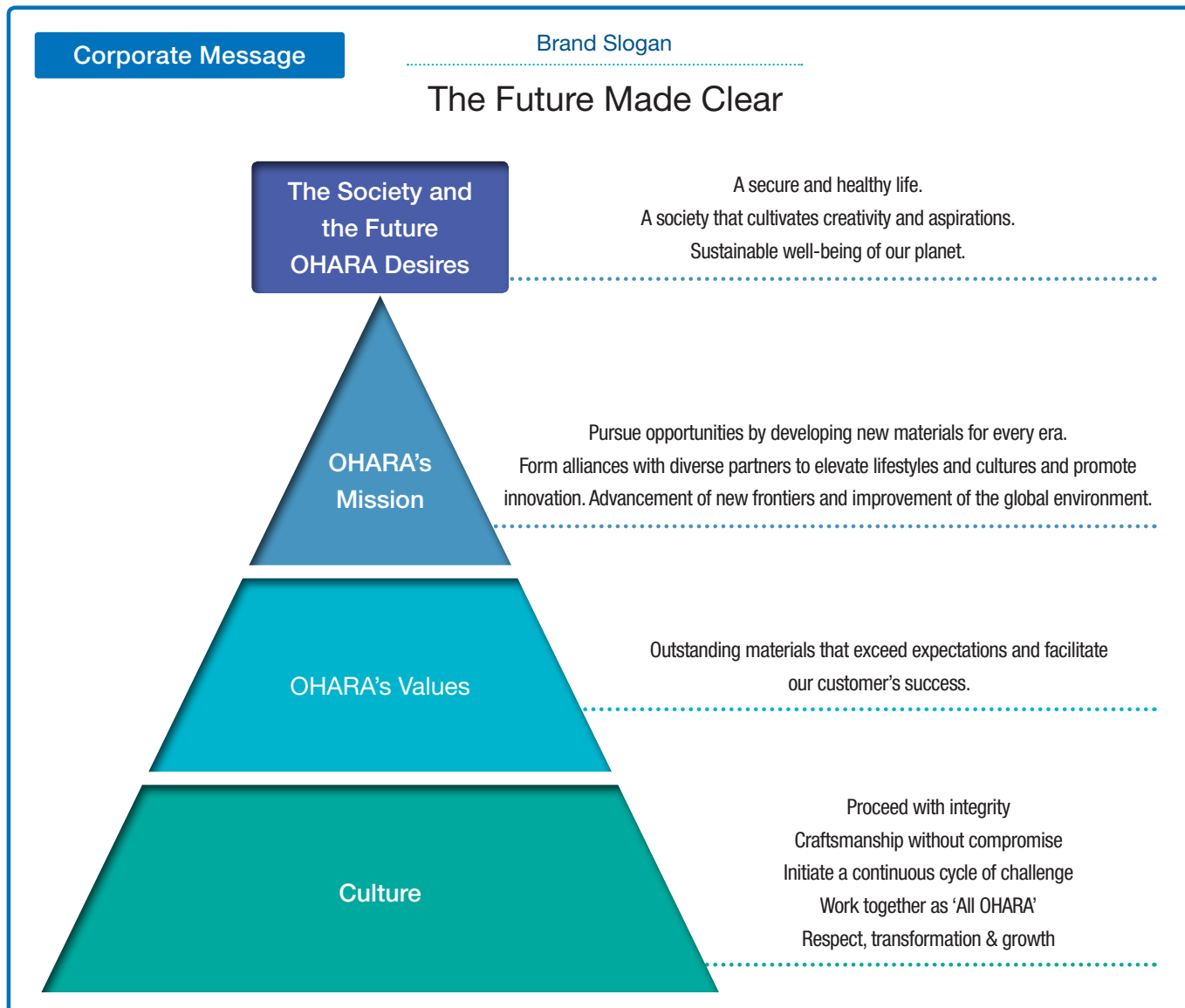
solve using OHARA's materials and to offer such value, instead of simply delivering products to customers.

## Culture

**Proceed with integrity  
Craftsmanship without compromise  
Initiate a continuous cycle of challenge  
Work together as 'All OHARA'  
Respect, transformation & growth**

These represent OHARA's identity that OHARA wishes to pass on to the future. As a pioneer in optical glass, OHARA has contributed to cutting-edge technological innovations in cameras, semiconductors, and space and astronomy. We intend to continue to value OHARA's DNA, which

is expressed by keywords such as sincerity, honesty, diligence, and cordialness implied in these expressions. At the same time, they show our commitment to keep challenging and grow on a Group-wide basis even in a dramatically changing time.





# Reorganization of the MMB Promotion Project into a New Project

## — Cross-organizational Efforts to Cultivate New Markets

OHARA has been aggressively cultivating markets in the semiconductor industry, information communications industry, and space and astronomy field, centering on the camera industry and many years of experience in manufacturing optical glass, which is the company's original business, and special glass. However, with the spread of smartphones and flash memories, many technical needs have been changing. Accordingly, in November 2017, we launched project activities cutting across business organizations to promote market cultivation. Through these activities, we have promoted strengthening of cooperation between departments and marketing functions to cultivate new markets for Mobile Mobility Battery (MMB).

**Focus on activities that propose value truly desired by the customer (solutions).  
Materialize the value of materials!**

Tetsuya Aoki Project Owner

### ● Shifting to market oriented activities transcending organizations

In the mobile market, we have been proposing application examples for the market of cover glasses for smartphone terminals and other products as well as for the smartphone camera market, and activities towards product adoption are progressing as we receive high evaluation. In the mobility market, we released lens materials that are suitable for use under a wide range of temperature conditions, such as automotive cameras. We have

also been proposing high hardness materials used as cover glass materials for various on-vehicle sensors as well as other products including display components that contribute to driving assistance. Furthermore, we have proposed a solid electrolyte material that is hoped to improve the performance of lithium-ion secondary batteries.

These activities have been previously carried out separately for each product to cultivate markets. However, through MMB Project activities, they have been changed to those in which information is exchanged across organizations and multiple OHARA materials are marketed to each MMB market in a coordinated manner.



OHARA booth at CEATEC 2019 that the company participated in October 2019 (an activity as part of the MMB Project)

### ● Participating in exhibitions with an eye toward cultivating new markets

As the speed of information and communications has been increasing dramatically as seen in the advancement of information technologies such as IoT, 5G communications, and AI, we participated in CEATEC 2019, an exhibition themed on the key terms "Society 5.0" and "Super Smart Society". We presented a jointly-planned exhibition encompassing the optical, electronics, and battery fields, instead of those presented by each business division in the past.

We publicized how OHARA is trying to contribute in the fields of mobility, farm, city, and factory under the brand slogan "The Future Made Clear".

During the four-day exhibition period, many customers visited the OHARA booth, which allowed us to develop contacts with a group of customers different from before.

There are plans to stage other new exhibitions in the future. We will actively explore potential markets and meetings with customers and accelerate the cultivation of new markets.

### ● Challenge for more global activities

In the MMB market, technologically advanced nations such as western countries, Japan, and South Korea have led the world in technological innovation and market formation. Recently, however, China and other Asian nations have been fiercely catching up to the latest technologies.

Markets that were previously thought to be small are growing rapidly, and marketing activities in undeveloped regions are becoming increasingly important. The OHARA Group has pursued its global expansion along with the growth of the optical glass business, but going forward it is necessary to enhance marketing functions for special glass products.

### ● Reorganization into a new project and enhancement of global market cultivation function

In light of this, we decided to set up the Global Marketing Office at the OHARA head office to strengthen marketing in undeveloped markets in Japan and overseas. At the same time, the MMB Promotion Project, which was launched in November 2017, was renamed to the "Global Market Cultivation Project" and reorganized into a setup of about 20 people by recruiting new members from domestic and overseas affiliated companies, in addition to members of the Global Marketing Office.

While continuing the activities of the MMB Promotion Project, this project will further bolster marketing activities with a focus on untapped markets that are growing overseas.

