

Delivering total printing solutions

We provide digital printing-related products and services that enable print business operators to engage in high-mix, low-volume production.



Commercial printing head

Sergio Kato
Corporate Senior Vice President
General Manager of Commercial
Printing Business Group
Ricoh Co., Ltd.

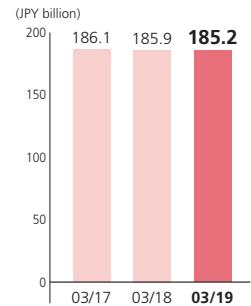
Strategic direction

We have combined our core electrophotographic and inkjet technologies to bolster solutions for various market needs, including for core, enterprise, and commercial printing, and to support their printing businesses.

Providing value to society

We will contribute to a carbon-free, recycling-oriented economy by promoting on-demand printing as a vehicle for cutting excess inventories from print production.

Sales



Business climate and growth strategies

The Ricoh Group has expanded its products and services to cater to a range of market needs, notably for enterprise and commercial print on demand (POD) printing. ▶

The upside potential for digital printing is exceptional in the commercial arena, which encompasses advertising and publishing customers. Beyond regular offset printing, demand is rising for high value-added on-demand and variable printing, which offers job runs in the volumes needed.

We are catering to such market developments by packaging high-performances, attractively priced products and workflow solutions—a Ricoh strength—to print business customers. We thereby create new customer value with digital technology while cultivating major commercial printing customers.

We offer advanced printing processes that combine our printing technologies and expertise. We also focus on marketing solutions encompassing everything from consulting to printing and delivery to help lift overall productivity in customer value chains.

We offer digital application, high-productivity, and workflow products and solutions to cater to three distinct customer market segments. First, our digital application solutions make it possible to create high-value-added applications with top-quality models that support diverse paper stock and cutsheet printers that can handle special colors to add impact to printed matter. Second are high-productivity solutions for the commercial printing market through top-quality, high-productivity continuous feed printers. Third, we offer workflow solutions that optimally streamline offset and other print operations. The Ricoh Group is pushing ahead in overhauling its earnings structure so it can combine optimal products and solutions and generate sustainable growth.

Key products and solutions

Digital application solutions

Cutsheet printers



RICOH Pro C7200S

Harnessing special colors to deliver vivid results



RICOH Pro C9200S

Top-quality flagship model handles an array of papers

High-productivity solutions

Continuous feed printers



RICOH Pro VC40000

High-speed transaction printer



RICOH Pro VC70000

Delivers outstanding image quality and speed with offset papers

Workflow solutions

Avanti-MIS Business workflow management
Ricoh Process Director Print production workflow management



TotalFlow series Print job optimization

Ricoh Supervisor
IoT management

[Refer to our website](#)


[Production printing www.ricoh.com/products/productions-printers/](http://www.ricoh.com/products/productions-printers/)

Supplying digital printers for diverse needs

We rolled out the RICOH Pro C9210/9200 in July 2018 as a flagship model of color cutsheet printers offering essential capabilities for successful offset-to-digital migration among commercial printers. They handle corrugated paper, long sheets, and other special media, and can print catalogs, posters, professionally designed book covers, and business cards. The series also streamlines operations with its high image quality and stability. Its new Inline Quality Control Technology for High End capability employs internal sensors to automate color and image position adjustments and other tasks that would normally be the preserve of skilled operators. Also installed is a

new function that automatically controls color fluctuations during print runs, conserving labor while stabilizing quality.

In May 2019, we began domestic sales of the RICOH Pro VC70000, which we earlier rolled out overseas. This high-speed continuous feed inkjet printing system features new drying technologies and inks > 1 to dramatically improve productivity in jobs with coated paper. This system can greatly enhance sales per unit of time. With its high density and extended color gamut, this system can handle print jobs demanding high image quality and make it possible to efficiently operate dual offset and digital facilities.

 Refer to this page

1 Technological Strengths
P.39



Corrugated paper print samples



Long-sheet print samples



RICOH Pro VC70000

Collaborating with customers to broaden the potential of commercial printing

In 2016, we set up RICOH Customer Experience Centers > 2 in Ota Ward, Tokyo and Rayong, Thailand. These facilities augment counterparts in the United Kingdom and the United States. We thus maintain such centers in all four of our operating regions.

These setups offer first-hand access to our latest products and solutions and help enhance the overall productivity of customer print processes. Through printing, we better understand customer businesses, reflecting what we learn in development, planning, and production and in creating innovative solutions.

