# Message from the President



At our peak performance, it is the perfect time for new challenges and transformations

Masayuki Yamada

Representative Director and President President and Executive Officer

# **Looking Back after One Year as President**

In June of 2023, I was appointed President and I held discussions with management regarding pressing issues and the Organo Group's medium- and long-term strategies.

For our Long-Term Management Vision, the Group proposed the concept of "proactively contribute to a better tomorrow by cultivating people today who

will improve upon the way things were done yesterday, as a company where all employees are energetic and passionate about their work." It was a year in which we laid out the necessary actions and the areas that required changing in the interest of realizing this vision, and we began to act as an organization.

In last year's Group Report, as I became President of Organo Corporation, I announced my commitment to taking on the challenges of new ideas and reform.

Discussions are held regularly at the Long-Term Management Plan Promotion Meeting on the progress of business development and expansion of development regions in the priority areas set forth in Long-Term Management Plan ORGANO 2030. At the most recent meeting, we conducted intensive discussions on how to expand our electronics industry sector business focusing on semiconductor-related industries and the Performance Products Business Unit including pharmaceuticals, how to expand overseas operations in North America and elsewhere, and how to accelerate the promotion of digital transformation (DX), including data usage. This meeting was extremely valuable, with specific and in-depth discussions on plans of action and issues to be addressed to realize these objectives. We are steadily transitioning from discussions on the direction of the business environment and current situation analysis to talking about specific measures, plans to implement them, and issues that need to be addressed.

We are feeling positive about our efforts to augment our management foundation, particularly with regard to corporate governance. Corporate governance reinforcement is a material issue to be tackled by the Group over the long term. At the Ordinary General Meeting of Shareholders held in June 2023, three Independent Outside Directors—including one female—were newly appointed. Independent Outside Directors now comprise the majority of the Board of Directors. Since the implementation of the new structure, opinions from Outside Directors with extensive management experience and diverse knowledge have energized the Board of Directors, and I have felt firsthand increased effectiveness from the Board.

# Results of Our Business Activities and Responding to Challenges

We have continued to increase net sales since FY2018, and for FY2023, we achieved record highs in orders received, net sales, and operating profit for the second consecutive year. Expanded investment in the electronics industry—both domestically and abroad—greatly contributed to our strong performance. Orders received, a key indicator of performance, rose ¥37.7 billion year on year to ¥173.4 billion, sparked by a significant contribution from increased semiconductor-related orders in China.

Both the Water Treatment Engineering Business Unit and Performance Products Business Unit continued their robust performance. In the general industrial field, there was a recovery in large-scale investment in pharmaceutical, food, and electronics-related industries, and growth remained steady owing to demand for equipment renewal and the Service Solutions business in areas of electric power and water supply and sewage. In the electric power field—where the Group boasts a large market share—orders rose for maintenance

for nuclear power plant restarts.

Based on these strong results, ROE stood at

14.5%, surpassing 10% for the fourth straight year, as well as our medium- to long-term target of 12%. As demand for Organo technology, products, and services continues to rise, we are working to promote operational efficiency, one of the most important measures in sustaining this growth. The key is to promote data usage. This initiative is incorporated into ORGANO 2030 and our medium-term management plan, and we are promoting enhanced efficiency and design operation automation while also considering the adoption of Al. Improving operational efficiency is also an integral factor in the effective utilization of global human resources. At the Global Engineering Center in Vietnam, established in 2021, locally hired engineers are a major asset in our design operations. As securing highly skilled personnel domestically is becoming increasingly challenging, it is clear to us that finding personnel overseas is indispensable to Organo's growth. We will continue

# Message from the President

to focus on enhancing operational efficiency both in Japan and abroad while also strengthening and cultivating our human resources.

Moreover, we are closely monitoring the currently complex business environment. China and Taiwan account for nearly 70% of our overseas business, and we recognize the heightened business risk due to relations between the U.S. and China. Mitigating dependency on business in Greater China is a key long-term challenge in our international expansion.

We are also concerned about procurement risk trends

While the current situation is within the scope of the assumptions laid out in our business plan, the continued surge in material costs and prolonged delivery times raise concerns about protracted supply-demand constraints—particularly for certain piping materials—and we must be vigilant going forward. We will continue to reinforce the supply chain by attempting to source alternative materials and diversifying our supplier network.

# **Business Development Goals of the Organo Group**

While further advancing our cutting-edge technologies in separation, purification, and analysis—our strengths—we will provide customers with solutions that will aid them in their efforts to conserve energy, labor, and resources not only in the water treatment field but also in other fields that involve the purification of electronic materials and the recovery and purification of organic solvents. Overseas, we are expanding our semiconductorrelated business in Greater China and Malaysia. We will also explore opportunities to expand to Europe, North America, and India. In 2021, we established Organo USA as a business location in

the U.S. In addition to growing our existing business, one challenge we face is setting the stage for further business expansion in the sizable U.S. market.

