

Business unit overview



Takahiro Irisa
President of RICOH Digital Services Business Unit

Message from Business Unit President

Spearheading the Group's growth as a customer-centric player that is the leading global services integrator

The pandemic triggered the global adoption of hybrid work models and accelerated the need for DX. Advances in AI and other technologies are diversifying the work environments of customers.

The core strengths of RICOH Digital Services are its touchpoints from a global customer base of 1.4 million companies and its sales and support structure. Ricoh is becoming a digital services company that focuses on swiftly identifying and addressing evolving customer needs. We will spearhead the Ricoh Group's growth as

the world's most customer-centric services integrator. We will help customers achieve Fulfillment through Work by bringing together diverse products and services to deliver optimal value as a one-stop solutions provider.

Business features and strengths

- A global customer base of 1.4 million companies and organizations and a sales and support structure (customer touchpoints)
- Can handle cross-border deals and have secured new capabilities through acquisitions
- Can identify optimal combinations of products and services from in-house units and external partners, proposing one-stop solutions, drawing on specialist talent, and quickly delivering timely value

Business risks and opportunities

Global enterprise IT spending should rise at a compound annual growth rate of 6.4%*1 from ¥608 trillion in 2022, to ¥830 trillion in 2027. Expansion should be particularly robust in cloud-based services. During that period, this demand should increase at a compound annual growth rate of 18.9%*2 from ¥63 trillion to ¥151 trillion. Markets should also expand in Ricoh's managed services, security, document, and communications business areas.

We will amass recurring revenues from digital services by drawing on our strengths and investing business resources in areas that we should prioritize.

Gartner market forecast (\$1=¥130)

*1 Source: Gartner® Market Databook, 2Q23 Update, John-David Lovelock, Linglan Wang et al., 30 June 2023, Enterprise IT expenditure = End-User Spending on IT Products and Services, 2022–27 CAGR in Constant U.S. Dollars

*2 Source: Gartner®, Forecast: Public Cloud Services, Worldwide, 2021–2027, 2Q23 Update, Colleen Graham et al. 10 July 2023, Cloud-based services area = Public Cloud Services End-User Spending, 2022–27 CAGR in Constant U.S. Dollars, CAGR calculated by Ricoh

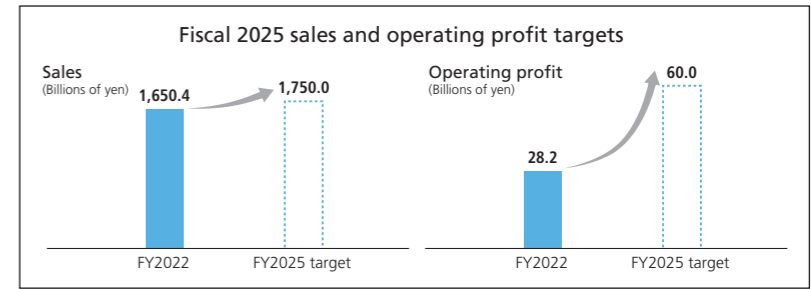
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Risks

- Technological innovations transforming work far more than estimated
- Securing and training digital talent to drive strategies
- Delays in generating acquisition synergies

Earnings opportunities

- Increasing demand for services to digitalize offices, frontlines, and society at large
- Expanding communication services domain to cater to new workstyles
- Rising need for cloud-based services



Medium- and long-term opportunities and strategies under 21st MTS

Opportunities

- Concentrate business resource investments in priority domains to materialize regional strategies
- Boost added value by building a digital services ecosystem
- Invest extensively in acquisitions, technological and talent development, and internal process digitalization to cater to constantly evolving customer needs in growth fields

Strategic initiatives

Regional strategies
In expanding our businesses across Japan, Europe, North America, Asia, Central and South America, and other parts of the world, we recognize that customer segments, challenges, and needs vary regionally. Under the 21st MTS, we aim to broaden customer touchpoints to spearhead their work practice transformations while strengthening our development structure, which we have focused on local production for local consumption to swiftly generate value while staying close to customers.