RICOH Customer Experience Centers collaborate to share digital printing knowhow and satisfy the diverse requirements of customers.

Customer Experience Centers



UK



USA



Thailand



Japan

 Refer to our website

2 RICOH Customer Experience Center www.ricoh.com/about/global-network/

Contributing to safer and more reliable clothing, food, and housing

We are harnessing the inkjet technology we have cultivated to broaden the potential of printing, transform customer value chains, and help resolve social issues.



Industrial Printing Business

Tetsuya Morita
Corporate Vice President
General Manager of Industrial
Printing Business Group
Ricoh Co., Ltd.

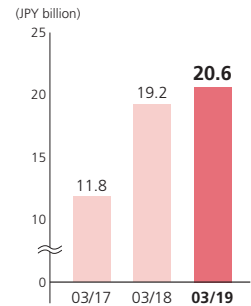
Strategic direction

In the industrial printing business, we provide a range of solutions that contribute to safer and more reliable clothing, food, and housing. This is through [inkjet printheads](#) ¹ compatible with diverse, highly durable inks, inks providing outstanding safety and functionality in printing on various media, and our image processing technology. We will open new vistas for industrial printing by expanding customer value and lowering environmental impacts worldwide.

Providing value to society

By switching from analog printing in an array of fields to digital inkjet printing, we can reduce water pollution and inventory losses through high-mix, small lot production as a leading contributor to circular economies and safer and more reliable clothing, food and housing all over the world.

Sales



Business environment and growth areas

In industrial printing, the great environmental impact of volume-driven conventional analog printing has become a global issue. Other considerations are diversifying needs and the pursuits of individuality and differentiation that are driving demand for high-mix, small-lot production.

The Ricoh Group maintains three product groups in industrial inkjet technology, a key strength.

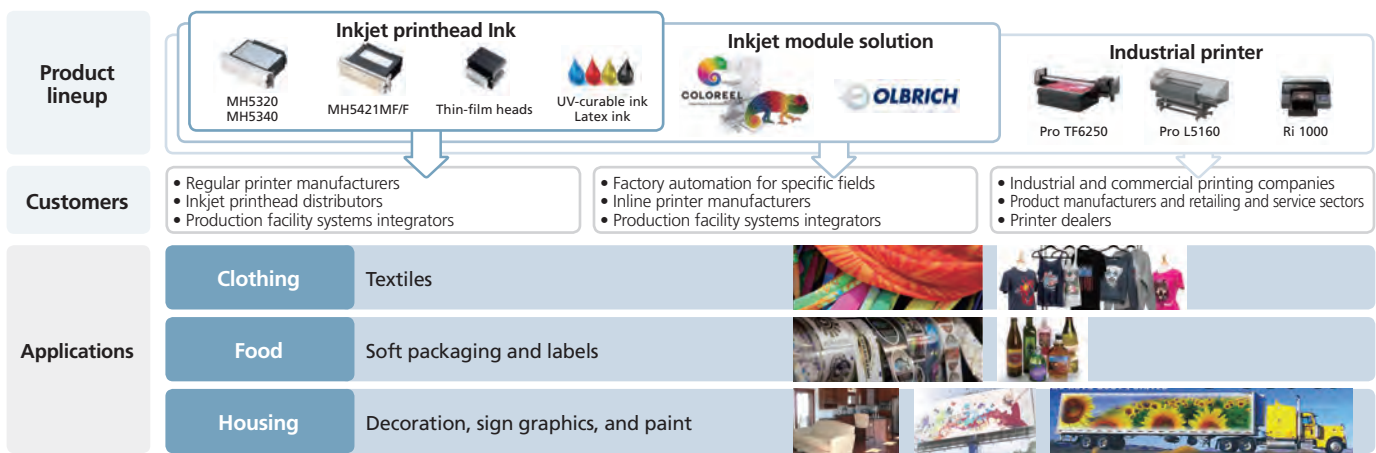
Our offerings make inkjet-based digital printing possible in various ways and help lower the environmental impacts of clothing, food, and housing through high-mix, small-lot runs.

With the clothing, food and housing markets expected to grow, we are expanding businesses strategically by concentrating on textiles (fabrics and clothing), soft packaging and labels, decorative

applications (including wallpaper, building materials, furniture and interiors, and automotive interiors and exteriors), and sign graphics.