While semiconductor-related business is currently our primary driver of growth, we recognize that having a broad customer base in other industries and social infrastructure sectors is one of the Organo Group's key strengths. As we pursue semiconductor-related business opportunities, we will construct a more stable business foundation that is less susceptible to market conditions and satisfy our customers' diverse needs.

# Implementing Sustainability Management, Enhancing Corporate Value, and Fostering a Rewarding Workplace Environment

The Organo Group is working to raise corporate value by combining initiatives based on its Sustainability Policy and the business strategies of Long-Term Management Plan ORGANO 2030. As the chairperson of the Sustainability Committee, under the purview of the Board of Directors, I am in charge of the planning, formulation, and implementation of sustainability management promotion measures. In FY2022, we identified material issues and established specific KPIs for each material issue. As we move forward, we will launch full-fledged sustainability management. We identified two material issues related to achieving continuous business growth and three connected with the establishment of a business

foundation. It is important to update KPIs and other indicators in line with changes in the business environment and in our business. One material issue connected with the establishment of a business foundation is the creation of a workplace where diverse human resources can play active, rewarding roles, and we stress that this initiative will lead to employee health and happiness as well as enhanced operational efficiency.

While perspective may differ from one workplace to another, strengthening communication between employees and management at each location will surely lead to the positive transformation of the workplace environment.

## To Our Stakeholders

The Organo Group's reason for existence is to leverage the technologies it has cultivated through long experience with water treatment, by contributing to the industries that create the future, and by playing a key role in the development of societal infrastructure. We promote our business activities while taking pride in the knowledge that our business is playing a key role in the realization of sustainability in society. We will continue to actively invest management resources in state-of-the-art separation and purification technologies, analysis technology, and R&D to support these business activities. Further, we will

continue to leverage our advanced technological capabilities to resolve issues both in our customers' businesses and in society.

My single most significant mission as President is to continually boost corporate value by growing our company through relentless R&D, business development, and sustainability management, and to return profits to our various stakeholders—including shareholders, investors, customers, employees, and communities. We look forward to your continued support as the Organo Group fully leverages its advanced technologies in contributing to industrial development.



# Organo's Three Strengths

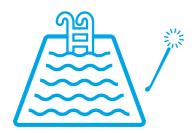
Since its founding, Organo has developed technology to meet its customers' diverse needs through the use of ion exchange resins—unique materials possessing ion component exchange capability—and equipment that effectively utilizes these materials. The accumulation of these efforts has led to the development of unique practical technologies, and the cultivation of our strengths.

# Advanced Separation and Purification Technologies and Analysis Technology

## What Are Separation and Purification Technologies?

While Organo's separation and purification technologies can be found in a wide range of applications—from ultrapure water to wastewater and for various solvents and chemical solutions—the key is the ability to separate and remove unwanted matter and to purify useful substances.

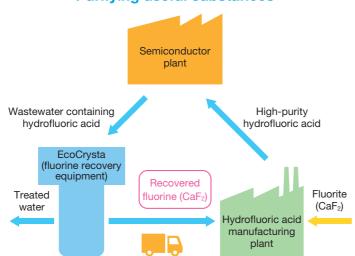
# Separating and removing unwanted matter



# Impurity concentration of 1 ppt or less

Impurity concentration in ultrapure water for semiconductor manufacturing is no higher than 1 ppt (parts per trillion). This represents just 2.5 mg in a volume of ultrapure water equivalent to a 50-m swimming pool (2,500 m³) at the Olympic Games.

### **Purifying useful substances**

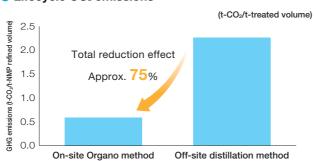


Technology to increase the purity of specific substances is used in applications such as the recovery of valuable resources in wastewater. (The above is an example of calcium fluoride recovery from wastewater)

# Non-Aqueous Separation and Purification

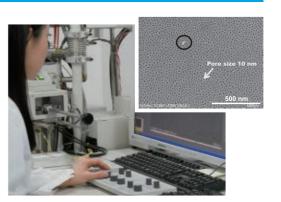
Organo entered the non-aqueous separation and purification field in 1953. We are developing technologies for the refinement and decolorization of sugar, the removal of substances from a distilled spirit that cause people to feel sick, and more recently, to recover N-methylpyrrolidone (NMP) used in large quantities in the manufacture of cathode materials for rechargeable lithium-ion batteries found in electric vehicles (EVs). Whereas mainstream distillation methods are energy intensive, our membrane separation method reduces costs to one-seventh that of conventional methods and reduces lifecycle CO2 emissions by nearly 75%, contributing to resource and energy savings.