Enhancing value at customer touchpoints and transforming business model
RICOH Digital Services aims to evolve Group management, including by creating a digital services ecosystem, and drive business growth while stabilizing operations by expanding its recurring revenue business.

Building a digital services ecosystem
Ricoh is becoming a digital services company that identifies worker issues in offices, on the frontlines, and in society at large and resolves them with digital technology. We look for digital services to account for more than 60% of our sales by fiscal 2025. Central to that objective is a digital services ecosystem that uses RICOH Smart Integration to connect edge devices with a range of services and applications.

- We combine RICOH Smart Integration with hybrid conferencing and other office management and operational solutions. We offer it as a managed workplace service to help clients overhaul workstyles and boost employee engagement.
- We provide managed IT services by connecting customers' IT equipment and applications with RICOH Smart Integration. We support customers' information systems departments while improving employee productivity.
- We can help customers digitalize their workflows and operations by using RICOH Smart Integration to link MFPs, PFU scanners, and other edge devices with in-house software offerings, such as from DocuWare and Axon Ivy, and RICOH kintone plus through an alliance with Cybozu, as well as with partner products.
- AI analysis of accumulated data visualizes customers' work and provides insights to support DX.

Pursuing operational excellence
By fully leveraging digital technology, we will reinforce supply chain management processes and visualize management information in real time to swiftly implement strategic measures.

Resolving social issues through business

Drawing on synergies with DataVision subsidiary to provide new services to MFP customers

Jungheinrich AG of Germany has long used MFPs. It develops and manufactures logistics systems and has over 50 branches and plants worldwide. The COVID-19 pandemic prompted the company to adopt a hybrid work structure. Initially, there were issues with remote meeting environments that varied from location to location. We worked with DataVision Deutschland GmbH, which we acquired in 2020, to standardize meeting room specifications. We resolved these issues by taking care of everything from design to installing communication tools and supporting maintenance.

Few other companies can deliver consistent, world-class solutions and services around the globe. Our ability to deliver projects across borders is a unique strength, drawing on our operations in some 200 countries and regions. We will continue to leverage our global customer touchpoints and synergies with acquired companies to help customers transform their workplaces.

RDP

RICOH Digital Products



Katsunori Nakata
President of RICOH Digital Products Business Unit

Message from Business Unit President

Contribute to digital services growth by leveraging our outstanding product quality and stable supply

RICOH Digital Products develops highly competitive edge devices and contributes to the Group's earnings growth. We are building a resilient structure that enables us to swiftly resume regular operations without disrupting product availability, even after prolonged emergencies affecting the entire supply chain.

PFU, which joined Ricoh in fiscal 2022, is the world leader in terms of its market share and customer base for business document scanners. We will endeavor to expand our scanner and electronics businesses by

tapping PFU's channels to access customers that were previously beyond our reach.

We will keep stepping up efforts to generate synergies in numerous ways, such as by jointly developing products and sharing parts.

Business features and strengths

- Develop and manufacture edge devices that support customers' work, including office MFPs with leading market shares worldwide, printers, presses, wide format printers, scanners, and network devices
- Maintain a production system that integrates everything from planning through manufacturing for each operation through a business unit structure
- Have established a leadership position in the printing sector by bolstering our structure to cater to diversifying customer needs and changing markets
- Have transformed workflows by providing edge devices that serve as touchpoints to seamlessly connect customers with digital services

Business risks and opportunities

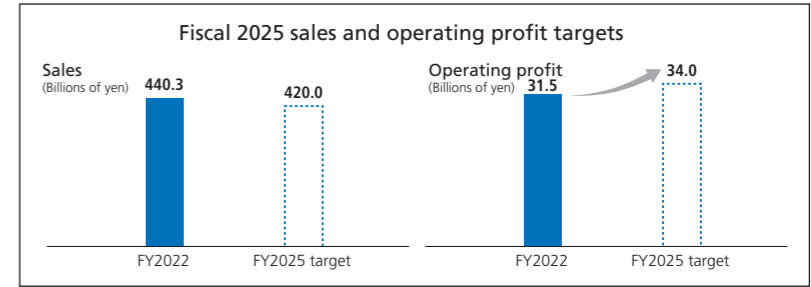
Ricoh estimates that the global printing market will shrink a further 10% from 2021 to 2025. This would hit demand for toner and other consumables particularly hard. A stable supply of more competitive products is therefore essential.