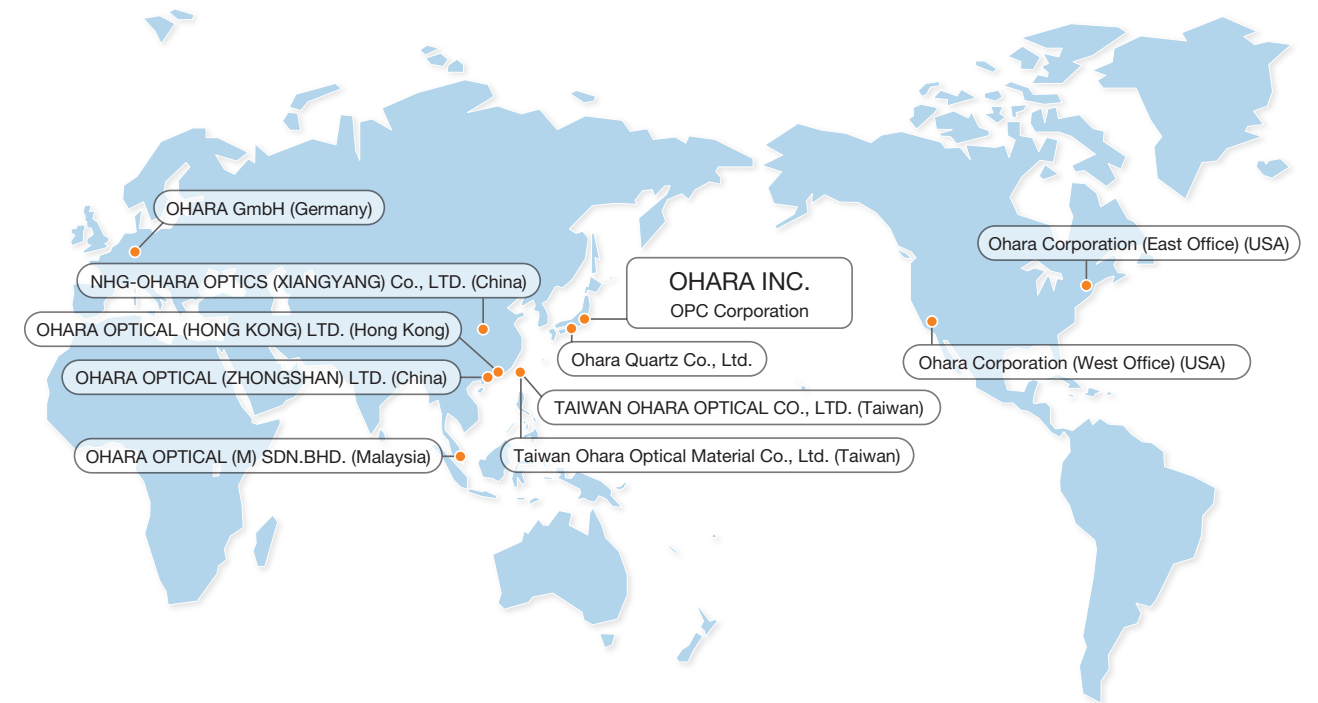
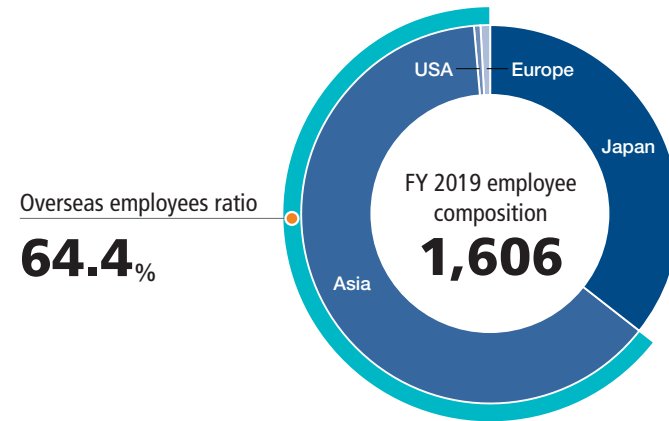
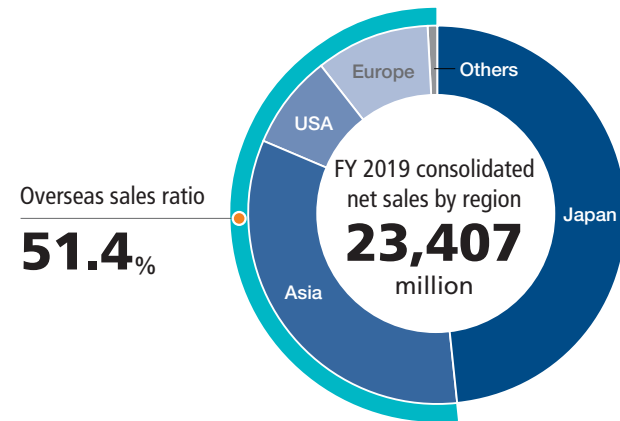
The markets to which the OHARA Group can contribute are spreading all over the world, and the addition of new members is likely to further accelerate the discovery of unknown needs. Responding to new needs requires more than just existing technology seeds, but also new innovation efforts, external seeds, and cooperative relationships with supply chain partners. The OHARA Group will take a new step upward and continue to grow.

### Schematic of the Global Market Cultivation Project



# About OHARA Group

The OHARA Group develops global business in the fields of optical and electronics products.

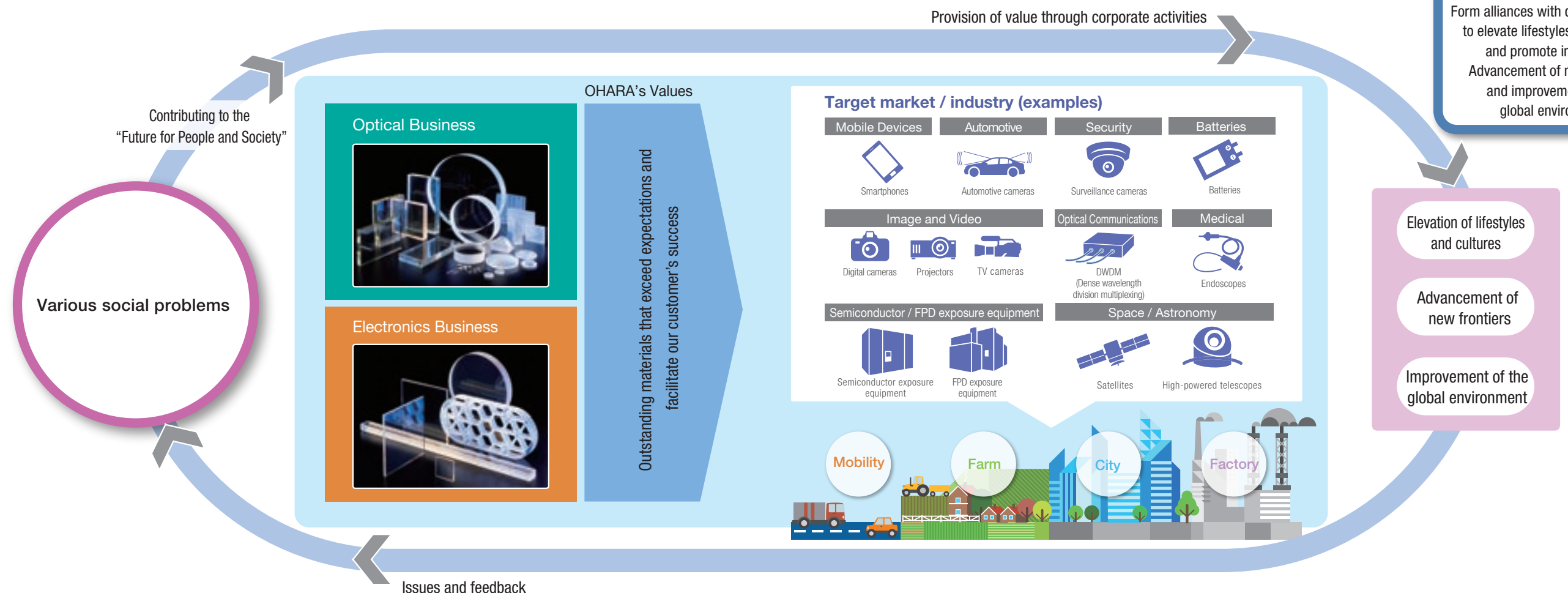


## OHARA Group Value Creation Process

Through these business activities and products, the OHARA Group provides corporate value to all stakeholders. In addition, we invest efficiently to contribute to solving social problems, which will lead us to the provision of the next value.

### OHARA's Mission

Pursue opportunities by developing new materials for every era.  
Form alliances with diverse partners to elevate lifestyles and cultures and promote innovation.  
Advancement of new frontiers and improvement of the global environment.





We introduce “research and development”, “quality assurance”, and “production process” that support the business activities of the OHARA Group.

## Research and Development

OHARA pursues the potentials of new materials and takes on the challenge of providing advanced materials that can freely control optical, electronic, and other physical properties.

Since its foundation in 1935, OHARA has contributed to the development of Japan's optical industry as a specialized maker of optical glass.

Subsequently, in 1985, in line with our 50th anniversary, we transformed into a proposal-based materials manufacturer in response to the diversification of customer needs in the advanced information society.

Positioning “the mobile and mobility market” as a new key target, not only going beyond the development of advanced materials, but we also continued research and development activities while engaging in dialogue with our customers through the provision of solutions such as technical data and supply chain construction. We are gradually seeing results such as in lens materials for automotive cameras. We will continue to conduct development activities via a customer-oriented approach and materialize outstanding materials without hesitation to take on new challenges, transforming one's “want to do” into everyone's “can do”.



Drain casting  
\* Pouring melted glass directly into a mold



NANOCERAM™ 330

### Staff's Voice

Glass ceramics typified by ultra low expansion glass-ceramics and NANOCERAM™ often differ greatly from optical glass in terms of likely customers and required performance, and the common sense previously used at OHARA does not apply in many cases. Hence, instead of simply examining compositions, in cooperation with sales and production control divisions, we sometimes introduce new processes and evaluation methods and conduct trial and error every day to provide the materials that are really desired.



Nozomu Oda  
Advanced Material Engineering Dept.  
Advanced Material Div.

## Quality Assurance

The “pursuit of the highest quality” is in OHARA's DNA. It leads us to technology that allows us to provide products and services which satisfy our customers, as well as develop and manufacture new world-class materials.

The OHARA quality policy states that we will constantly strive to gain greater trust and satisfaction from customers, and we must fully understand the customer's request first. We facilitate our customers' success by basing the OHARA quality assurance on the “customer first” concept under which quality is determined by the customer and realizing desired results with various partners.