### ○ Lifecycle CO₂ emissions



# **Development of Analysis Technology**

While our R&D Center utilizes state-of-the-art analytical equipment and a host of advanced analyses to confirm equipment performance and water quality, the impurities in ultrapure water used in advanced semiconductor manufacturing are at levels so low that they are undetectable by this analytical equipment. Therefore, we continued the development of our analysis technology and succeeded in using a proprietary membrane—the first in the world with the ability to measure fine particles as small as 10 nm (1.0E-8 -meters). (See photo on the right.) Using the newly developed membrane along with filtration and continuous automatic observation technologies, we have made possible the analysis of fine particles as small as 10 nm, contributing to the improvement of the semiconductor product quality and yield (non-defective rate).



# **How Separation and Purification Technologies Contribute to Society**

- = Products and technologies
- = Contribution to resolving social issues (contribution to daily life and industry)



Improvement of water quality
Improvement of treatment efficiency
Reduction in labor
Extension of useful life

Water treatment chemicals

Recovery and recycling of fluorine rare metals

Recovery of valuable resources

Promotion of energy conservation through effective recovery of heat from low-temperature water

Recovery of water heat (energy)

# Organo's Three Strengths

# Comprehensive Water TreatmentEngineering

Organo continues to evolve the broad range of separation and purification technologies—including water treatment—developed over the years to meet our customers' needs.

### Wide Range of Supporting Technologies

The Organo Group supports a vast range of processing capacities, from ultrapure water production systems used at research institutions that require a single drop of water to ultrapure water production systems used in cleaning applications at large-scale semiconductor manufacturing plants that supply 1,000 tons of water per hour—more water than in an Olympic-size swimming pool. The scale of production determines the equipment technology required, even when producing the same ultrapure water. In addition, water before treatment—also known as raw water—varies depending on the location, such as seawater, river water, well water, industrial water, and wastewater, and there is also a variance in customer uses. As such, we provide water treatment facilities and services in line with the characteristics and uses of raw water.

# Capacity From a single drop to large-scale plants

Support for everything from the purification of pure and ultrapure industrial process water

to wastewater, recovery,

and recycling

**Water quality** 

Support for fields ranging from societal infrastructure—such as power plants and water supply and sewage—to manufacturing and testing and research centers

**Applications** 

# **Comprehensive Structure**

We internally share customer needs and new insight gained at each phase to improve our technology and services.

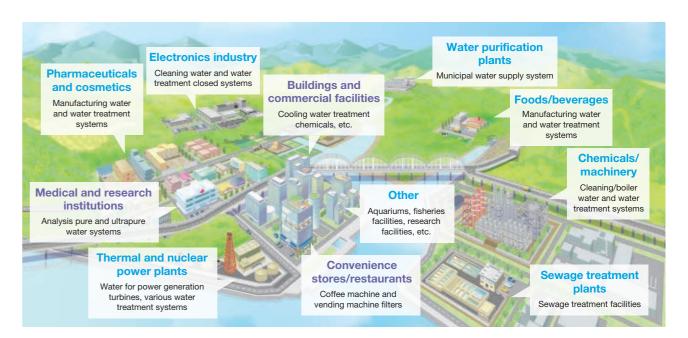


## **Know-How and Support Capabilities**

The source of the Organo Group's customer support capabilities is the accumulation of know-how through accurately responding to customer needs based on individual experiences. This includes the development of technology and installation of equipment related to separation and purification for more than 75 years as well as the ability to respond to issues that arise during operation and maintenance.

# 3. Extensive Track Record in Industry and Daily Life

The breadth of our customer base accumulated from our wide-ranging delivery record is one of our most valuable assets for meeting our customers' future needs.



### **Water Treatment Engineering Business Unit**

Electronics industry	Main areas: Semiconductors, panels, electronic parts, etc.  Main equipment: Ultrapure water production systems, water treatment systems, wastewater recovery systems, valuable resource recovery systems
General industry	Main areas: Pharmaceuticals and cosmetics, foods and beverages, mechanical and chemical uses Main equipment: Ultrapure water production systems, water treatment systems, wastewater recovery systems, refining facilities for sugar solutions, refining facilities for distilled spirits
Electric power/ water supply and sewage	Main areas: Thermal and nuclear power plants, water supply and sewage  Main equipment: Pure water production systems, water treatment systems, condensate treatment systems, water treatment facilities