Risks

- Falling print output as remote work and paperless workflows increase
- Surging raw materials prices
- Logistics disruptions

Earnings opportunities

- Tapping new sales channels
- Providing industry- and task-specific services
- Demand for enhanced security
- Growing need for audio and video digitalization
- Embedded computer market expansion
- Rising need for eco-friendly products



Medium- and long-term opportunities and strategies under 21st MTS

Opportunities

- Enhance digitalization support according to customer workstyles
- Create and deliver new value and expand business domain by evolving edge devices for industrial and other fields

Strategic initiatives

Delivering world-leading products
Ricoh's edge devices and digital services enhance the ability to centrally support workflows related to documents, video, audio and other data. From paper document output using MFPs and printers to digitization using scanners and document utilization using such workflow services as RICOH kintone plus and DocuWare, we improve customers' workflows.

Expanding customer base by leveraging new sales channels
We strive to create new value by leveraging PFU to expand our customer base and leverage touchpoints with diverse customers. We will offer them products that match their business attributes by understanding their needs in areas that were previously beyond our reach.

Spearheading industry collaboration
The Ricoh Group leads industry collaboration across entire supply chains on the strength of the unmatched competitiveness of its MFPs, peripherals, and toner. We engage in such cooperation approaches as joint purchasing with other companies in our industry and sharing plant facilities and recycling infrastructure.

Evolving edge devices for frontlines and industrial applications
We aim to be the domestic embedded computer market leader for industrial, frontlines, and other applications. Newly collaborating with PFU's embedded computer business will reinforce synergies between products from both companies and eliminate wasteful operational overlaps. Specific initiatives will include expanding sales of each other's offerings, integrating product roadmaps, further streamlining development by sharing resources, optimizing manufacturing systems, and further cutting costs.
In addition, we will create a resilient manufacturing structure and relentlessly pursue operational excellence to reach our 21st MTS objectives.

Resolving social issues through business

Enhancing communication and creativity in hybrid environments

The RICOH Portable Monitor 150BW/150 is an ultralight 15.6-inch touchscreen device panel display that is easy to carry, set up, and use. It is battery-powered and connects wirelessly. In today's hybrid work environments, it enhances productivity in offices, homes, cafes, and many other locations. It can also serve as a communication device for collaborating in small group meetings, making it easy to share information digitally instead of having to print and hand out paper documents.

Customer feedback has been excellent, key positives being its lightweight, portability, and excellent design, as well as its use as a shared device in unassigned workspaces. The monitor is also a useful communication tool for online meetings of design departments, allowing people to write over blueprints with stylus pens. This monitor exemplifies Ricoh's dedication to helping customers embrace new workstyles.

The RICOH Portable Monitor 150BW debuted in November 2022

Business unit overview



Koji Miyao
President of RICOH Graphic Communications Business Unit

Message from Business Unit President

Striving to make this business Ricoh's second major growth driver by helping customers to digitalize their printing sites

The printing sector has to cater to the increasingly complex business and environmental challenges of its customers. That is why demand for digital printing is rising. Its many advantages over analog methods include lower costs, energy savings, and on-demand flexibility. RICOH Graphic Communications helps the sector to adopt digital processes by offering excellent, exceptionally reliable products and services. This will enable us to automate, reduce labor, and visualize processes, thereby helping to improve our customers' profitability. In addition, we will actively work to achieve the SDGs

by aligning business growth with resolving social issues. Together with global customers and partners, Ricoh co-creates value and delivers solutions in their digital transformation journey, as well as contribute to realize a sustainable society.

