

# Innovation Strategy



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CTO

## Driving innovation with unique technologies in collaboration with customers

Our goal as a digital services company is to help people create knowledge. As work styles and workplaces diversify, we will unleash human creativity through our unique technologies. We will deepen digital transformations by treasuring authentic customer experiences. As a technology company, we will help shape the future of the workplace.

### Key value creation focuses

I became Chief Technology Officer in fiscal 2024. I lead the Group's digital strategy and oversee technology and intellectual property strategies to help generate customer value. Our vision is to leverage our unique technologies to drive innovation with customers. We have identified three key areas of focus to achieve this.

Three points	Initiatives
<b>Point 1</b> Focus on growth areas and strengthen governance to build our future as a technology company	We will strengthen governance in allocating R&D investments, focusing on select areas to improve returns on technology investments.
<b>Point 2</b> Strengthen IT infrastructure, data utilization, and technology to drive our digital strategy and enhance internal operational efficiency	We will accelerate our growth as a digital services company by enhancing our technological capabilities within our digital strategy. We will start by leveraging internal data to streamline business processes and drive digital transformation groupwide. After refining artificial intelligence technologies through in-house applications, we will offer that expertise to our customers.
<b>Point 3</b> Develop a comprehensive intellectual property portfolio and nurture technical talent	We will upgrade our intellectual property portfolio to include user interface and user experience rights. In bolstering technical talent, we will strengthen the development of manufacturing experts who support our products and services and of digital professionals who create and accelerate digital services.

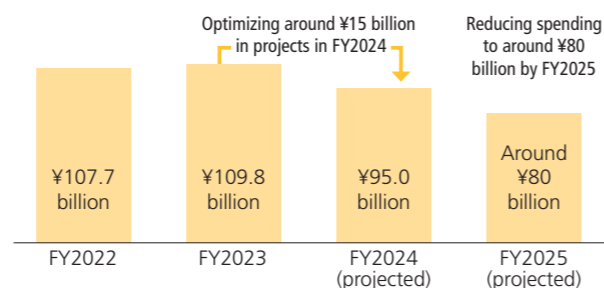
### Point 1 Undertaking R&D governance from a Management of Technology perspective

As part of the Corporate Value Improvement Project, we plan to streamline R&D investments at around ¥80 billion by fiscal 2025, from about ¥110 billion in fiscal 2023. We are optimizing R&D expenditure by closely aligning those activities to digital services and phasing out projects with lower commercial potential. Beyond just rationalizing R&D expenditure, we are reinforcing our approach from Management of Technology perspectives to capitalize on technology investment opportunities. Specifically, we are strengthening our company technology strategy to drive digital services development. To focus investments in key R&D areas, we are reallocating their budgets, typically earmarked by organizational unit, to a more technology-driven approach. We are ensuring effective governance by building frameworks and systems to manage both R&D expenditure and development progress companywide.

There are two prime R&D domain priorities:

1. Creating value through new technologies in the workplace domain, where we hold a strong business position, such as in document workflow areas
2. Creating value for new customer segments by leveraging our robust technological capabilities and competitive edge, such as in areas centered on inkjet heads

R&D expenditure



For more details see [Human Capital Strategy](#) ▶PP. 36-38

### Point 2.1 Driving digital strategy to propel innovation

We are driving our digital strategy through four core initiatives: developing and strengthening digital talent, contributing to business growth through the RICOH Smart Integration (RSI) platform, preparing and deploying operational excellence foundations, and advancing AI technologies. Our endeavors aim to deepen existing businesses, enhance productivity and operational efficiency through internal digital transformations, and create new customer-centric value.

#### Four key strategies under the 21st Mid-Term Management Strategy

- 1 Develop and strengthen digital talent
- 2 Contribute to business through the RSI platform
- 3 Prepare and deploy foundations to attain operational excellence
- 4 Develop AI technologies

### Point 2.2 Contributing to business through the RSI platform

RSI is a cloud-based common platform incorporating the functions needed to develop and deliver digital services, facilitating global business creation. It streamlines product development and cuts costs while offering high scalability and fostering innovation. This enables us to swiftly deliver high-quality, high-value-added services to customers.