### **Performance Products Business Unit**

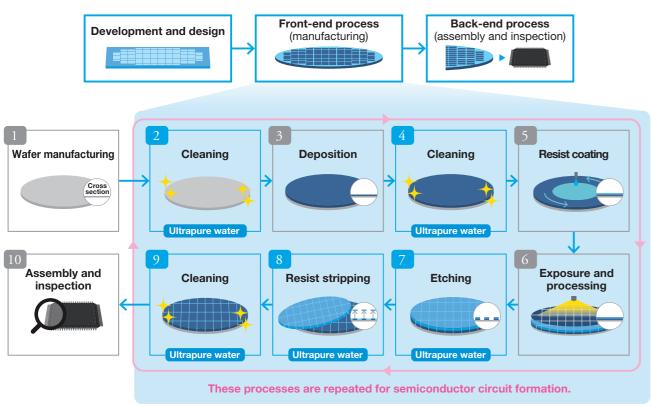
Water treatment chemicals	Main areas: Various manufacturing industries, buildings, and commercial facilities  Main products: Wastewater, cooling water, boiler water, and RO membrane treatment chemicals
Standard equipment and filters	Main areas: Medical and research institutions, convenience stores/restaurants  Main products: Compact pure water/ultrapure water systems, water purification filters
Food products	Main areas: Food/beverages, food products for nursing care patients/health food products  Main products: Food additives and processing agents, food ingredients

# **TOPICS: Value Creation Case Studies**

# **Ultrapure Water for Semiconductor Manufacturing Plants**

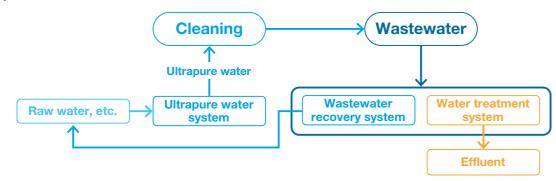
In semiconductor manufacturing—for which demand remains strong—the cleaning process to remove contaminants and deposits from the surface of semiconductors accounts for more than 30% of the entire manufacturing process, and is key to ensuring product quality. This process requires large volumes of ultrapure water, in addition to chemical solutions and gases. Organo has delivered ultrapure water production systems to numerous semiconductor manufacturing plants both domestically and abroad, helping improve their yields.

### **Conventional semiconductor manufacturing processes**



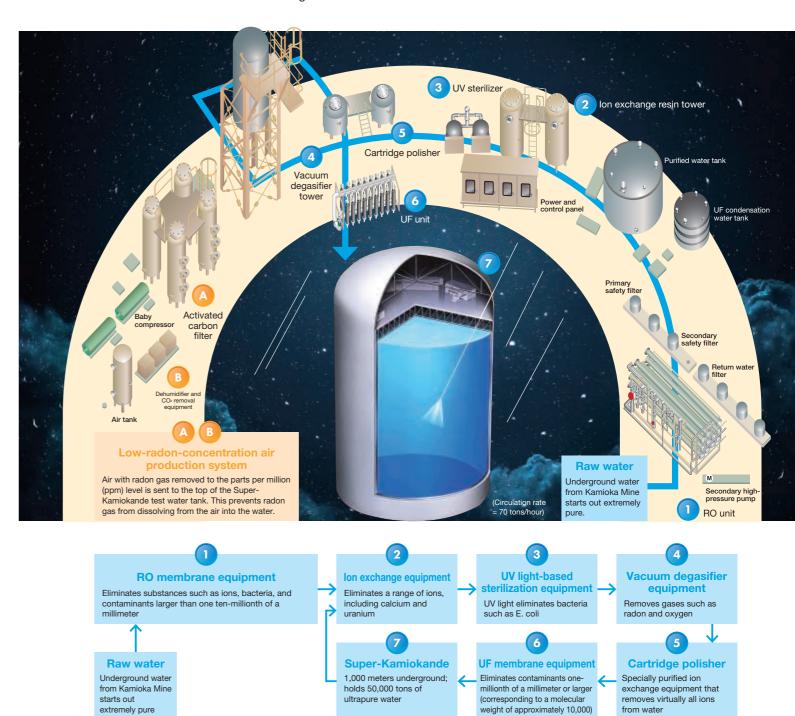
A portion of the large volumes of ultrapure water used is treated prior to discharge so as not to impact the environment, while most of the water is recovered and reused. Organo also provides wastewater recovery systems to contribute to efficient water resource use.

### **Example of wastewater treatment**



# Supplying Ultrapure Water to Super-Kamiokande

We supply ultrapure water to Super-Kamiokande, the world's largest water Cherenkov detector. Masatoshi Koshiba and Takaaki Kajita won the Nobel prize in 2002 and 2015, respectively, for their research on neutrinos. Moreover, in 2020, we succeeded in removing ions while retaining gadolinium ions (Gd³+) using special ion exchange resin jointly developed by the University of Tokyo and Organo. This contributed to increasing the sensitivity of neutrino observations with the introduction of gadolinium.



# **Value Creation Process**

With the Water Treatment Engineering Business Unit remaining at the core, Organo will further expand its role by leveraging its separation and purification, analysis, and manufacturing technologies. The Company will also expand the scope and regions of its businesses—including those beyond water—and constantly provide products and services that promote the creation of value and resolve the challenges that confront industry and society.