Business features and strengths

Commercial Printing business

- Helping customers digitalize processes by providing comprehensive solutions and services that extend from digital printing-related products and workflows for printing sites to marketing support. Assisting them in shrinking their environmental footprints by enabling them to reduce waste, conserve energy, and decarbonize
- A global market leader in color cutsheet and high-speed inkjet printers, providing high-value-added solutions by leveraging customer touchpoints

Industrial Printing business

- Manufacture and sell industrial inkjet heads, inks, and printers for wide-ranging applications. These include construction materials, furniture, wallpaper, signage displays, apparel fabrics, labels and packages, and 3D printing
- Provide high-quality, highly reliable inkjet printheads developed in-house to foster digitalization, shorten delivery times, and enable small print runs. At the same time, help resolve environmental issues, such as large waste volumes and water consumption resulting from analog printing

Business risks and opportunities

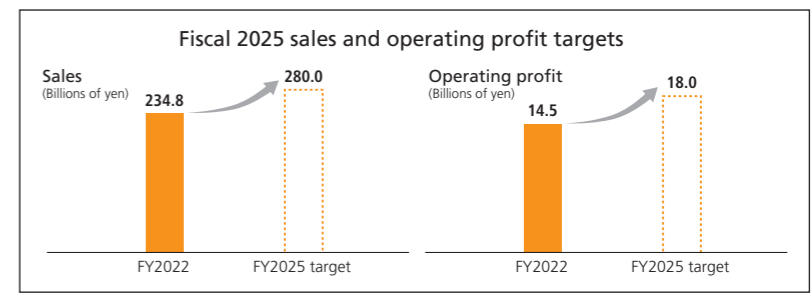
We expect demand for digital commercial and industrial printing to rise over the medium through long terms. In a survey in 2022, Caslon & Company, an American market advisory and research firm, predicted that digital color commercial print volumes would expand at a compound annual growth rate of around 10% from 2022 through 2030. A shift to digital printing continues in Europe and the United States. Market growth should be high in China and other emerging economies owing to increasing demand. To become the industry leader, we are addressing the business challenges of our customers and their growing interest in safeguarding the environment.

Risks

- Printing industry's dwindling profitability and reduced investment appetite due to soaring raw materials, logistics, and electricity costs
- Falling demand for in-house printing as online media usage expands

Earnings opportunities

- Accelerating shift to digital printing to resolve automation, process visualization, and other emerging customer management issues
- Greater environmental awareness fueling demand for eco-friendly digital printing



Medium- and long-term opportunities and strategies under 21st MTS

Opportunities

- Expand new products and services to cater to accelerating digital printing needs
- Reinforce value-added solutions to address a range of customer issues
- Strengthen business foundations to drive profitable growth

Strategic initiatives

Commercial Printing business
We will accelerate progress with digital printing by rolling out excellent, dependable models. We will reinforce our lead in color cutsheet and high-speed inkjet printers by meeting the digital printing needs of customers around the globe. We will improve printing site workflows and provide new digital services that help customers to automate and visualize processes and support their marketing activities. We will bolster sales in China, Indonesia, India, and in other highly promising markets.

Industrial Printing business
Markets are expanding for various applications in the inkjet head business. These include signage displays, apparel fabrics, packaging, labels, and 3D printing. We aim to expand sales in key Chinese and other regional markets by providing high-value-added solutions, including technical support and tools. On the textiles front, we will bring out new products to expand our share of the direct-to-garment printer market and expand applications for this hardware.

Strengthening our business foundations
Digitalizing and streamlining development, production, sales, and service processes will enable us to achieve profitable growth.

Development: Digitalize processes to streamline operations, optimize product and development portfolio, and overhaul development processes

Production: Optimize plants and reinforce production capabilities through digital manufacturing and automation

Sales and service: Increase the number of sales and service employees with outstanding expertise in commercial printing and improve efficiency of remote maintenance services

Resolving social issues through business

Helping a customer switch from analog to digital printing

In the United States in November 2022, long-time customer Heeter opened its Digital Printing Center at a cost of more than \$4 million. It installed three RICOH Pro VC70000 continuous feed printers, two RICOH Pro C 9210 production sheet-fed presses, and a pre-release version of the RICOH Pro Z75 sheet-fed inkjet press. We formed a partnership with Heeter to aid its transition from analog to digital printing. Over the past five years, it has digitalized 60% of its operations, lifting production capacity by 65% and energy efficiency by 25%. That company has acquired more than 80 new customers over the past four years. Ricoh will keep co-creating with Heeter and other customers around the world to help them resolve their DX and social issues.