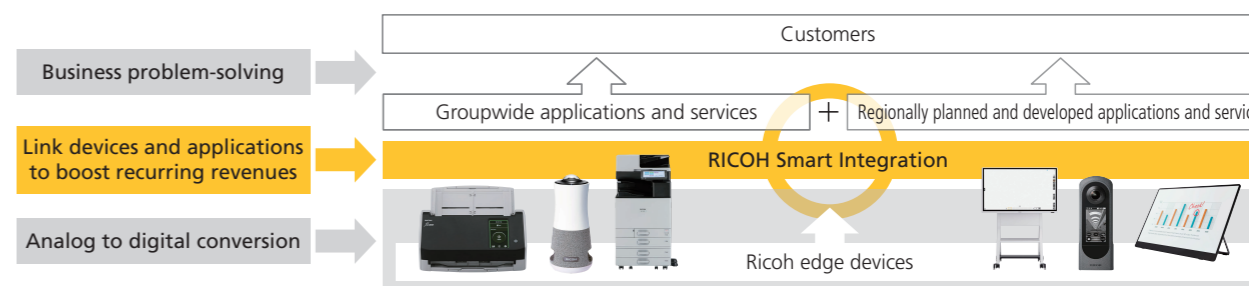
In fiscal 2024, we will focus on using data better to integrate data across services and support customer success activities\* as a platform linking our global applications and services.

Specifically, we will expand the global deployment of generative AI technologies, enhance the environment for

collecting and analyzing customer interaction data, and bolster service delivery systems. One initiative includes upgrading the RICOH kintone plus app store, launched in fiscal 2023, by adding proprietary plug-ins and app templates.

Also, we will develop comprehensive managed services for major corporate customers with advanced communication and collaboration needs. By integrating device management, service connectivity, and internal IT and core systems integration within workplaces, we seek to create work environments that ensure customer success.

\* Customer success activities promote usage and up-selling/cross-selling to users



### Point 2.3 Building and internally harnessing a platform for delivering operational excellence

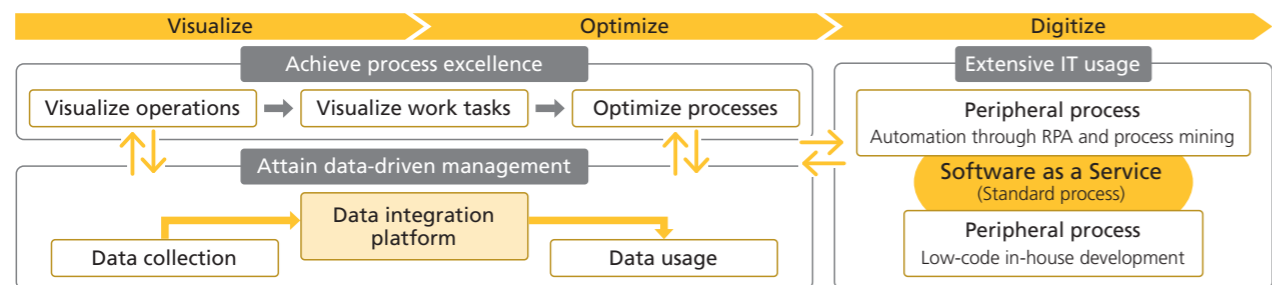
In pursuing operational excellence, we are restructuring work processes groupwide by leveraging digital technologies and data to achieve structured and efficient reforms. We developed a framework that covers entire business processes, not just parts of them. This framework drives our process digitalization initiatives. We have also established training programs to equip employees with the

necessary skills to digitalize processes, enabling them to take the initiative and use these systems to boost their productivity and motivation.

Since fiscal 2022, we have drawn on our internal process digitalization record to offer services that collaboratively resolve customer challenges. This approach has already delivered significant results.

In our framework for digitalizing business processes, we balance in-house development using low-code tools with software as a service (SaaS) solutions integration. While optimally aligning our processes with standard SaaS processes, we also develop our own solutions for processes that require differentiation or need to adapt to ongoing changes. This approach enables us to act quickly and flexibly to future changes.

We are simultaneously establishing a data integration



**Point 2.4 Developing and deploying AI technology to create services in growth areas**

We have developed a range of technologies to create digital services for the office arena. These include such AI technologies as our proprietary large language model supporting Japanese and a digital human\*1 that assists users through voice interactions. The excellent customer reception of these offerings has generated numerous inquiries about using AI to improve business processes.