# Management Philosophy

Organo serves as a valuable partner company by leveraging its leading-edge technologies cultivated through long experience with water treatment, by contributing to the industries that create the future, and by playing a key role in the development of societal infrastructure.

Performance

**Products Business** 

**Extensive track** 

record in industry

and daily life

Establish a business foundation

3 Strengthen governance and

diverse human resources can

play an active and rewarding role

ensure compliance

4 Create a workplace where

5 Strengthen supply chain

management

Social issues

- Responding to climate

- Declining populations

Advancements in

technology

- Deepening of

globalization

Growing populations

and urbanization in

emerging countries

- Further exploration of

advanced medical

Developing medical

structures in emerging

- Implementing infection

prevention measures

technologies

countries

in developed countries

emerging and

**Management resources** 

Financial foundation

**Equity** 

\$86,170 million

Total shareholder's equity ratio

52.3%

**Production technology** capabilities

#### **Production bases**

Iwaki Factory, Tsukuba Factory Organo Food Tech Corporation (Food Products Division) HOSTEC (Performance Products Business Unit)

### **Network**

**Number of employees** 

2.506

**Domestic sites** 

Domestic affiliates:

Domestic offices and sales offices:

Overseas sites:

R&D

**R&D** expenses

¥2.615 million

Number of R&D personnel

158

Number of patents and utility models (Japan)

785

**Business model** 

[Long-Term Management Plan ORGANO 2030]

**Medium-Term Management Plan 2023–2025** 

[FY2025 Goals] Net sales: ¥170 billion, operating profit: ¥18.5 billion

eparation and

purification

analysis technology

**Proprietary** 

strengths

Material issues

chnologies an

Engineering Busines:

Comprehensive

water treatment

engineering

1 Contribute to a sustainable

2 Provide high value-added

products and services by

leveraging technological

global environment

capabilities

**Products and services** 

Developing the Information and

(ICT) infrastructure (semiconductor) industry Standard pure and ultrapure water production systems

**Communications Technologies** 

Reducing environmental impact and improving water utilization Water treatment system

Contributing to a reduction in energy consumption

**Energy-saving service** solutions

Contributing to improving water quality and treatment efficiency, reducing labor, extending useful life, and reducing waste

Water treatment chemicals and services

Maintaining quality in pharmaceutical manufacturing Water production and supply systems for pharmaceuticals

Value provided

Social value

### - Providing water required in industry and daily life

 Developing technologies for reducing environmental impact (energy-saving and recycling technologies)

### **Customer value**

- Contributing to technological innovation (electronics industry, life sciences, and energy)

- Creating new added value (providing digital-based services)

> Contributing to a sustainable society



### Shareholder value

- Stable ROE of 12% or more
- Continuously increasing shareholder returns

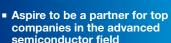
### **Employee value**

- company

**ORGANO 2030** 

Goal

**Aspire to Become** a Global Partner Company



- Aspire to be the company of choice for water treatment chemicals and functional materials in differentiated specified fields
- Achieve sustainability goals



Financial performance targets for FY2030

**Net sales Operating profit Profit margin** ROE

¥200 billion ¥30 billion 15% stable at 12% or more

**Corporate governance** 

- Fulfilling place to work; energetic

- Achieving diversity

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# Value Provided through Organo Group Products and Technology

There is a Japanese proverb that says, "When the wind blows, the barrel maker gets rich."

The blowing wind creates dust, which gets in people's eyes and causes them to lose their eyesight. People who lose their eyesight try to make a living playing the shamisen, leading to an increased demand for shamisen. Because the shamisen is covered in cat skin, the number of cats decreases. As the number of cats decreases, the number of mice increases, resulting in more barrels being gnawed by mice.

Therefore, the barrel maker profits from selling more barrels.

While this is an extreme example, in the world in which we live, seemingly unrelated things can actually be connected. Pure water purified using Organo's state-of-the-art technology is used in pharmaceutical manufacturing, and these pharmaceuticals help people to regain their health. Our technology to purify industrial wastewater beyond legal requirements protects river and ocean ecosystems, thereby preserving marine resources. Ultrapure water with minimal impurities is essential for semiconductor manufacturing. These semiconductors support the core elements of societal infrastructure, including bank ATMs, train operations, and the Internet. Moreover, our technology to enhance air conditioning energy efficiency not only reduces energy consumption but also mitigates CO<sub>2</sub> emissions.

Organo products and technologies support industry and people's daily lives behind the scenes through a process of intake, use, and discharge of water. Behind this are our strengths—our advanced technologies in separation and purification, analysis, and manufacturing.

Our technology contributes to both environmental conservation and economic development by building small water reclamation circulation loops used in daily life and industry within the larger global water cycle. This is the value that we proudly provide to society. By pursuing this value, we support semiconductor, pharmaceutical, and other cutting-edge technologies while realizing climate change measures and the Sustainable Development Goals (SDGs).