Business unit overview

RIS

RICOH Industrial Solutions



Yasutomo Mori
President of RICOH Industrial Solutions Business Unit

Message from Business Unit President

Grow by transforming and creating digital service businesses in manufacturing, logistics, and industry frontlines

We aim to become a new business pillar for the Ricoh Group by pursuing high profitability. We will do that by streamlining core businesses and accelerating investments to create digital services that help improve on-site operations for customers in the manufacturing, logistics, and industrial fields.

We are fully leveraging the strengths that Ricoh has amassed over the years in optical, precision processing, thermal, and image processing technologies. We go well beyond just providing hardware and supplies to deliver total solutions that expand our value chain.

In continuing to deliver value to our customers, we pursue Sustainable Development Goals and help resolve social issues. We will endeavor to provide high-value-added digital services and create businesses that deliver Fulfillment through Work for customers and ourselves alike.

Business features and strengths

Thermal business

- Proprietary thermal processing and coating technologies and a global production and sales network have enabled us to capture top shares of the world markets for thermal paper and thermal transfer ribbons for logistics, retailing, medical care, transportation infrastructure, and other applications
- Developing label-free thermal printing system that combines optical and thermal technologies for fast, high-resolution printing of variable information, primarily for the food industry. This setup enhances operational and resource efficiency, thereby helping to resolve social issues, such as by shrinking environmental footprints

Industrial Products business

- Providing products and solutions primarily to the automotive industry by tapping our optical and image processing technologies
- Proprietary jetting technology transforms automotive coating processes

Business risks and opportunities

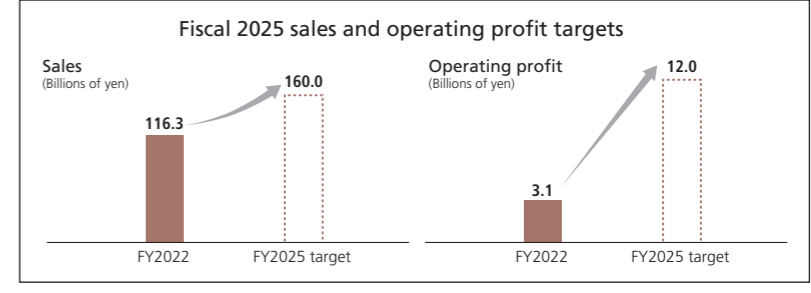
Demand is stable in the thermal market, with process automation needs rising in manufacturing and other fields. At the same time, we expect that market growth slowdowns will continue to hamper operations for some time beyond fiscal 2023. This is because growing geopolitical risks, supply chain disruptions, and an automotive industry downturn stemming from semiconductor shortages will prompt customers to put off installing new facilities. In our core businesses, we will respond flexibly to changes in the business climate through optimal price adjustments and other measures. At the same time, we will create digital services that match emerging frontlines needs, evolving into a business portfolio that keeps growing over the medium through long terms.

Risks

- Market growth slowing owing to prolonged conflict in Ukraine and a delayed Chinese economic recovery
- Earnings declining amid chronically high raw materials and energy costs
- Downturn in automotive industry because of semiconductor shortages

Earnings opportunities

- Catering to stable thermal market demand and an increasing need for detailed product information disclosure
- Leveraging process automation progress to meet demand for greater reliability and speeds
- Responding to expanding frontlines digitalization needs
- Expanding demand for products and services that shrink environmental footprints and help reach Sustainable Development Goals



Medium- and long-term opportunities and strategies under 21st MTS

Opportunities

- Further enhance earnings by pursuing operational excellence in core businesses
- Expand business by providing total solutions to enlarge the value chain and strengthen touchpoints with end users
- Tap accumulated expertise and technologies to create new digital services for manufacturing, logistics, and industry frontlines