As part of our generative AI endeavors, we unveiled a highly accurate 13-billion-parameter Japanese large language model in January 2024. We plan to launch models providing enhanced instruction comprehension capabilities to support the construction of private models for the manufacturing, finance, and other sectors with stringent security and transaction requirements. We are also developing such solutions as the RICOH Digital Buddy, a retrieval-augmented generation solution that integrates external information retrieval with large language models. Other creations include AI agents employing proprietary voice recognition technology to easily automate customer workflows.

Moreover, we are developing AI for classification and analysis. By incorporating no-code development tools in

platform and using data effectively. This ensures that we can tap massive data volumes that we accumulate through SaaS solutions and internal IT systems to execute swift and accurate decisions, business growth, and process reforms.

To maximize synergies between processes, IT, and data and more swiftly attain operational excellence, we consolidated these functions into a single unified organization in April 2024.

RSI, we enable customers to independently classify and analyze their data so they can streamline their digital transformations.

We have developed AI technologies for domestic sales subsidiary Ricoh Japan to support its growth. These tools assist sales by analyzing vast amounts of data, including daily reports. We confirmed the effectiveness of these technologies through proof-of-concept activities and started rolling them out operationally from August 2024.

We are expanding the use of generative AI in business processes to deliver operational excellence. For example, we have reviewed internal procedures for IT infrastructure inquiries by integrating generative AI and chatbots. This approach has streamlined operations by greatly reducing workloads.

We envision digital clones\*2 and AI agents\*3 playing significant roles in office environments. To that end, we are developing systems that enable multiple AI technologies to collaborate, creating multi-AI agents that can handle various situations.

\*1 AI that looks and functions like humans \*2 A virtual entity or system that imitates and replicates an individual's actions and thoughts \*3 AI that performs tasks on behalf of users

We will develop technologies that help customers digitalize business processes with AI by integrating our proprietary large language model training technology with

the information and communication technology and cloud expertise that we have honed through office services development.

**Point 3.1 Deploying ethical technology practices across research, development, sales, and operations**

Developing and using digital services incurs significant risks of unintentionally violating human rights. For example, the services could perpetuate discrimination, bias, and inequality. Unanticipated societal impacts could result from malicious external attacks on systems. We are keenly aware of these challenges. We are committed to curbing inherent ethical, legal, and social risks when developing, deploying, and operating digital services. In 2023, we established the Ricoh Family Group Ethics Office to mitigate these risks. We also instituted the Ricoh Group Technology Ethics Charter<sup>1</sup>, which covers research, development, sales, and operations of digital services harnessing AI and imaging devices. We are accordingly setting ethical technology goals, incorporating technology assessments in development processes, creating awareness programs, and organizing symposiums.

In response to growing public concerns over the fast evolution of generative AI, we established guidelines to ensure its responsible use. We believe that just complying with legal requirements and implementing passive

measures is insufficient to mitigate ethical risks in technology. We have grounded our ethical considerations in our founding principles and have committed to upholding our values in society. With AI, we maintain rigorous technology management practices to control safety risks, addressing not only functional safety but also the ethical and psychological well-being of users.

Through our activities, we assess and address the inherent risks in digital services and their core AI elements and endeavor to mitigate ethical risks.

Provide the world with safe and trustworthy technology through user-centric development

- FY2023**  
Establishes Ricoh Group Technology Ethics Charter and sets up cross-functional committee
- FY2019**  
Expands efforts beyond research to encompass technology development
- FY2017**  
Establishes Ricoh Ethical Review Board (a third-party organization that includes external experts)

**Point 3.2 Reinforcing intellectual property and design to foster business growth**

Intellectual property is a key outcome of our technology development efforts, which we align strategically with our companywide technology initiatives to reinforce our focus on the digital domain. We collaborate with technology experts in companywide technology management meetings to ensure that our intellectual property strategy supports broader technological goals. This approach enables us to generate intellectual property from short-term technology development while stepping up efforts to create intellectual assets that align with our long-term technology strategy.

On the design front, we will focus on workers and elevate the service experience so users find our offerings indispensable. We seek to drive workplace innovation by

seamlessly connecting products and services to provide more holistic value experiences and continually enhance quality. Also, we are ramping up our patent filings relating to user interfaces and experiences, building an intellectual property portfolio matching our position as a digital services company.

We look for digital services-related patent applications to account for more than 60% of our patent filings by fiscal 2025, reflecting our sales ratio target for those services. This is also part of our overall ESG goals, with a companywide emphasis on digital services. At the same time, we will draw on our unique technological strengths to build a robust patent portfolio in the digital domain, thus driving business growth.