Taking full advantage of the cutting-edge technology we have cultivated through long experience with water treatment, Organo will continue to serve as a valuable partner company by contributing to the industries that create the future, and by playing a key role in the development of societal infrastructure.

We educate stakeholders on water environment

conservation technologies.

#### Our Businesses, Services, Initiatives, and Social Issues to be Solved SDG contributions and targets for FY2030 Standard pure and ultrapure Build resilient infrastructure, promote inclusive and Ensure availability and sustainable management of water production systems sustainable industrialization and foster innovation water and sanitation for all **Develop the ICT infrastructure** We use our equipment to provide pure and ultrapure (semiconductor) industry water, thereby contributing to the manufacture of Conserve and sustainably use the oceans, seas, and semiconductors, a key element of ICT infrastructure. marine resources for sustainable development **Wastewater treatment systems** We use our systems to reduce substances in customers' industrial wastewater to below the legally mandated Reduce the environmental impact of levels in each country, thereby contributing to appropriate, transparent industrial wastewater treatment. Ensure access to affordable, reliable, sustainable, and Improve water use [Goals for FY2030] modern energy for all **Energy-saving service solutions** Total wastewater volume: 60 million m<sup>3</sup> Total recovered and reused water volume: 250 million m<sup>3</sup> Reduce energy consumption Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation Promote the introduction of environmentally friendly industrial processes such as CO2 reduction Take urgent action to combat climate change and its Ensure sustainable consumption and production Reduce CO<sub>2</sub> emissions We use our services to improve customer energy efficiency, thereby contributing to the reduction of CO2 We use our services to reduce the amount of sludge generated at customers' wastewater facilities. **Water treatment chemicals** [Goal for FY2030] and services Total CO<sub>2</sub> emissions reduction volume: 32,000 t-CO<sub>2</sub> Total sludge reduction volume: 10,000 t Reduce waste Water production and supply Goal 6 systems for pharmaceuticals To ensure healthy lives and promote well-being for all at Ensure availability and sustainable management of water and sanitation for all Maintain pharmaceutical manufacturing We use our systems to provide a stable supply of Goal 12 pharmaceutical water, thereby contributing to the stable Ensure sustainable consumption and production supply of safe, quality pharmaceuticals to customers.

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Activities to raise awareness of water environment

conservation technologies

Raise water awareness

# Management Resources (Intellectual and Human Capital)



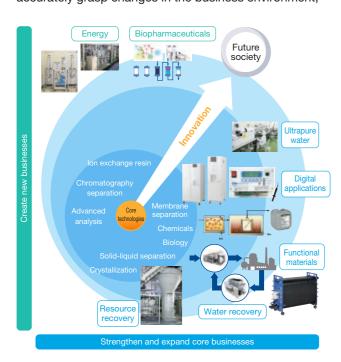
**R&D** and Engineering

**Driving Our Separation and** Purification Technologies Forward to Help Build the **Industries Creating the Future** 

Nobuyoshi Suda President of R&D and Engineering Managing Director and Executive Officer

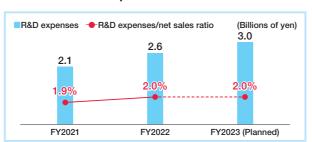
### Organo's Policy for R&D and Engineering

In recent years, demand has grown for efforts to realize a sustainable society as the future social situation becomes increasingly unpredictable due to the impacts of abnormal weather patterns as a result of global warming, as well as geopolitical risks. Since its founding in 1946, the Organo Group has evolved over more than 75 years into a comprehensive water treatment engineering company. We will continue to deepen and develop our high value-added separation and purification technologies, and develop and provide advanced technologies to contribute to a sustainable future society. At our core Plant Engineering Business Unit, we accurately grasp changes in the business environment,



achieve constant innovation, and provide technologies. products, and services to promote value creation and problem solving in industry and society.

### Trends in R&D Expenses



### Development of Technical Personnel

Human resources are the most important and indispensable foundation in implementing our management philosophy and Long-Term Management Vision. To proactively contribute to a better tomorrow by cultivating people today who will improve upon the way things were done yesterday, we constantly review how we have done business in the past and accelerate improvements.

One such example is the creation of the Planning Department of the R&D and Engineering's Engineering Center. This department continues to take on the challenge of transformation by fundamentally restructuring engineering operations to optimize the value chain through the use of digital technology, visualizing the expertise and skills of our engineers, and promoting the appointment of global human resources. In addition to the R&D Center's various areas of expertise, we encourage cooperation with outside institutions and aim to create new value from a variety of viewpoints, including management and futureoriented thinking and from a higher perspective.