Strategic initiatives

Digitalizing frontlines in three steps
We provide optimal digital services in three steps to help customers resolve their issues and unleash their creativity.
Step 1: Frontlines analog-to-digital (AD) conversion: Digitalizing frontlines analog data and automating manual tasks
Step 2: Frontlines DX and manufacturing: Using data to digitalize frontlines business processes
Step 3: Frontlines data usage: Helping customers leverage data (including to overhaul production, streamline businesses, and enhance quality) to unleash their creativity
 We will expand the thermal business by providing conventional thermal media to drive frontlines analog-to-digital conversions (Step 1), reinforcing end-user touchpoints, and providing total solutions (Step 2). We will harness the world's fastest variable information on-demand printing technology, which makes it possible to assign individual product IDs without compromising high-volume production efficiency. We will secure more segmented data to meet the challenges of using frontlines data, such as for product traceability and new marketing techniques (Step 3).
 In the industrial equipment business, we have endeavored to automate inspections (Step 1) as part of coating processes with a system that draws on our image capture and recognition technologies to inspect vehicle coatings. We look to expand our business to provide equipment and services, including for pre- and post-inspection processes (Step 2). We will significantly increase the volumes of production site data to contribute to quality improvements, warranties, traceability, and upstream and downstream process innovations (Step 3).
 We will maximize our value proposition in various ways, including by investing extensively in collaborating with and acquiring other companies as necessary.

Enhancing the profitability of core businesses
 We will keep reinforcing our corporate structure by enhancing internal efficiency, such as through steps we took through fiscal 2022 to streamline production and cut costs, while making timely price adjustments in response to fluctuating expenses. We will thus create a business structure that is more resilient to changes in the operating climate.

Resolving social issues through business

Label-free thermal printing

Convenience store chain operators Seven-Eleven Japan Co., Ltd., and Lawson, Inc., adopted a Ricoh-developed technology that eliminates the need for paper labels by enabling direct thermal or laser head printing on transparent film. In April 2023, we expanded our business in this area by establishing Ricoh Nakamoto Smart Packaging with Nakamoto Packs Co., Ltd. Because direct printing on film is label-free, it helps shrink environmental footprints. We aim to generate annual sales with this technology of at least ¥10 billion by fiscal 2025. We look to also offer this technology in Europe and other overseas markets in which eco-consciousnesses are particularly strong.

Vehicle painting line builder

We have built a presence in the vehicle coating business centered on equipment that leverages proprietary jetting technology to apply highly viscous inks and inks incorporating solids. Augmenting that offering are exterior inspection and paint repair equipment. We will tap data that we amass on coating lines to set up a digital service that helps improve upstream and downstream processes while stabilizing and enhancing the quality of the complete production process. We thereby aim to lead the global vehicle coating market with inkjet technology.

Business unit overview

RFS

RICOH Futures



Kazunori Kobayashi
President of RICOH Futures Business Unit

Message from Business Unit President

Making the world a better place by resolving social issues

The mission of RICOH Futures is to leverage its unique technologies to resolve social issues through business and elevate the Ricoh brand through innovations that contribute to such solutions. By revolutionizing digital technologies that transform the world of work, we aim to fulfill our vision of fostering regional and social development while helping to attain a carbon-neutral, circular economy. A key consideration in creating new businesses is to painstakingly craft a convincing story of how best to balance technological and operational development and determine what we will offer, to whom, and how to build a devoted customer base for our offerings.

While drawing on proprietary technologies and co-creating strategically with partners through open innovation, we will proudly earn stakeholders' trust and make our vision come true.

Business features and strengths

We seek to become a global ESG leader by innovating ways to achieve a sustainable economy.