Our certification for the ISO9001:2015 international standard was renewed through an inspection by a third-party certifying body. By aligning the OHARA quality management system with corporate strategy policies, we clarified risks and issues that would affect quality, allowing us to provide products and services trusted by customers. At OHARA, high-accuracy quality assurance methods will be offered for products for new customers' using the material evaluation technology that has been cultivated.

Therefore, we can proudly provide the best quality to our customers.

### Quality Goals

- Achieve strategic goals through provision of “Materials & Solutions”
- Strengthen branding efforts
- Improve customer satisfaction level
- Achieve cost reduction goal
- Reduce number of complaints from stakeholders
- Improve quality of operations



ISO9001 inspection

### Staff's Voice

The mission of the quality assurance division is to prove to our customers that OHARA products possess the world's highest quality. It is also important to feed back quality data from production lines to maintain and improve quality. My task is to maintain and manage measuring equipment in good conditions at all times. Going forward, while recognizing that improving the quality of my own work leads to the trust of our customers, I hope to work hard in order to meet new measuring and quality assurance needs.

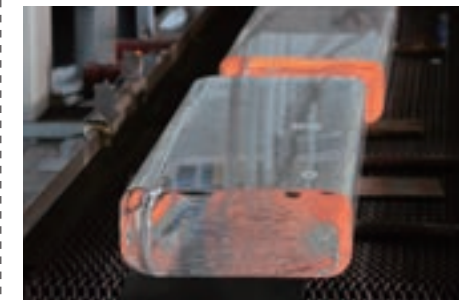


Yuji Kawanaka  
Quality Assurance Dept.  
Business Support Center

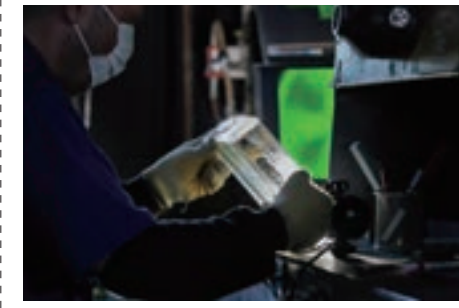
## Production Processes

OHARA conducts production activities while outguessing market needs and pursuing improvements in technology and efficiency every day so that we can provide products at the quality and price required by customers.

OHARA has developed and accumulated technologies over 80 years of its history, allowing it to produce glass with more superior properties. Based on this technological capability, we are constantly working on innovation in melting technology to respond to drastically changing market needs. To ensure all elements of OHARA's QCDE (quality, cost, delivery, environment) meet customers' needs, the production division will work together and constantly supply stable products.



Strip glass  
(\*1 in the right diagram)



Material inspection  
(\*2 in the right diagram)

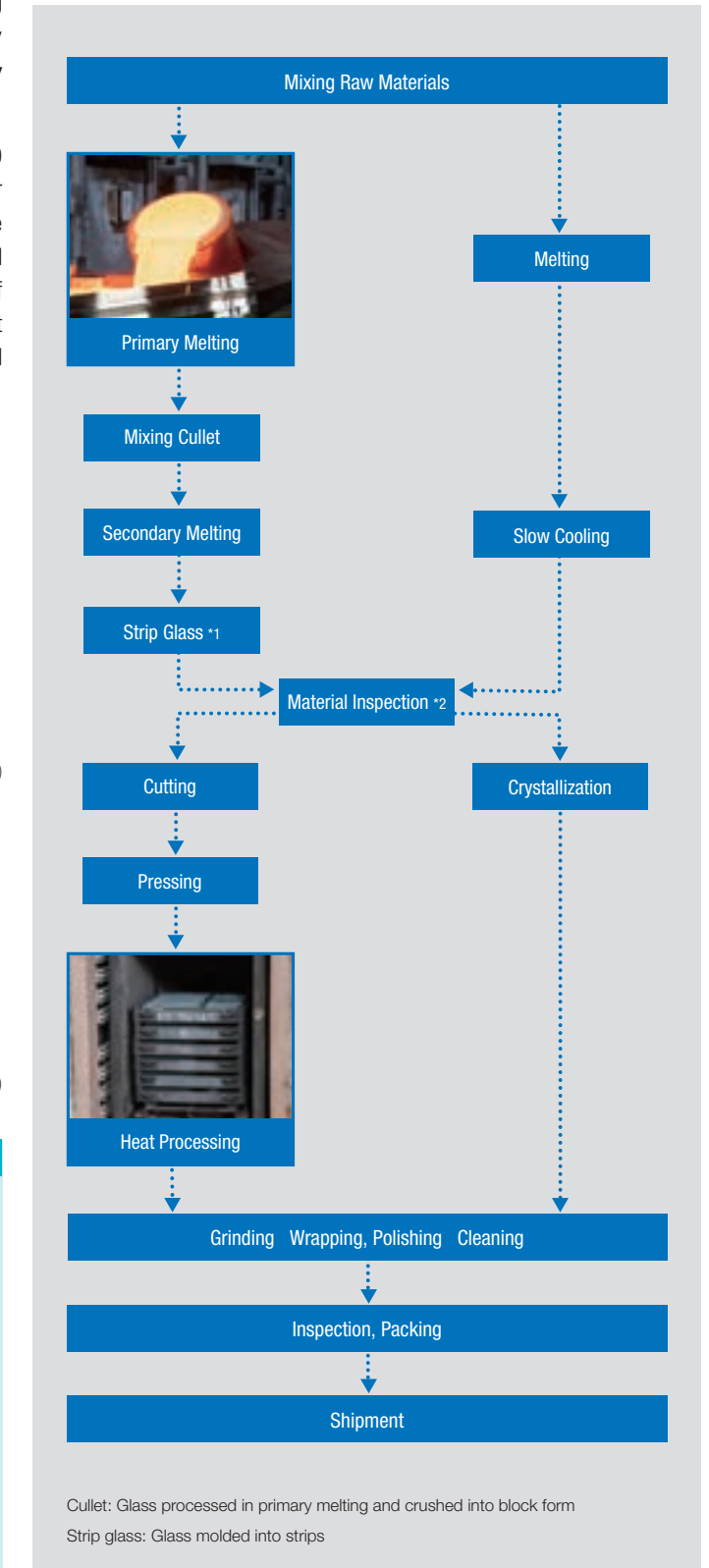
### Staff's Voice

The mission of the production division is to constantly think about supplying and producing products that meet the quality specifications desired by customers. With the aim of achieving high quality, we engage in production activities in cooperation with related divisions on a daily basis. Furthermore, by using the experience gained through production activities and verifying quality with our own eyes, we aim to accomplish problem-solving and the improvement and enhancement of technology, whereby achieving even higher quality.



Jun Kajiya  
Manufacturing Dept.  
Material Production Center

### Manufacturing Methods and Processes



We introduce the OHARA Group's Optical business.

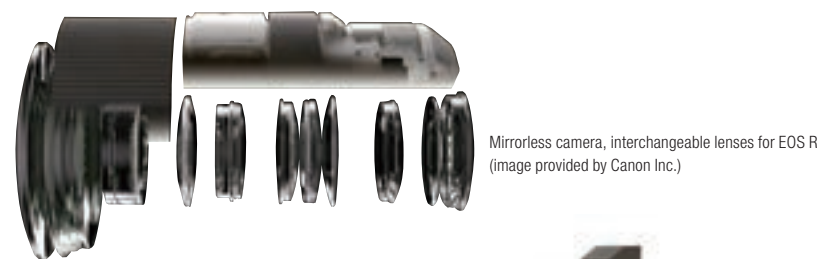
## Optical Business

### Products

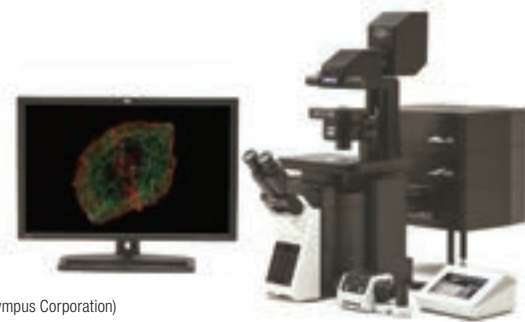
- Optical Glass for Polished Lenses
- Optical Glass for Aspherical Glass Mold lenses (Low Tg Optical Glass)

Optical glass is used in various optical devices such as digital single lens reflex cameras, projectors, television cameras, automotive cameras, security cameras and medical devices. At OHARA, we meet all optical design needs with a line-up of over 150 types of optical glasses with the characteristics that enable optical devices to attain higher performances, miniaturization and cost reduction.

The cutting-edge glass materials of the highest quality that OHARA provides support people around the world in their smiles and sense of wonder.



Mirrorless camera, interchangeable lenses for EOS R (image provided by Canon Inc.)



Microscope (image provided by Olympus Corporation)

### Optical Glass Products

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

In order to attain optical designs for various optical devices, OHARA deals with over 150 types of optical glasses and meets the needs of a wide variety of optical designs for optical devices to enable higher performances, miniaturization, weight reduction 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 our customers optical glass products in a wide variety with not only glass materials but also glass components.