## **Engineering Center**

### Overview

The Engineering Center is a technical group with expertise in separation and purification technologies in a host of fields. The Center applies numerous Organo Group specialized optimization technologies and functional materials to all liquid separation and purification use scenarios, such as water, solvents, and chemicals, contributing to the stabilization and yield improvement of our customers' products. We currently have two engineering locations in Southeast Asia (Thailand and Vietnam), and by incorporating new ideas and pushing forward with our technological innovation through the merging of diverse human resources, we continue to lead the industry by refining our optimization technology, and contribute to the development of industrial fields.



Shin Asano

**Managing Executive Officer General Manager of Engineering Center** 

### **Opportunities**

- Robust capital investment in the electronics industry
- Need for purification and recovery of chemicals and solvents as customer products become increasingly sophisticated
- Need for reduction of environmental impact, reuse of resources, and recovery of valuable resources

- Inability to meet demand for robust capital investment due to lack of resources
- Increasingly prolonged project construction periods caused by supply chain disruptions

### **Responses**

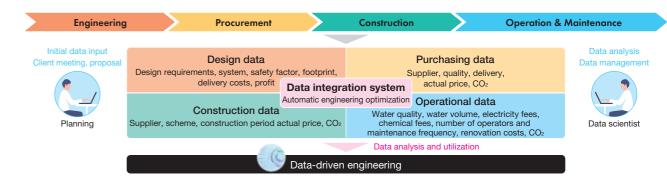
- Introduction of design automation tools and development of construction robots to boost engineering capacity
- Strengthening of overseas engineering locations and cooperation
- Strengthening of cooperation with partner companies

## Strengths of Organo Engineering

The strengths of our engineering lie in our diverse application technologies and distinctive functional materials that support them, as well as our experience and expertise in separation and purification technologies for all types of liquids-including water, solvents, and chemicals. Moreover, we have also accumulated manufacturing know-how as Japan's lone manufacturer that develops, designs, and manufactures electrodeionization (EDI) systems, a next-generation technology. We are also building a new manufacturing line incorporating DX and robotic technology with the aim of dramatically improving manufacturing efficiency.

### = Strengthening of the Engineering Structure

We are building a data-driven engineering structure and reorganizing to create an efficient delivery system for various project sizes to improve productivity and reinforce our structure. We aim to bolster our production system over the medium term by enhancing the development of human resources. This entails a change in mindset as well as business reform. At the same time, we will invest resources to enter new separation and purification fields, strengthen our Service Solutions business, and further advance EDI technology.



Management Resources (Intellectual and Human Capital)

### **R&D Center**

### Overview

In addition to the development of separation and purification technologies and advanced analytical technologies that have evolved over the more than 75 years since its establishment based on the theme of "creating value for the society of tomorrow through the development of advanced technologies," the Organo Group will promote the development of technologies that contribute to a sustainable society through solutions utilizing advanced digital technologies, and by pushing forward open innovation with advanced research institutions. To strengthen the foundation for creating new value, we continually invest in R&D, augment our human resources training programs, and create future-oriented development topics.



Masahiro Eguchi

Executive Officer
Senior General Manager of R&D

### **Opportunities**

- Increased demand for purification due to semiconductor miniaturization
- Expanded sustainability activities

### Risks

- Changes in customer requirements that are difficult to satisfy with in-house technology
- Contraction in existing business due to market changes

#### Responses

- Accelerated purification of ultrapure water using new dedicated research facilities
- Strengthened development of environmentally friendly technologies
- Increased and strengthened cooperation with cutting-edge research facilities and companies for joint research, startups, etc.
- Promotion of the creation of new future-oriented topics

### Development Examples and Topics

In 2022, we began operation of a research facility dedicated to next-generation ultrapure water systems for the purpose of satisfying growing demand for purification in the semiconductor industry. This facility is equipped with the latest actual scale water treatment unit. And, in addition to pursuing ever higher purity of ultrapure water, we are developing technology to improve the water recovery rate and reduce  $CO_2$  emissions. Moreover, we are promoting the development of separation and purification technologies for chemicals and solvents by applying ultrapure water production technology. We aim to create new value to contribute to advanced semiconductor manufacturing processes.



### = Future Initiatives

Through cooperation with state-of-the-art research institutes and startups in Japan and abroad, we are looking to create new value by integrating advanced technology with our core technologies.

Moreover, to realize a sustainable society, we will strengthen technology development to recycle water and

Moreover, to realize a sustainable society, we will strengthen technology development to recycle water and resources as well as to mitigate environmental impact, such as by reducing energy and chemicals, through the application of digital technology.



# Management Resources (Manufacturing Capital)

### **Production Technology Capabilities**

### Tsukuba Factory

### World-leading ion exchange resin refinery

Ion exchange resin is one of our key technologies, and the level of quality required varies depending on its use, with semiconductor manufacturing plants and power plants using very high-quality resin. We condition our ion exchange resins in facilities with cutting-edge technology to meet and accommodate a wide range of quality requirements. We also recycle used ion exchange resins.