- Develop businesses and technologies by focusing on ventures that help resolve social issues
- Incubate new business creation processes by collaborating with corporate R&D units
- Undertake open innovation initiatives by employing proprietary optics, image processing, AI, inkjet, materials, and other technologies that Ricoh has amassed in existing businesses, co-creating with venture enterprises, establishing funding, and undertaking other initiatives

Business risks and opportunities

The need to enhance productivity as workforces shrink is fueling demand to digitalize operations. Also, progress toward a decarbonized, circular economy and increased expectations for longer healthy life expectancies represent opportunities to expand our business. We will draw on our solid proprietary technologies and customer base to pursue open innovation and swiftly resolve social issues while creating new businesses.

<p>Risks</p> <ul style="list-style-type: none"> • Delays in materializing and expanding the scales of businesses that resolve social issues • Poor responses to ethical, legal, and social issues that could undermine corporate credibility and lead to missed business opportunities • Lost service opportunities owing to parts and raw materials supply delays or stoppages
<p>Earnings opportunities</p> <ul style="list-style-type: none"> • The need for frontlines DX employing 360° images • The need to boost domestic drug discovery in view of the threats of new infectious diseases and economic security requirements • Rising hopes for bio-materials with low environmental impacts • Increasing expectations for highly functional, high-performance rechargeable batteries for various applications

Medium- and long-term opportunities and strategies under 21st MTS

<p>Opportunities</p>	<ul style="list-style-type: none"> • Materialize and expand businesses that help resolve social issues • Engage in open innovation to create new value chains and customer value • Balance allocations of management resources to priority businesses
<p>Strategic initiatives</p>	<p>Under the 21st MTS, we aim to build a solid revenue stream in frontlines and social domains by expanding the scale of businesses that help resolve social issues. We will thus draw more on Group technologies and resolve social issues through open innovation. At the same time, we will assess conditions in each business segment, balancing management resource allocations and decision making.</p> <p>Smart Vision business We seek to extend the value of 360° content in various applications. This content allows people to virtually access various spaces while remaining remote. We will augment real estate photography and on-site DX at construction sites by working with customers to leverage 360° content in new areas.</p> <p>Biomedical business In fiscal 2022, biotechnology venture company Elixirgen Scientific became a Ricoh subsidiary. By combining its technology and expertise with our technology, strengths and resources, we are bolstering our drug discovery support business using induced pluripotent stem cells. We are also developing and building a manufacturing infrastructure for messenger RNA-based* therapeutic drugs in Japan. We seek to contribute to human health and well-being while enhancing domestic economic security, boosting our manufacturing capacity for medical mRNA. We also aim to support the discovery of vaccines and other medical RNA drugs.</p> <p><small>* Messenger RNA is a molecule that copies some genetic information from DNA and synthesizes proteins.</small></p> <p>PLAiR business PLAiR is a novel compostable foamed polylactic acid sheet derived from plants. We created it with proprietary technology as an alternative to fossil-derived plastics. We can thus help reduce pollution from those materials by constructing a new ecosystem. The first application taking advantage of PLAiR's lightness and heat resistance was food containers. We aim to expand our PLAiR business by co-creating with partners.</p> <p>Inkjet battery business We developed a technology that uses inkjet technology to manufacture rechargeable lithium-ion batteries in diverse shapes. We will deliver new value through an array of batteries for Internet of Things and wearable devices.</p>

Resolving social issues through business

Digitalizing construction industry processes with 360° images

The Japanese government looks to apply its Act on the Arrangement of Related Acts to Promote Work Style Reform to the construction sector from April 2024. Thus, there is an urgent need to boost labor productivity, fueling interest in the sector in digitalizing business processes. It was against that backdrop that we have focused on collaborating with construction tech companies from fiscal 2022. We are leveraging the RICOH360 platform to help resolve the sector's issues and expand our business using 360° images and video.

Kenichi Nakabori, Representative Director, log build Co., Ltd.

At log build, established in 2020, I draw on more than 20 years of experience as a construction company manager and site supervisor in my quest to resolve social issues. These include personnel shortages among general contractors, housing, renovation, and other firms, an aging workforce, long working hours, and management structures that rely heavily on the skills of individual workers. I am delighted to collaborate with Ricoh to enhance the user experience and streamline overall construction workflows with 360° images. I will keep striving to revitalize the construction sector.

Managing frontlines by linking drawings to 360° images