In the year ended March 31, 2019, we collaborated with Sweden's [Coloreel](#) ², which develops on-demand thread dyeing for embroidery. We acquired LAC Corporation (since renamed Ricoh Digital Painting Company, Ltd.), which has inkjet technology for printing on the sides of automobiles, aircraft, and other objects. We also purchased ColorGATE Digital Output Solutions GmbH, a leading software provider with strengths in color management. We are drawing on the comprehensive capabilities of those entities to collaborate with industrial printing customers to create new digital printing value.

Expanding profit contributions from new businesses in industrial printing



Refer to our website

¹ [Inkjet printheads](http://inkjet.printheads.industry.ricoh.com/en/industrialinkjet/) industry.ricoh.com/en/industrialinkjet/

² [Coloreel](http://www.ricoh-europe.com/news-events/news/ricoh-partners-with-coloreel-to-revolutionise-textile-industry-with-thread-colouring-innovation.html) www.ricoh-europe.com/news-events/news/ricoh-partners-with-coloreel-to-revolutionise-textile-industry-with-thread-colouring-innovation.html

A range of solutions that help customers to grow their businesses and shrink their environmental footprints

Inkjet printheads >

Leveraging proprietary technologies to deliver high durability and ink compatibility

One key offering is MH series heads, which have captured high market shares among UV-curable inkjet printers. That is because they stably discharge high-viscosity UV-curable and other inks, employ built-in heaters and push-mode piezo, and also offer durable stainless steel housings. We have taken advantage of our strengths to expand our business, capitalizing on China's expanding demand for sign graphics. Our fifth-generation MH series heads dominate the Chinese market, with a 45% share.

We developed a head with a proprietary ink recirculation structure that enables constant flows to nozzles, stopping them from drying and preventing ink particle sedimentation, for very stable ejection. In 2019, we rolled out sixth-generation MH series heads. We bolster support for application inks.

From the year ending March 31, 2020, we started shipping samples of advanced Piezoelectric thin-film inkjet printheads. They are highly integrated and easy to miniaturize, so we anticipate solid demand for use in highly productive industrial printers. We will continue to develop applications with customers in the growing industrial printing arena, and look to expand our business.

Inkjet module solutions

Using printing technologies to help customers improve processes

Imaging system solutions that combine heads and inks according to applications and provide image processing technology modules should expand in the years ahead, broadening the potential of print technology. We collaborate with factory automation vendors, system integrators, and other cooperate customers from the early development stages and help customers transform processes by offering proposals that harness our technological capabilities and the comprehensive strengths of our value chain.

Since agreeing to partner with us in May 2018, Coloreel has been developing machinery that uses inkjet technology in coloring white base thread on demand during embroidering. The Ricoh Group develops and provides inkjet printing modules that are key technologies for such a setup. This makes it possible to dye yarns during production processes so Coloreel can provide broader value in the textiles, fashion, sportswear, and other sectors.

Industrial printer

Extensively launching new offerings in a fast-growing segment

We rolled out the RICOH Pro T7210 UV and RICOH Pro TF6250 in 2018 and 2019, respectively. These large format flatbed printers employ UV-curable inks offering high adhesion on glass, metals, wood, and other media, and have attracted great interest from customers in decorative and sign graphics businesses.

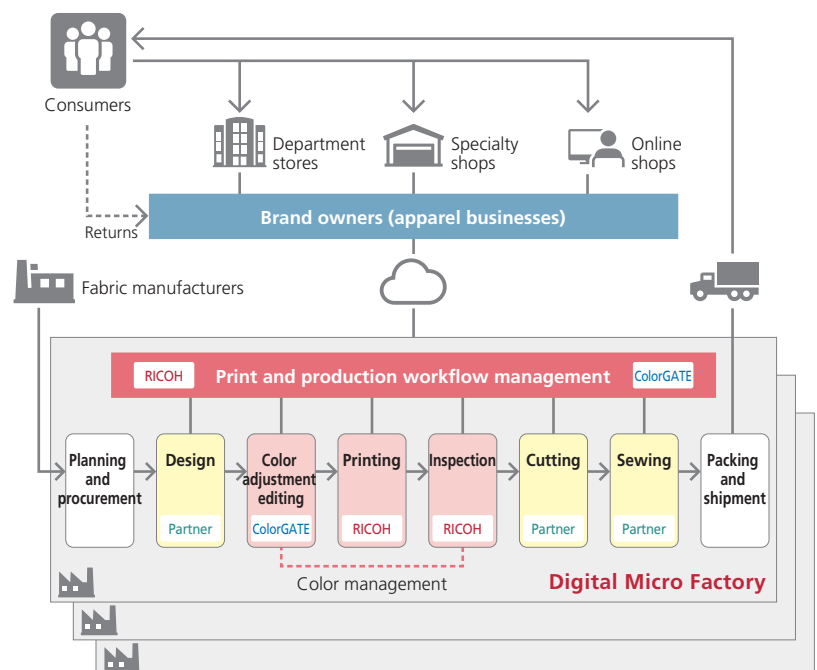
The RICOH Pro L5160, a roll media printer that we launched in Europe and the United States in 2019, is a high-productivity setup that employs our proprietary bright, and high-adhesion latex inks. It can thus handle everything from paper and fabrics to polyvinyl chloride, tarpaulins, and polyethylene terephthalate media for such applications as wallpaper, banners, posters, and large signs.