### = Iwaki Factory

### Water treatment system unit assembly factory

At our advanced factory for manufacturing water treatment systems, we standardize equipment units that comprise large-scale water treatment plants within transportable range and ship them as assembled products. Assembling these at the plant enables us to provide improved and stable product quality, and it simplifies assembly work on site. This allows us to shorten the on-site construction period and reduce costs. In addition to the general assembly line, we provide a clean assembly room for semiconductor and pharmaceutical users.





# Management Resources (Social Capital)



**Overseas Network** 

Interconnecting Regional Networks to Expand the Group Network and Drive Further Growth

Managing Executive Officer Makoto Tomizawa President of Global Management and Planning

The Organo Group aims to grow as a partner company that contributes to the development of societal infrastructure while valuing our relationship with all of our stakeholders based on our management philosophy.

Since its founding, Organo has developed its water treatment technology and expanded its business through relationships with its many customers and business partners. The strong support from our customers and trust in the Organo Group have made this possible.

To reward the trust of our stakeholders and meet their expectations for the future, we have actively expanded our overseas network since the 1980s, deepening our connections with industry and society in regions around the world. By leveraging existing regional networks in China, Taiwan, Vietnam, Thailand, Malaysia, Indonesia, and the U.S., we are working to bolster our group network. These efforts contribute significantly to the Group's growth with information on business, technology, customers, materials and procurement, resources, and risks as potent capital that supports our business.

### Overview of Overseas Businesses

The Group's overseas business is now evolving into a worldwide network that transcends borders, and we are building relationships with numerous customers and business partners, both Japanese and those from other countries. In Taiwan in particular, we have expanded business together with local customers since the electronics industry's initial growth phase. We are now cultivating a global network that extends beyond borders, and seizing this opportunity to achieve further growth. As one example, in 2021, we opened a location in the U.S. and are expanding business focusing on the semiconductor industry.

Our strength lies in our ability to foster connections with regions underpinned by our technology and trust. We will continue to expand our connections with more customers and business partners, thereby further growing our global network.

### **Opportunities**

- Continued investment in the electronics industry at key locations in China, Taiwan, Malaysia, and the U.S.
- Active global investment in semiconductor-related industries

### **Risks**

- Trade and geopolitical risks
- Area-specific risks

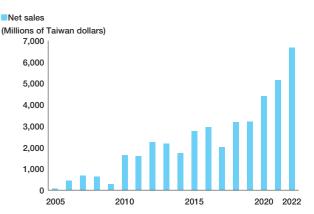
#### Responses

- Plant and Service Solutions business expansion
- Expanded geographic reach and creation of business in the same
- Risk assumption and full complement of countermeasures
- Sequential updates regarding all risks through monitoring

### = Taiwan Market

Taiwan is a huge market, boasting a share of over 60% of the world's semiconductor production. Its manufacture of advanced semiconductors in particular is far ahead of all other countries. Organo boasts a top share with its delivery of ultrapure water production systems, which are essential to advanced semiconductor manufacturing. We also offer comprehensive equipment services post-delivery and contribute significantly to stable operations at plants over the years, earning us a high level of trust from our customers. Through these efforts, we have constructed networks not only with our customers and suppliers but also with many other stakeholders around the world, thereby generating a host of business opportunities. We will continue to enhance our technology, quality, and services to satisfy customer demand and aim for further growth.

### Trends in sales of local subsidiaries



### O Leveraging our network cultivated in Taiwan to expand business



### = U.S. Market

In line with the entry of one of the world's largest semiconductor foundry companies into the U.S. market, Organo established a local U.S. subsidiary in September 2021. As evidenced by the passage of the CHIPS Act\*, the U.S. is looking forward to reconstructing its semiconductor ecosystem and creating jobs. Organo will use its advanced water treatment technology cultivated through its experience in cutting-edge semiconductors as well as its solutions technology and experience in resolving customer issues to contribute to the U.S. semiconductor industry and regional economic development.

Moreover, the electronics industry has a broad base of related businesses, and our separation and purification technologies that use ion exchange resin—one of our core technologies-will be applied to the purification of chemicals used in the semiconductor manufacturing process. We see strong potential in the U.S. market, and are currently conducting market research as we launch sales in certain areas.

Expansion into the U.S. market also serves to strengthen our regional portfolio in an increasingly complex global business while minimizing risk and creating a stepping stone to the next region for development.

\* The purpose of the Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act is to support the development of semiconductors in the U.S. and investment in mass production, AI, quantum computers, telecommunications technology, and more.

### Investment in Semiconductor Manufacturing Companies in the U.S. through 2032



Source: "Semiconductor manufacturing investments in the next 10 years," Semiconductor Industry Association