### Product Types



#### Reheat Pressings

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



#### Polished Preforms

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



#### Spherical Lenses

Finished lenses produced by polishing, centering and coating



#### Aspherical 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

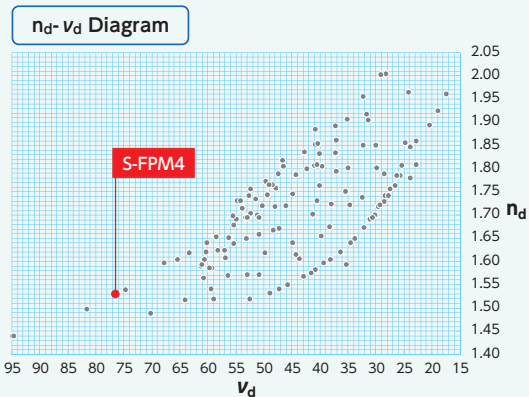
Topics  
1

## Expanding the Optical Glass Lineup to Contribute to the Mobile and Mobility Field

### Fitting also for Mobile and Mobility Applications Released an Anomalous Dispersion Glass Material S-FPM4 that Realizes Advanced Chromatic Aberration Correction

We released S-FPM4, an anomalous dispersion glass material that realizes advanced chromatic aberration correction using OHARA's unique technological capability. The human eye can sense light in the wavelength region of approximately 400 nm (blue) to 700 nm (red), but image sensor elements mounted on cameras and other devices also receive light in this region through lenses. The phenomenon of blurring due to wavelengths (colours) that occurs when light passes through a lens is called chromatic aberration. Using S-FPM4, an anomalous dispersion glass material, can effectively remove chromatic aberration.

S-FPM4 is an effective glass material not only for conventional applications such as single-lens reflex cameras, but also for our targeted mobile applications such as smartphones, and mobility applications such as automotive cameras.



### Staff's Voice

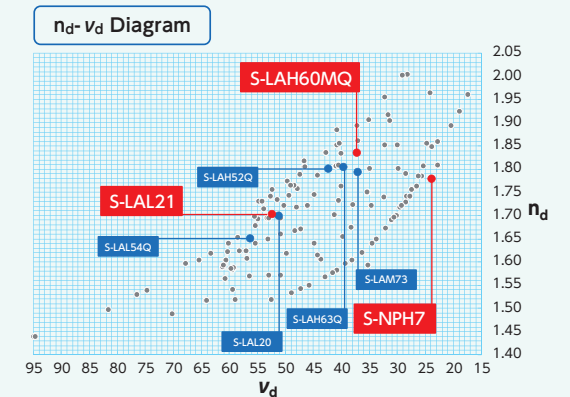
The development of glass materials often takes longer time than generally thought, and some developments can last more than a year. A very short time span was allocated for this development project at the beginning, so I was nervous to challenge this development theme. We had help from overseas bases during the development process and were able to complete the project within the set time, giving me the sense of achievement. I am grateful to everyone involved in this development project.



Fumihito Oguri  
Optical Material Development Dept.  
Optical Product Div.

### Expansion of the Optical Glass Lineup for Automotive Camera Lenses

While the world's first optical glass for automotive camera lenses has been well received, we have further expanded the lineup to meet customer needs. Adding three new glass types to the five glass types that existed back in 2018, we have released a total of eight types of optical glass products specifically designed for automotive cameras (as of November 19, 2019). These optical glasses are products that specialize in improving mechanical and thermal durability and consider changes in refractive index due to temperature changes (refractive index fluctuations). They can be used for various optical products including projectors and digital cameras, not just for automotive camera lenses.



### Staff's Voice

We developed a glass material that incorporated customer feedback and delivered it to our customers as a new product. I felt that hard work was rewarded when I saw pleased faces of customers saying, "We want to use it right away!" "Now we can make designs that were not possible before!" "This is fantastic!" I will do my best serving as a bridge between customers and OHARA's development efforts.



Akihiro Ninomiya  
Optical Product Sales Dept.  
Optical Product Div.



We introduce the OHARA Group Electronics business.

## Electronics Business

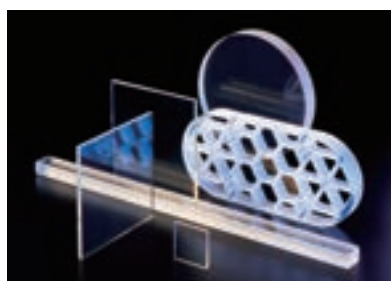
### Products

- Ultra Low Expansion Glass-ceramics (CLEARCERAM™-Z)
- Shock Resistant and High Hardness Clear Glass-ceramics (NANOCERAM™)
- Glass-ceramic Substrate for DWDM Thin-Film Filter (WMS™-15)
- Lithium-ion Conductive Glass-ceramics (LICGC™)
- High Transparent Glass
- i-Line High Homogeneity Glass
- Synthetic Quartz Glass (Ohara Quartz Co., Ltd.)
- Ultra-precision Planar Polishing (OPC Corporation)
- Glass for Art

Special glass, developed using technology acquired from optical glass, is applied in a wide range of market sectors such as space industries, semiconductors/FPD exposure equipment, optical communications, measurement, and the environment and energy.

OHARA will continue to develop new products and improve the quality of products for use in cutting-edge areas.

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



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

### 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

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



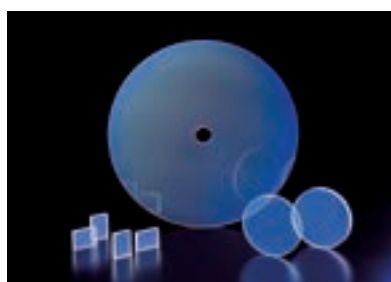
Glass-ceramic which we have further improved OHARA's nanocrystallization technology, achieving both superior mechanical properties and high transmittance

### i-Line High Homogeneity Glass



Optical glass with excellent internal transmittance and optical homogeneity

### 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

### 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



## Towards Society 5.0 Providing Materials & Solutions

### Glass-ceramic Substrate that Supports the New World of the Next Generation

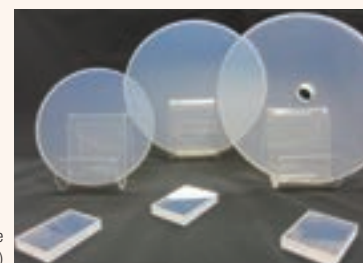
WMS™-15 is a glass ceramic suitable for filters (multilayer filters) necessary for light distribution and integration, which plays an important role in increasing the capacity of communication networks.

This filter requires a special film to be put on the substrate at the time of manufacturing, and the material of the substrate needs thermal expansion characteristics and high strength suitable for the film. The product has one-of-a-kind superior properties and has been highly regarded by many customers in Japan and overseas as a substrate material for multilayer filters.

Currently, Society 5.0 (super smart society) is being proposed in all fields. The future of society to be aimed at is envisioned, which makes full use of new device and network technologies such as AI, robots, drones, VR, AR, IoT, factory automation, and autonomous driving. To realize this vision of a future, the next generation communication system 5G is indispensable. Enhancing communication infrastructure is urgently necessary to respond to the evolution from the current communication system 4G to 5G.

WMS™-15 plays an active part in communication infrastructure and will continue to support the networked society.

Glass-ceramic Substrate (WMS™-15)



### Glass-ceramics with Top Class Ion Conductivity from its Oxide-based Solid Electrolyte Materials, and High Levels of Chemical Stability and Water Resistance

Thanks to the achievement of the technological development that was chosen for the 2019 Nobel Prize for Chemistry, lithium-ion batteries have improved the convenience of electronic devices such as smartphones that we use today, and have been increasingly adopted as the main power source for electric vehicles (EVs) on a practical basis in recent years. During the course of technological development up until the installation on EVs, improvements have been made to electrodes for storing electricity and the safety of batteries itself, and such activities are still being actively carried out. However, from a theoretical point of view, the limits of improvement are becoming clear, urging breakthroughs with new materials. LICGC™ is a solid electrolyte material that uses the glass-ceramic technology, and has high levels of ion conductivity and safety due to incombustibility. The application of LICGC™ has the effect of turning existing lithium-ion batteries into more powerful and longer-lasting batteries. Many companies and research institutes are also using it as a solid electrolyte material for solid-state batteries and air batteries, which carry high expectations as next-generation batteries.

LICGC™ powdered material (LICGC™ PW-01)



### Staff's Voice

Although we do not encounter WMS™-15 in our daily lives, it supports optical communication behind the scenes to make everyday life more convenient and contributes to the world. I am delighted to be able to work with pride that it is a key material that plays an even greater role for more convenient life in the environment of 5G, which will start to spread in a full scale.



Akihiro Morita  
Advanced Material Business Unit  
Advanced Material Div.

### Staff's Voice

I am responsible for the inspection of LICGC™ products. Because they are high quality products, there are various characteristics to be inspected. I learn the inspections that I am not yet used to from more experienced staff and carry out inspections and shipment tasks with a sense of alertness every day.



I will continue to work hard to further improve my skills and contribute to a safe and secure society as much as possible, so as to please customers with OHARA products.

Rena Iwata  
Advanced Material Business Unit  
Advanced Material Div.



# CSR as Conceived by OHARA

The OHARA Group is committed to act with social common sense in engaging in corporate activities to fulfill its corporate social responsibility.

## Initiatives for SDGs

The OHARA Group strives to enhance corporate governance, contribute to society as a company, and help achieving the Sustainable Development Goals (SDGs) adopted by the United Nations.