For textiles, we brought out the RICOH Ri 1000 in Europe and the United States in 2019. This direct-to-garment printer harnesses the technology of AnaJet LLC, which we acquired in 2016.

Refer to this page
Technological strengths
P.39

Transforming the value chain and lowering environmental impact

We contribute to effective apparel product creation by offering solutions that link supply chains. We aim to realize our Digital Micro Factory Concept to streamline operations throughout the textile arena while lowering environmental impact. We will specifically expand printing technology in the textiles field and employ software that efficiently manages workflows to transform the textile market value chain.



Contributing to streamline retails, logistics and manufacturing sites worldwide

We will take advantage of the competitiveness of our Thermal business (thermal paper and transfer ribbons) to maximize earnings while building new customer value and expanding in our new laser printing solutions business.



Thermal Media Business
Keiichi Shiokawa
 General Manager of Industrial Media Solutions Business Group Ricoh Co., Ltd.

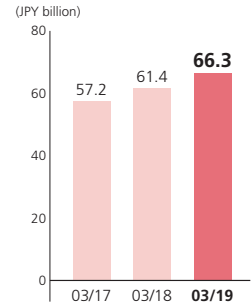
Strategic direction

We draw on thermal media technologies (for chemicals formulation and coatings) that we have cultivated over many years to attain world-class quality and supply stability, helping enhance the efficiency of retail and logistics sites. We are using our laser solutions that are a combination of thermal media technologies and optical system design technologies to create new customer value and drive further growth. These solutions comprise rewritable laser systems and high-speed laser printing systems.

Providing value to society

We will cut paper usage by supplying liner-less labels and rewritable printing processes, and will help materialize a decarbonized, circular economy.

Sales



Supplying media and systems for printing variable information that identifies individuals at retail, logistics and manufacturing sites

The Ricoh Group supplies thermal paper >■ that has set the industry standard for quality. This coated media produces prints by changing color when exposed to heat. We have a roughly 50% share of the global market for thermal label applications. We aim to expand our business in this area in view of tighter mandatory requirements for presenting allergy and nutritional information to enhance food safety and growth in the e-commerce market.

Our prime customers for thermal transfer ribbons are manufacturers and logistics firms. We look to set up production, sales, and marketing units in locations near our customers, notably in India, Indonesia,

Thailand, and Vietnam, and provide prompt deliveries and technical service.

Our rewritable laser system enables the reuse of labels on returnable boxes and plastic containers in manufacturing and logistics. The system eliminates a lot of time spent affixing labels while contributing to the environment by reducing label waste.

Our high-speed laser printing system can print variable information on plastic bottles and at food production sites at up to five meters a second without lowering productivity. This performance is impossible with conventional inkjet and thermal printing setups. We will harness this technology to provide new customer value.

Examples of application



Apparel care labels

Thermal paper

Thermal labels for outputting variable information color on scale and barcode printers



Food portion labels Shipping labels Medical wristbands Lottery and other tickets

Thermal transfer ribbons

Barcode printer ink ribbons that print variable information on paper and film



Process control labels Apparel care labels Merchandise management labels Date coding

Laser solutions

Rewritable laser system

This system can repeatedly print and delete variable information



Returnable boxes Inter-plant transport trays Medicine delivery trays in hospitals

High-speed laser printing system

An on-demand setup for printing at up to 5 meters a second



Customized labels for plastic beverage bottles (printing speeds of 3 to 5 meters per second)

Refer to our website

Thermal media industry.ricoh.com/en/thermal/