

Aiming for Leadership in Environmental Protection

The MOL Group believes that responding to environmental laws and regulations and initiatives on reducing environmental impact as business opportunities and strategies for diversification. We have proactively adopted advanced environmental technologies and moved boldly to promote the development of even more sophisticated ones. And we believe that novel, innovative initiatives are indispensable if we are to achieve targets of Paris Agreement adopted at COP21 in December 2015 and for further growth of our group. In this report, we visited Fujifilm Corporation, which consistently expands its range of businesses and grows by developing innovative technologies, to take part in a dialogue on the theme of “innovation.”



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Kawagoe First, I will briefly explain the characteristics of the ocean shipping industry and its environmental regulations. Emissions per unit load of CO₂ and other air pollution substances in the ocean shipping industry are lower than other transport means. On the one hand, ocean shipping is far superior to other modes of transport in terms of environmental friendliness. On the other hand, the CO₂ emissions from ocean freighters account for about 2% of the total global emissions. This is roughly equivalent to the emissions generated by the entire nation of Germany. Currently, the world population is 7 billion, and annual international ocean cargo trade is 10 billion tons. As population is projected to increase to 9.7 billion in 2050, and we expect cargo trade to grow in line with that projection.

Continued efforts to reduce the industry's environmental impact are critical to balance worldwide economic growth and environmental conservation. Against that backdrop, the ocean shipping industry faces stricter environmental regulations every year.

Yanagihara I am surprised that CO₂ emissions from ocean freighters are equivalent to the total amount produced by Germany. It is likely that environmental

regulations will become even more severe, but which direction will you take in your initiatives from now on?

Kawagoe In recent years, customers have a remarkably higher environmental awareness, and their transport needs are also more diverse. Some customers select us as their shipping partner just because they trust us to respond appropriately to environmental regulations. So to proactively meet customer needs and promote further technological innovation, we established the new IT Strategy Committee and the Technology, Innovation, and Environment Committee in February 2016. The committee will build an internal organization that allows us to move forward in cross-divisional way. In the future, we will look for new values that we can offer our customers, while fully leveraging our collective capabilities. This gives us a competitive advantage as a group that owns a variety of ships and provides a broad range of services.

However, it is not easy to create new values and diversify, so we think it's indispensable to make use of all our creative powers for innovation, free from preconceived concepts. Therefore, I would like to ask you about Fujifilm's system and culture that foster innovations.

Yanagihara Our corporate slogan is “Value from Innovation,” so the innovation is deeply rooted internally as the watchword. Then, this is because employees share our history of success in the face of big changes and severe competition. Currently, we develop market-oriented businesses, but we were completely the product-centered until after 2000, when global demand for color photo film reached its peak. We faced a crisis with the advent of today's digital society, but what we did at the time was taking stock of the technologies we owned and could use as the seeds of future development. This effort revealed many technologies that were applicable for other industries. A typical example is a cosmetic product based on the technology accumulated by long-term technological development of photo films, such as collagen research, antioxidation, and nanodispersion.



Kawagoe I can see that you faced many challenges and difficulties. Was the sense of crisis at the root of your technological development personnel's creativity and ability to execute?

Yanagihara We were pressed to transform our business model as we entered the digital era, so I think there is no doubt that a sense of crisis is a driving force behind creativity and ability to get things done. Also, we can say innovation came to us just because we had to face the fact that the photo film business was disappearing. For example, in case of Mitsui O.S.K. Lines, what would happen if vessels went away, or if the seas disappeared? From a different viewpoint, what if factories were eliminated and replaced with vessels, for example?

Kawagoe The idea that vessels would be eliminated is unimaginable for us. However, the development of 3D printers, for example, might imply that finished products would not need to be transported. So that could bring us drastic changes.

Yanagihara It takes lots of hard work for individuals to actually purchase raw materials and provide a 3D printer. So for example, when we order a product online, the raw materials could be loaded on the vessel and the product could be manufactured onboard using 3D printers, while the ship is on the way to its delivery destination. This is one way to imagine adding value in the transport process. From the viewpoint of value,

we transport various products for export and import. But the past concept was that carrying the product from point A to point B without changing its value was the value. In other words, we accepted the cargo on the condition that we would fully maintain its quality and keep it safe during the month or so that it was in transport. But today, if we cannot create value by transport alone, what about ways to add value during the transport process? For example, if we sent the product from point A, and a customized product was completed when it arrived at point B, the value would be increased, wouldn't it? If such things are actually possible, there are many things vessels can do to make peoples' lives more comfortable and prosperous.

Kawagoe In a way, time stops during transport, so that would be a way to use time more effectively. In addition, we can make beneficial use of the environment, such as generating electricity through wind power, during a voyage.

Yanagihara When we refer innovation, what comes to mind is usually technological innovation, but we think the key is to create value for



the customer by first, taking stock of the company's technologies and other advantages, next, offering a solution that is really responsive to the world's needs while being adaptable to potential needs, and then newly integrating the technology and everything else it takes to provide that solution. One of our challenges is the “Open Innovation Hub,” which was opened in January 2014. This is a place where we work closely with other industries to exchange information and generate sources for new innovation.

Kawagoe Thank you very much for giving us so many novel ideas and opinions during today's dialogue. Our group has taken a proactive stance in developing and adopting superior environmental technologies. But this dialogue with Mr. Yanagihara made us more confident that there are still many things we can do to create new values, and received some tips on how to cultivate creativity. Our group is united as a team to move ahead and create value through technological innovation.