- We have been conscious about issues regarding melting, the core technology of the OHARA Group, as it uses a lot of heat energy, raising concerns also in terms of the working environment. Through manufacturing, we aim to reduce environmental impact by improving manufacturing efficiency, while creating a safe and secure working environment and increasing labor productivity.
- Based on the business model that has focused on research and development since our foundation, we will develop new materials that contribute to the promotion of innovation.
- By expanding sales of Lithium-ion Conductive Glass-ceramics (LICGC™), which we are working on as a new business, we aim to contribute to the evolution of lithium-ion batteries and the realization of next-generation batteries.

## SDGs

The SDGs refer to the Sustainable Development Goals listed in the 2030 Agenda for Sustainable Development adopted at the United Nations Summit in 2015.

The SDGs are shared global goals for all developed and developing nations, aiming for a society that balances the three dimensions of economy, society and the environment by 2030, and consist of 17 goals and 169 targets set for each of them.

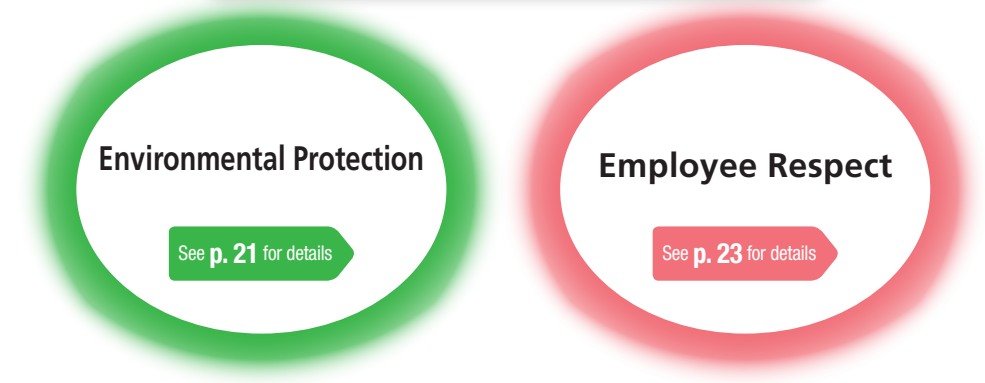


CSR as Conceived by OHARA  
 II  
 Realization of OHARA's philosophy based on our corporate principles

Management Philosophy  
 Corporate Message



Philosophy based on our corporate principles





We will endeavor to develop and provide useful products and services for the benefit of humanity, and to gain the satisfaction and trust of our customers. To achieve this goal, we will observe all laws and regulations. We will respect the culture, customs, and traditions of local societies. We will conduct socially suitable corporate activity through fair, transparent competition, and business dealings.

**Basic Views on Corporate Governance**

OHARA's Management Philosophy is that "The OHARA Group is honored to keep on creating unique and new values in order to establish a strong company structure for its employees' happiness and for the prosperity of the 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 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.

**Initiatives to Enhance Corporate Governance**

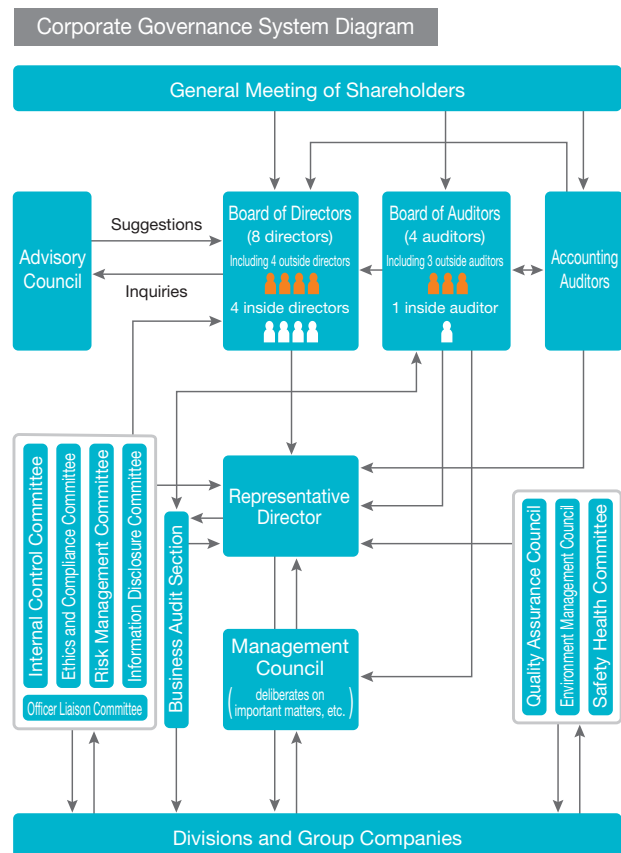
**Basic Policies on Corporate Governance**

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.

\*For the "Basic Policies on Corporate Governance", please visit our website. (In Japanese only)

**Corporate Governance System**

OHARA has streamlined an organizational structure with the aim of making prompt managerial decisions as well as strengthening business execution function and supervisory function.



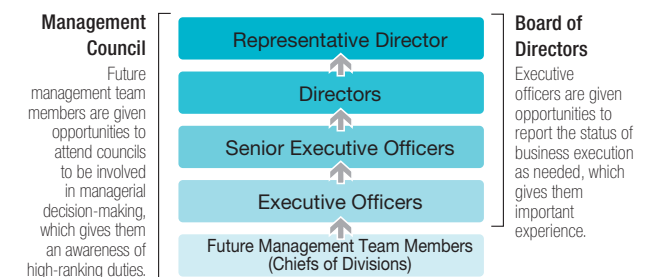
**Analysis and Evaluation concerning the Effectiveness of the Board of Directors**

OHARA, in its Basic Policies on Corporate Governance, states that "The Board of Directors shall annually analyze and evaluate the effectiveness of the Board of Directors as a whole, and disclose the summary of the result". Accordingly, we conducted a survey for all directors, which was followed by related analysis and evaluation. In the evaluation results, it was verified that improvements were made to a certain extent in the following issues recognized as issues to be addressed in FY 2018: sufficient deliberations of agendas and communication between outside officers and the Internal Audit Department. However, it was noted that there is room for improvement in the deliberation time at the Board of Directors' meetings. We also acknowledged a new issue that there is a need to devise a better way for training opportunities for members of the Board of Directors. In light of these evaluation results, we continue to address issues and further strengthen our corporate governance system.

\*For the "Summary of Analysis and Evaluation concerning the Effectiveness of the Board of Directors", please visit our website. (In Japanese only)

**Successor Training for CEO (Representative Director), etc.**

OHARA develops leaders who fulfill the responsibilities of CEO as well as other managerially important posts. In FY 2019, training was given by external organizations not only to future management team members, but also to the people who will lead the next generation after them. In addition, we provided training for the promotion of women's participation to ensure diversity within the company.



<Requirements for OHARA's Managerial Human Resources>

- 1 Experience in business operation and operating location management, or Group-wide business experience such as strategic planning, etc.
- 2 Determination and fortitude as a manager - Ability to take risks, make decisions, and execute decisions with an aim to achieve the improvement in the corporate value.
- 3 Ability to reform - Ability to heighten the morale of an organization and reform an organization to realize what OHARA aims to be, with a perspective not bound to industrial common practice, organizational common sense, or past customs.

**Initiatives to Strengthen Ethics and Compliance**

**Compliance Promotion System**

OHARA has established the "Guidelines of Conduct" in accordance with OHARA's philosophy based on our corporate principles. The Ethics and Compliance Committee holds a variety of in-house seminars 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.

**Internal Education on Export Control**

OHARA regularly conducts internal training to deepen the knowledge of laws and regulations and internal procedures related to security export control.



Export control seminar

**Compliance Seminar for All Employees**

Compliance seminars are held regularly for all employees working at OHARA.

In FY 2019, seminars were given by corporate lawyers regarding the significance of the internal reporting system and the appropriate use of the system.



Compliance seminar for all employees

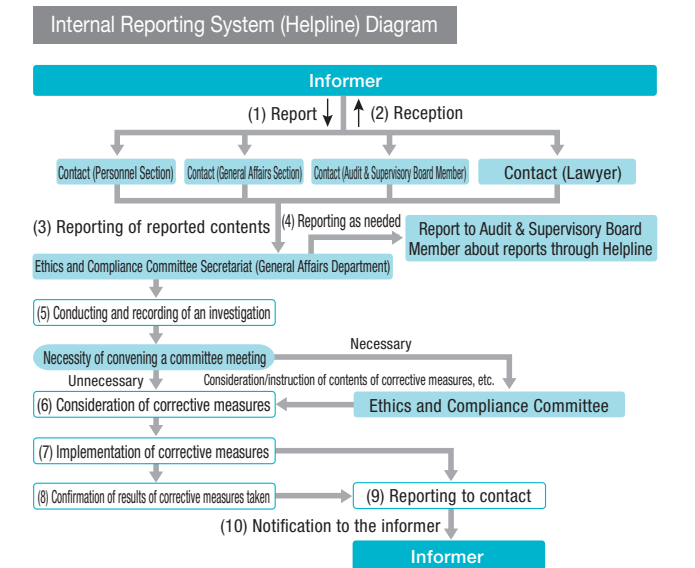
**Codes of Conduct: Guidelines**

Based on OHARA's philosophy given our 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**

**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 Committee. In FY 2019, in order to ensure proper operation of the internal reporting system, the "Internal Reporting (Helpline) Operation Guidelines" were created and disseminated.



