

## Business strategy

Roundtable discussion with Division Heads and the Controlling Supervisor of the Innovation Division

# Value co-creation through innovation practice

The leaders of three business divisions and the Controlling Supervisor of the Innovation Division discussed how to co-create value through various collaborations aimed at commercializing Toyobo group's unique technologies.



**Muneo Hirooka**  
Managing Executive Officer  
Head, Films Division

**Takahito Sagara**  
Managing Executive Officer  
Head, Life Science Division

**Chikao Morishige**  
Co-COO  
Head, Environmental and Functional Materials Division  
President & Representative Director, CEO, TOYOBO MC Corporation

**Katsuya Ito**  
Executive Officer  
Controlling Supervisor of  
Innovation Division

## Addressing social issues targeted by each division

**Hirooka** In the Films Division, which handles plastic products, reducing environmental impact on the Earth is a critical issue. While advancing efforts to reduce the use of fossil fuel-derived materials and greenhouse gas (GHG) emissions, we aim to achieve a 60% green film ratio in 2030 through increasing the use of recycled materials and utilizing bio-based materials. For example, food packaging films contribute to reducing food waste, and we are developing significantly thinner films that maintain performance, thereby leading to a reduction in plastic usage.

**Sagara** The Life Science Division's business is directly related to human health and well-being. With two main areas—diagnostic reagents and medical devices—there is a growing global demand for enzyme materials used in diagnostic reagents that simplify diagnostics. To address supply shortages, we are enhancing our production facilities. For hollow fiber membranes used in blood dialysis and blood purification medical devices, we are

building an integrated production system in collaboration with our pharmaceutical partner, NIPRO CORPORATION, to improve precision and provide products at appropriate prices.

**Morishige** The products handled by the Environmental and Functional Materials Division cover a wide range of areas including mobility, high-speed communications such as 4G and 5G, environmental sectors like air and water, and renewable energy. All of these contribute to solving societal issues. For example, membranes used for desalinating seawater not only help reduce wastewater by effectively utilizing concentrated seawater but also contribute to recycling by extracting and recovering valuable metals. Devices that capture volatile organic compounds (VOCs) from factory exhausts also help reduce environmental impact. In the field of renewable energy, we are also involved in developing super fibers suitable for floating offshore wind turbines.

**Ito** While these business divisions are advancing development in areas with high certainty, my role overseeing the Innovation Division is to create technologies, products, and business models in areas that will drive future revenue and span across different divisions. There are two main streams of development: one that started more than 140 years ago with natural fibers and

progressed through chemical fibers, synthetic fibers, plastics, and environmental and functional materials, and another that evolved from enzyme technology into life sciences. By promoting the evolution and expansion of each technology and integrating both technologies, we aim to create new business opportunities.

## Co-creating value across divisions

**Morishige** At TOYOBO MC Corporation (TMC), we are advancing material development for film applications in mobility coatings in collaboration with the Films Division. We are also focusing on development that incorporates recycling technologies and biomass materials.

**Hirooka** In creating unique added value such as reducing film thickness and enhancing material strength, collaboration with the Innovation Division is essential. For example, when business divisions express the need for high-strength PET materials or ultra-clean raw materials, we discuss these requirements with the Innovation

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Division, which then evaluates them. The results are tested and assessed by the business divisions, ensuring close coordination.

**Sagara** In the field of life sciences, we also accelerate development by complementing research through the exchange of research members and collaboration with the Innovation Division on topics such as biocompatible polymers.

**Ito** As the Innovation Division, we ensure that our research and development align with market needs by sharing the concerns of each business division and customer feedback. We also integrate information and insights from universities and specific ventures to set relevant challenges.

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### Open innovation beyond company boundaries

**Morishige** At TMC, we are advancing the development of new polymer materials by leveraging academic insights and technologies. Accurately understanding user needs is crucial for subsequent monetization efforts.

**Ito** I also believe that monetization should be a key consideration. In the Innovation Division, we are careful not to fall into the mistaken belief that research and development, being future-oriented, doesn't need to consider monetization. We always focus on how the group's core technologies can ultimately benefit our customers, ensuring that our efforts align with the overall direction and strategies of the group.

**Hirooka** Challenges such as recycling cannot be fully addressed by our group alone, so we are also collaborating with other companies. For example, we participated in the establishment of R Plus Japan, Ltd., a company focused on recycling used plastics, which was jointly funded by 12 companies\* across different industries. In addition, we are involved in a resource circulation project with pharmaceutical and printing companies to horizontally recycle label mounts, further advancing our efforts.

**Sagara** We are also advancing research and development in collaboration with external partners to supply products with high precision, speed, and at a low cost. To meet the growing global demand, we jointly established an integrated production plant for dialysis devices with NIPRO CORPORATION, which began operations in April 2024.

\* As of the establishment of R Plus Japan, Ltd., in 2020.

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### Toward creating social and environmental value

**Hirooka** Most of the products from the Films Division relate to everyday environments, such as food, electronic components, and mobility. Our vision is to create sustainable living environments by mastering materials and introducing new innovations and ideas, bringing smiles and inspiration to people worldwide.

**Sagara** The Life Science Division also focuses on bringing

smiles to people and continuously delivering unexpected value by providing innovative experiences beyond their aspirations. We emphasize developing our people, as offering opportunities is crucial for growth. As part of this effort, we have initiated projects that encourage turning crazy ideas into business ventures using biotechnology.

**Morishige** Human resources are truly invaluable assets. At TMC, we prioritize dialogue within the organization, including between management and employees, and focus on developing talent capable of driving self-transformation. We adhere to the TOYOBO PVVs and have set our vision as solving global challenges with highly functional materials. As the chemical industry undergoes restructuring upstream, we aim to establish our value as a key intermediate materials manufacturer, ensuring that when customers face challenges in this field, we are their first point of contact.

**Ito** Although large-scale initiatives can signal the creation of new value, I believe that the seeds of innovation are often right in front of us. The key is in how we nurture these opportunities. The trial-and-error processes in development, discussions within and beyond the company, and ongoing experiments with customers are all crucial in sparking innovation. I want to emphasize the importance of recognizing and cultivating these moments to ensure we don't overlook any potential opportunities.