**FY 2019 Activity Review**

**Sincere Activities**

As measures aimed at the sustainable growth of the OHARA Group and improvement in the corporate value, we advanced the successor training plan and worked on measures to train successors for the next and future generations. Furthermore, in an effort to ensure diversity within the company, actions were taken to promote the active participation of women. In terms of initiatives to enhance ethics and compliance, we continued to conduct internal training and carried out activities to encourage the proper use of the internal reporting system.

**Self-assessment ... ★★★**

Target achievement level : ★★★ = 100-85% ★★ = 84-70% ★ = 69% or lower

**Issues for FY 2020**

To achieve the sustainable growth of the OHARA Group and further improvement in the corporate value, we must further enhance the core of the corporate governance system. Therefore, with respect to the Board of Directors which forms the foundation of corporate governance, we believe it is necessary to provide more effective training opportunities for members of the Board of Directors.



We will maintain proper company activities so that harmony with local and international societies can be sustained. As “a good corporate citizen”, OHARA is determined to contribute to society.

Social Contribution Activities

Accepting Factory Tours and Allowing Experience of Working

As part of the local social contribution activities, OHARA accepts activities such as factory tours given to students from nearby schools.

In FY 2019, 104 third-grade elementary school students participated in the factory tours. They were captivated by the glass manufacturing process, as it is a rare opportunity to see it, and expanded their interest in glass.

Further, three second-grade junior high school students visited the company for work experience to learn about the responsibility of working. Afterwards they gave their feedback, which said they hope to use their experience in their future lives.



Factory tours for elementary school students



Working experience students

Morning Cleanup Activity

We have been carrying out cleanup activities mainly around the company twice a month. It has been 15 years since the company started this activity.

Through this type of activities, we hope to continue contributing to the creation of communities where local people can live comfortably.



Morning cleanup activity

Participating in the Sagami River Cleanup Operation

In Sagami City, where the OHARA head office is located, the Sagami River flows, originating from Lake Yamanaka.

To protect the rich natural environment, OHARA employees and their families participate in the “Sagami River Cleanup Operation” organized by the “Love Sagami River Club” as an annual event. OHARA will continue environmental conservation activities to connect precious nature to the future.



Employees and their families who participated in the event

Supporting for the Chuo-ku Walking Stamp Rally in Sagami City

Sagami City hosted the “Chuo-ku Walking Stamp Rally”, an initiative to increase the number of people involved in local activities. OHARA provided some space as one of the stamp rally stations to support the activity. A wide range of age groups from children to elderly people joined the event on the day.



Local children who participated in the Chuo-ku Walking Stamp Rally

FY 2019 Activity Review

Harmony with Society

We actively participated in regional contribution activities, while performing ongoing education activities for employees and valuing our ties with local communities.

Self-assessment ... ★★★★★

Target achievement level : ★★★★★ = 100-85% ★★★★★ = 84-70% ★★★★★ = 69% or lower

Issues for FY 2020

We strive for community relations and social contribution as a member of local communities, while continuing to implement activities to raise our employees' awareness.

To secure the understanding and support from society, we are prepared to maintain a dialogue with the community and, if necessary, to make our company information public.

Communication with Stakeholders

Communication with Shareholders and Investors

At the annual general meetings of shareholders held in late January each year, we make efforts to explain our strategy to shareholders in a manner that is easy to understand, and we also send out the “OHARA Report”, a comprehensive report, once a year.

Also, in addition to holding financial report briefing sessions twice a year and telephone conferences twice a year for institutional investors and securities analysts, the IR division also responds to individual interviews as needed.



Financial report briefing session

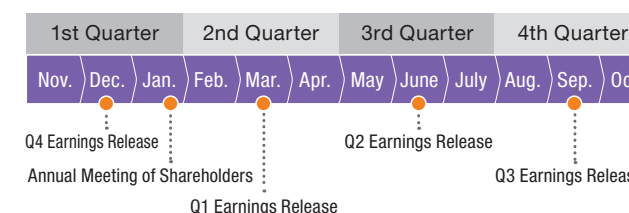
Communication with Individual Investors

On our website, we disclose various documents, including timely disclosure materials such as flash report result summaries, notices of convocation for general meetings of shareholders, and presentations of financial results materials. In addition, we held briefings for individual investors at securities companies. Furthermore, information relating to opinions received at these briefings and the like is promptly shared with the management, and referred to for corporate activities.



Briefing for individual investors

Annual IR Calendar



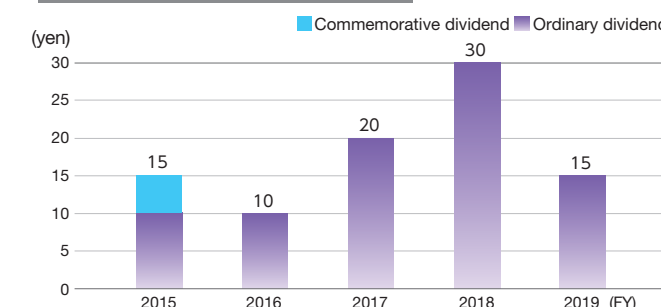
Record of IR Activities

|                          |   |
|--------------------------|---|
| Thu., December 13, 2018  | Announcement of financial statements for FY 2018  |
| Wed., January 30, 2019   | 110 <sup>th</sup> Annual Meeting of Shareholders  |
| Tue., March 12, 2019     | Announcement of financial statements and telephone conference for the first quarter FY 2019 |
| Fri., June 14, 2019      | Announcement of financial statements for the second quarter FY 2019                         |
| Wed., September 11, 2019 | Announcement of financial statements and telephone conference for the third quarter FY 2019 |

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.

Dividend Changes



FY 2019 Activity Review

Disclosure of Information

In FY 2019, we revised downward our earnings forecasts several times on the back of the slump of the digital camera market and significant fluctuations in demand for NANOCERAM™. Under these circumstances, the Presentation of Financial Results described the background in detail and presented the areas where future growth is expected, such as initiatives for space and astronomy applications. In addition, our website has a new page for individual investors following the renewal.

Self-assessment ... ★★★★★

Target achievement level : ★★★★★ = 100-85% ★★★★★ = 84-70% ★★★★★ = 69% or lower

Issues for FY 2020

FY 2020 is the final year of the phase IV of the medium-term management plan (FY 2018-2020) based on the Long-term Vision 2020 formulated in 2009. Although net sales and operating income for FY 2020 are unlikely to reach the numerical targets regrettably, seeding for growth in and after 2020 is steadily progressing. We hope to explain this point carefully.

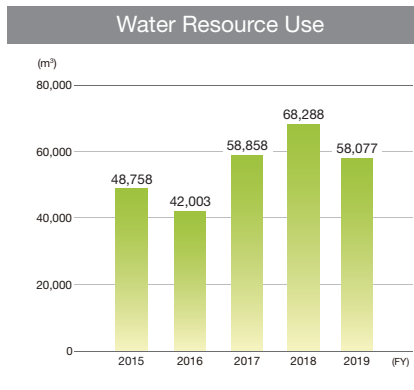
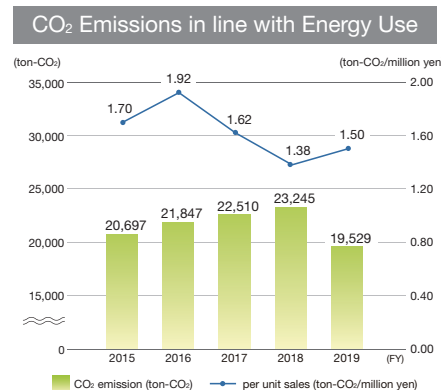
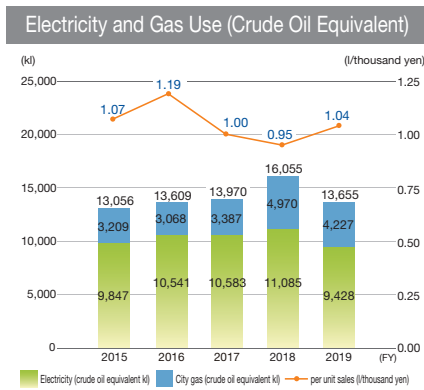
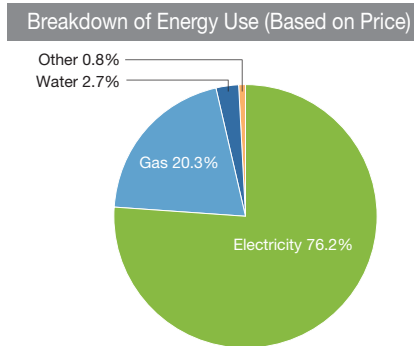
We cherish our one precious earth. In all phases of our company activities the preservation of our environment is strongly emphasized. We strive to accomplish this through independent and positive activities.

## Environmental Management

OHARA is promoting a variety of activities with the philosophy and policies for environmental management, aiming at harmony between corporate activities and the global environment.

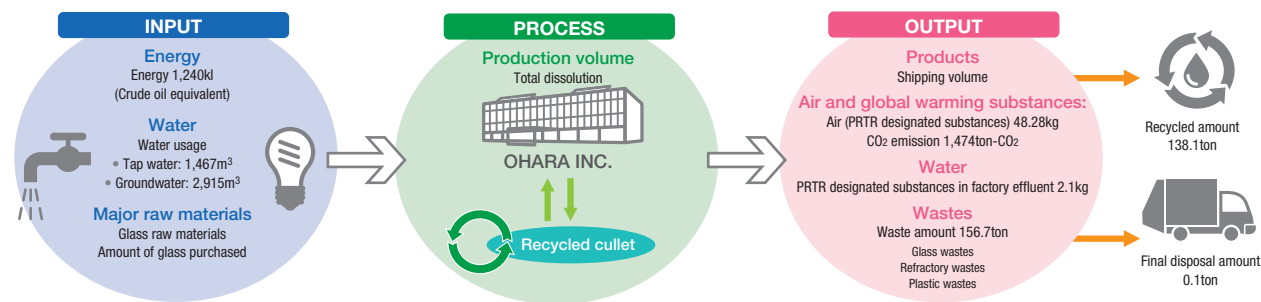
## Energy and Resource Conservation Initiatives

Glass manufacturing requires the consumption of many resources (in the form of electricity and city gas). To keep the consumption of the limited resources to a minimum, we have been working on switching equipment to energy-saving types, and promoting efficient production. We will continue promoting various activities aimed at saving energy and resources, which are linked to curbing energy use.



## Material Balance

OHARA develops environmental protection activities by quantitatively understanding the amount of energy and resources used in OHARA's business activities (INPUT) and products or substances that burden the environment generated from such activities (OUTPUT). Figures are monthly averages



## ISO14001: Acquired 2015 Certification

In June 2019, environment education seminars were conducted for all employees working at OHARA. External experts were invited to raise environmental awareness, and explanation about factors such as recent trends in environmental laws and regulations and the importance of chemical substance management was provided.



Company-wide education on ISO14001

## Education of Internal Environmental Auditors

Internal environmental auditors are selected from among our employees to properly conduct the EMS operations.

When they are appointed, in addition to receiving training on the requirements of ISO14001, internal environmental auditors deepen their knowledge on environmental laws and regulations and environmental issues. Education is aimed at ensuring internal audits are carried out to improve the environmental protection activities of audited divisions.



Education of internal environmental auditors

## Environmental Protection

After transitioning to the 2015 version of the certification, through company-wide education, employees have come to understand Environmental Management System (EMS), and we were successfully able to conduct appropriate EMS operations. We also enhance signage on an ongoing basis to ensure effective waste separation at recycling centers, which we have been working on for some time. We will continue to operate the EMS while meeting all our stakeholders' expectations.



Garbage separation MAP

### FY 2019 Activity Review

### Issues for FY 2020

## Reducing and Recycling of Wastes

The decrease in production volume due to inventory adjustments and other factors had a major effect, worsening unit consumption of glass wastes. However, we believe that we managed to offset the performance deterioration by promoting glass recycling.



We will aim to reduce unit consumption of glass wastes by 1% (compared to FY 2019). We will aim for the reductions by having domestic and overseas Group companies work together as one.

## Energy Conservation

The decrease in production volume due to inventory adjustments and other factors had a major effect, worsening unit energy conservation. However, we believe that we managed to offset the performance deterioration by efficient production due to close communication between the production control division and manufacturing sites.



We will aim to reduce unit consumption of energy by 1% (compared to FY 2019). We will also aim for the reductions by having domestic and overseas Group companies work together as one.

## Harmony with Environment in Local Communities

We implemented cleanup in the area outside the company 19 times, as part of our efforts to promote cleanup activities within and outside the company.



We will continue conducting cleanup activities in the area outside the company by involving all employees of the company.

We promoted the "No Car Day" campaign and reduced CO<sub>2</sub> emissions by 18.3 tons in a year.



We will continue conducting the "No Car Day" campaign to reduce CO<sub>2</sub> emissions by 15 tons annually.

## Contribution to Improving the Global Environment

To develop products with little environmental burden, proposal-based sales were promoted, and new information obtained through customer visit exhibitions and technology assemblies was shared within the company. We also actively participated in exhibitions to expand sales in the environment and energy field.



We will share customer needs related to environmental burden reduction within the company.

## Adherence to Laws and Regulations

We reviewed the "environmental system research list", and conducted research on our business partners' environmental systems.



We will continue to strengthen the business partner management.

Target achievement level : ★★★★★ = 100-85% ★★★★★ = 84-70% ★ = 69% or lower



The human rights and individual personalities of our employees will be observed and protected. Comfortable working conditions must be arranged. Through an open and fair atmosphere in our workplace, we will be able to create solid corporate principles.

## Training for the Promotion of Women's Participation

In an effort to promote the active participation of women, we are making a better company environment as well as developing female talents. We believe that the active participation of women is essential for the sustainable growth of a company. Therefore, the selected employees were asked to think about their career visions, and we provided talent development programs for them. We hope that more women will play important roles to set new standards in the future.

## Utilization of Foreigners

Foreigners are human capital that can become a great force for companies. We regularly recruit foreigners as human talents who serve as a bridge between domestic and overseas business operations. Their motivation leads to the motivation of other employees, and the fusion of different ways of thinking, viewpoints, and technologies can create new value and be a source of innovation. We hope to contribute to society from a global perspective.

## Awards System

Awards systems have been introduced for the anniversary foundation ceremony, the nationwide safe week and the nationwide labor health week. Awards are given to persons whose activities and achievements are recognized by the company. We will continue to value such a corporate culture, where everyone rejoices the results achieved because of persistent efforts and the growth of each and every employee.

## Childcare Support System

We enhanced the childcare leave system and shorter work hours for childcares system (valid until the employee's child enters elementary school) to create a work environment where employees can work with peace of mind while balancing work and home life while raising children.

In recent years, more male employees have used this system.

## FY 2019 Activity Review

### Employee Respect

Through the provision of training to support each employee's skill development, training to promote the active participation of women, and training to develop the talents of future generations, we strived to create an environment where employees can work with high motivation.

We also strengthened and improved monitoring of the work environment and implemented measures to maintain employees' health.

## Staff's Voice



**Hisako Takii**  
Material Production Control Dept.  
Material Production Center

### After the training

I was able to reevaluate what is currently required of me, what I should do, and what I need to do to achieve my goal.

I will continue to prioritize the ability to respond to customer needs with a spirit of creating something together with customers.

I will do my best to make a positive impact on my surroundings by making the best use of my own cheerful personality and energy.

## Staff's Voice



**Xiangnan Du**  
Global Marketing Office

### As a Foreign Employee

I had various concerns as being from China, but my superiors and coworkers are very supportive. I feel that I'm in a nice workplace where I can easily talk to somebody when I reach a deadlock in work.

As a member of OHARA, I would like to contribute to the further advancement of OHARA's global capabilities through analysis of the business markets in China and other countries.

## Staff's Voice



**Kiyoyuki Momono**  
Optical Material Development Dept.  
Optical Product Div.

### Receiving the Special Award

Efforts made in cooperation with people at Group companies were recognized and resulted in this award.

I am very pleased that not only OHARA employees but also Group companies were awarded.

I will continue to improve myself and strive to make contribution to the company and society as a whole, together with people inside and outside the company.

## Staff's Voice



**Mimiko Sakagami**  
Manufacturing Dept.  
Material Production Center

### Using the Childcare Support System

I am currently using the shorter work hours system to spend my precious morning time to send my sons to school and to do other things. It's been helpful for both my children and me to be able to spend quality time together in the midst of our rapidly changing situation after my older son entered elementary school. There is no barrier to obtaining a permission as you can choose either the morning or the evening when applying. I feel that I'm supported by OHARA's corporate culture and understanding in the workplace.

## Self-assessment ... ★★★

Target achievement level : ★★★ = 100-85% ★★ = 84-70% ★ = 69% or lower

## Issues for FY 2020

With a view to securing diverse human resources and effectively utilizing the Group's human resources, we intend to foster an environment where employees can feel worthwhile working and leading their lives.

We will create an organizational culture that encourages the entire Group to together pave a future and establish a working environment where everyone at the Group can pursue possibilities together.

# ALL OHARA

Leveraging each individuality, we will put all efforts together as All OHARA, transitioning from One OHARA.

To pave the future  
of the OHARA Group

Keeping good communications with  
customers is valued.

TAIWAN OHARA OPTICAL CO., LTD.

Sales Waisly Chen



Always considering customer needs  
and offering the best service.

NHG-OHARA OPTICS (XIANGYANG) Co., LTD.

Back-end process sales Ding Bo



Not just completing given tasks but always  
striving for creativity and ingenuity.

OHARA OPTICAL(M)SDN.BHD.

IT System Section Vincent Teh



Proactively contacting customers to  
build their trust.

OHARA OPTICAL (HONG KONG) LTD.

Sales Wang Cheng Hung



Setting clear goals and working in  
cooperation with OHARA colleagues.

OHARA GmbH

Logistics Dept. Andreas Tröger



Valuing teamwork at the workplace and  
increasing the motivation of team members.

OPC Corporation

Manufacturing Kazumichi Suzuki



Committing to daily equipment maintenance  
to improve inspection accuracy.

Ohara Quartz Co., Ltd.

Inspection Junichi Hisano



Taking on any challenge with a positive  
and proactive attitude at any time.

Taiwan Ohara Optical Material Co., Ltd.

Inspection and measurement Lin Shumei



Fulfilling the mission of technological  
innovation by exercising wisdom.

OHARA OPTICAL (ZHONGSHAN) LTD.

Lens processing Hua Dongzhao



Valuing communication with the people  
involved in business operations.

OHARA INC.

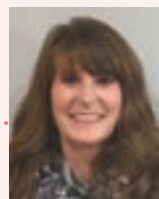
Material Production Control Dept., Material Production Center  
Yumiko Kamiyama



Work closely with Ohara staff to  
improve accuracy, timeliness, and  
workflow efficiency.

Ohara Corporation

Accounting Kip Jiorle



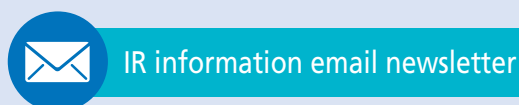
|   | 2015    | 2016   | 2017    | 2018    | 2019 (FY) |
|---|---------|--------|---------|---------|-----------|
| <b>Main Financial Results (millions of yen)</b>     |         |        |         |         |           |
| Net sales   | 22,820  | 21,329 | 24,628  | 28,221  | 23,407    |
| Operating income                                    | 538     | 143    | 1,715   | 3,270   | 901       |
| Ordinary income                                     | 1,316   | △ 84   | 2,242   | 3,705   | 1,146     |
| Profit attributable to owners of parent             | 545     | △ 372  | 1,513   | 3,220   | 466       |
| Net assets  | 41,522  | 37,040 | 41,204  | 44,040  | 41,813    |
| Total assets  | 55,130  | 50,161 | 54,433  | 58,221  | 55,036    |
| Net cash provided by (used in) operating activities | 1,573   | 1,447  | 1,960   | 3,016   | 1,927     |
| Net cash provided by (used in) investing activities | △ 979   | △ 850  | △ 1,410 | △ 937   | △ 335     |
| Net cash provided by (used in) financial activities | △ 1,137 | △ 354  | △ 1,736 | △ 1,158 | △ 1,013   |

| <b>Per Share Data (yen)</b> |                    |          |          |          |          |
|-----------------------------|--------------------|----------|----------|----------|----------|
| Net assets                  | 1,706.97           | 1,522.70 | 1,693.90 | 1,810.47 | 1,717.98 |
| Net profit                  | 22.43              | △ 15.31  | 62.23    | 132.37   | 19.16    |
| Dividend                    | 15.00 <sup>☆</sup> | 10.00    | 20.00    | 30.00    | 15.00    |

☆includes 5 yen of commemorative dividend

| <b>Main Indicators (%)</b> |       |       |       |       |       |
|----------------------------|-------|-------|-------|-------|-------|
| Equity capital ratio       | 75.3  | 73.8  | 75.7  | 75.6  | 76.0  |
| ROA (return on asset)      | 2.4   | △ 0.2 | 4.3   | 6.6   | 2.0   |
| ROE (return on equity)     | 1.3   | △ 0.9 | 3.9   | 7.6   | 1.1   |
| PER (price earnings ratio) | 26.36 | -     | 35.64 | 18.02 | 78.49 |
| Payout ratio               | 66.9  | -     | 32.1  | 22.7  | 78.3  |

| <b>Segment Data (millions of yen)</b> |                  |        |        |        |        |        |
|---------------------------------------|------------------|--------|--------|--------|--------|--------|
| Optical business                      | Net sales        | 16,105 | 14,418 | 15,334 | 17,625 | 14,205 |
|                                       | Operating income | 366    | △ 107  | 688    | 1,373  | 82     |
| Electronics business                  | Net sales        | 6,714  | 6,911  | 9,294  | 10,596 | 9,201  |
|                                       | Operating income | 171    | 251    | 1,027  | 1,897  | 818    |



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URL <https://www.magicalir.net/5218/mail/>



## Corporate Profile (As of October 31, 2019)

**Company Name:** OHARA INC.  
**Address:** 15-30, Oyama 1-chome, Chuo-ku, Sagami-hara-shi, Kanagawa 252-5286, Japan  
 TEL: (81) 42-772-2101 (Reception) FAX: (81) 42-774-1071  
**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:** 436 (1,606 for the entire Group)

## Stock Information (As of October 31, 2019)

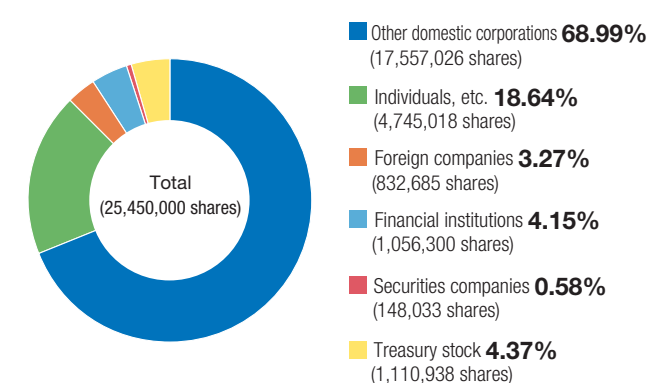
**Status of Shares**  
**Total number of authorized shares:** 76,000,000  
**Total number of issued shares:** 25,450,000  
**Number of shareholders:** 9,201

### Major shareholders

| Name   | Number of shares held | Investment ratio (%) |
|--|-----------------------|----------------------|
| Seiko Holdings Corporation                           | 4,702,722             | 19.32                |
| Canon Inc.   | 4,694,380             | 19.29                |
| Kyobashi Kigyo Kabushiki Kaisha                      | 4,688,400             | 19.26                |
| Sanko Kigyo Kabushiki Kaisha                         | 1,651,400             | 6.78                 |
| TOPCON CORPORATION                                   | 673,600               | 2.77                 |
| Seiko Instruments Inc.                               | 610,000               | 2.51                 |
| Olympus Corporation                                  | 400,000               | 1.64                 |
| The Master Trust Bank of Japan, Ltd. (trust account) | 273,000               | 1.12                 |
| Japan Trustee Services Bank, Ltd. (trust account)    | 264,200               | 1.09                 |
| Japan Trustee Services Bank, Ltd. (trust account 5)  | 157,000               | 0.65                 |

(Note) Treasury stock (1,110,938 shares) is deducted in calculating investment ratio.  
 Treasury stock includes 88,500 of the company's shares held by the Trust & Custody Services Bank, Ltd. (Trust E Account), in accordance with the introduction of the "Board Benefit Trust (BBT)" system.

## Shareholding Composition



## Member of the Board

|  |                    |
|--|--------------------|
| President Chief Executive Officer          | Hirokazu Saito     |
| Director Senior Managing Executive Officer | Takashi Nakajima   |
| Director Managing Executive Officer        | Tetsuya Aoki       |
| Director Managing Executive Officer        | Naoyuki Goto       |
| Outside Director                           | Makoto Ichimura    |
| Outside Director                           | Go Tokura          |
| Outside Director                           | Seiju Uchida*      |
| Outside Director                           | Akira Nokina*      |
| Audit & Supervisory Board Member           | Yoshihiro Harada   |
| Outside Company Auditor                    | Haruhiko Takagi    |
| Outside Company Auditor                    | Kazuhiko Nagashima |
| Outside Company Auditor                    | Mitsuyoshi Sugita* |

Note\*: Outside Directors, namely, Messrs. Seiju Uchida and Akira Nokina, and Outside Company Auditor Mitsuyoshi Sugita are independent officers based on the regulations of the Tokyo Stock Exchange.

## Information for Shareholders

**Fiscal year:** November 1 through October 31 of the following year  
**Record date for dividends:** October 31 (April 30, in case of interim dividend)  
**General Shareholders meeting:** End of January of each year  
**Number of shares per unit:** 100  
**Business Handling Office of shareholder registry:** Stock Transfer Agency Department of head office of Mizuho Trust & Banking Co., Ltd. 1-2-1, Yaesu, Chuo-ku, Tokyo  
**Method of public notice:** Electronic public notice. (https://www.ohara-inc.co.jp/) If an electronic public notice is impracticable due to unavoidable circumstances, a public notice will be posted in the Nikkei.

|                              | For shareholders with accounts at securities companies  | For shareholders without accounts at securities companies (In the case of specified accounts)  |
|------------------------------|---|--|
| Mailing address              |   | Stock Transfer Agency Dept. Mizuho Trust & Banking Co., Ltd. 2-8-4, Izumi, Suginami-ku, Tokyo, 168-8507  |
| TEL inquiries                |   | Toll-free: 0120-288-324 (Domestic calls only) (9:00-17:00, excluding Saturdays, Sundays and holidays)  |
| Handling office              | Securities company at which you have your account   | Mizuho Securities Co., Ltd. Inquiries will be handled at the head office, branches and the Planet Booth (consultation counter within the Branch) nationwide Mizuho Trust & Banking Co., Ltd. Inquiries will be handled at the head office and branches nationwide *Please note that inquiries cannot be handled at the Trust Lounge. |
| Payment of accrued dividends | Payment of accrued dividends will be handled at the head office and branches nationwide of Mizuho Trust & Banking Co., Ltd. and Mizuho Bank Ltd. (However, Mizuho Securities Co., Ltd. only acts as the agent). |  |
| Please note:                 | To request the issue of statements, please apply to the "Mailing address", "Phone inquiries" or "Handling office" stated on the right (in the case of specified accounts).                                      | Specified accounts only handle the purchase or additional purchase of shares of less than one unit. Shareholders will need to open an account at a securities company and take stock transfer procedures.  |