I’m Tetsuya Morita, and I look after the Industrial Printing Business Group.
- Growth Strategy #1 covers our operations.
- You will note that we operate on the frontlines under that strategy. The prime difference from Ricoh’s office businesses to date is that we offer industrial printing equipment for manufacturers in such fields as textile, construction materials, and furniture.
- Our business can expand footprint of our customers in the manufacturing industry Ricoh’s customer footprint in manufacturing with industrial printing equipment incorporating the company’s machines and ink.
The industrial printing business is about transforming market value chains through a Print to Everything approach. As I will discuss later in my presentation, we are expanding new businesses through our Digital Micro Factory concept.
This page highlights our prime offerings, including the inkjet heads and inks that are vital for industrial printing businesses. Ricoh began developing inkjet heads in 1973.

The GH series of heads is employed in Geljet office printers. These heads are particularly noteworthy for ejecting high-viscosity ink.

The MH series is a core offering, employing technology from a company we acquired. The heads are created by stacking thin stainless steel plates with holes drilled in them. The heads are very durable and powerful, employing mechanical structures to eject ink through the piezo-type actuators. Most consumer and office printers employ different thermal head technologies, and are not very durable because the ink is in direct contact with the heaters. An ultra-precision production process is essential to manufacture thin metal plates that are stacked. Ricoh’s strength is that it has such advanced manufacturing technology.

The TH series features brand-new inkjet heads. Launched in 2018, these heads were developed for low-cost silicon micro-electric mechanical systems applications. We can mass-produce silicon-based piezo actuators, enabling element uniformity. The series can employ Ricoh’s ink, which offers outstanding adhesion, color development, safety, and image quality.

We leveraged our inkjet head and ink technology to build an industrial printer lineup over around two years from 2017. For compact direct to garment printers, we applied Geljet technology from A4 office machines. The result was a T-shirt printer.

We offer professional direct to garment printers through AnaJet, an American firm that we acquired in 2016. In 2018, we have launched sign graphic printers for signs, banners, and other media. The RICOH Pro T7210 can print directly on various media larger than 3 x 2 meters. All such industrial printers use our key inkjet head and ink technologies.

We also supply imaging systems that integrate printheads, inks, and ink delivery components. We are undertaking joint development with Sweden’s Coloreel, and are showcasing our efforts at exhibitions.

We also provide technology for developing and manufacturing new industrial systems for embroidery that can color one thread at a time with inkjets. As the name suggests, our Print to Everything approach has diverse potential.
This page presents our Industrial Printing Business results.

Although sales have risen, we have posted operating losses. Gross profit from sales and internal controls has increased steadily. From 2016 through 2018, we reinforced efforts to complete our printer model lineup and sales structure.

Industrial printers account for just over 20% of segment sales. We began developing printers in-house from 2016. At the same time, we have endeavored to strengthen sales by marketing OEM models in collaboration with other printer vendors. We are in the investment phase, and should shift to the phase in which we generate returns on investment from FY2019.
I will now explain our printhead and printer strategies.

The first point to note is that China is the biggest market for printheads. The global market is worth around 500 billion yen, and this includes print applications for such sign graphics as billboards and banners.

Ricoh is the No. 1 player in prinheads for the sign graphics market, with a 45% share. We look to expand sales of prinheads for UV ink printers. We accordingly plan to launch sixth-generation MH series heads in summer this year.

We supply prinheads for the textiles market, which we have entered. The new MH series heads will be compatible with textiles applications, and our goal for FY2022 is to expand our share in printers incorporating these heads.

We will commercialize printers incorporating low-cost, single pass silicon printheads. These printheads make it possible to create systems at lower costs for printing on fabrics and paper.
Our fifth-generation MH-series printheads enjoy a solid position in the Chinese market. In March this year, we announced our sixth-generation MH series, whose enhanced productivity has led to numerous inquiries. These printheads are poised to drive growth because high productivity is possible with the same head configurations.
I will now discuss our printer business.

- The target applications for our industrial printers are sign graphics and textiles.
- The sign graphics market has continued to expand in the past few years. Last year, we developed and launched UV ink and latex inkjet printers. The latter models employ a very safe aqueous resin latex ink.
- In the textiles market, we supply direct to garment T-shirt printers and textile printing systems for apparel firms.
Our printer business goal is to increase our share of the direct to garment market.

Our measures in that regard have been to employ the Ricoh Group’s sales and services network and offer cloud service-based printing services. These efforts have enabled us to capture a leading market share. We are endeavoring to transform the value chain in the textiles field.

We aim to enter the flexible packaging, label, and other packaging fields, and are moving forward with imaging modules for them. Soft and flexible packaging, such as film wraps on plastic beverage bottles, offer massive print volume opportunities.
This page illustrates our printer market expansion efforts.

We manufactured printer systems through FY2018. We also offer inks for a range of applications. They include sign graphics, 2.5D paintings, and furniture, construction material, decoration, and vehicle body painting.

Applications for our roll-to-roll printers include wallpaper and packages.
Our next goal is to expand our textiles-related business.

The key to this is aqueous pigment inks. The sensational image in the top left of this page is a poster from Textile Exchange, a global non-profit organization that seeks to reduce the textile industry’s impact on the environment and human population. The poster depicts dirty water flowing into a drain. The copy quotes a World Bank finding that 20% of industrial fresh water pollution comes from textile treatment and dyeing.

The poster on the top right shows a mountain of cheaply produced, discarded clothing.

The copy in the poster on the bottom left says that it takes 700 gallons, or about 2,600 liters, of water to make one T-shirt. Finally, the poster on the right highlights the textile industry’s power consumption.

Conventional dyeing technology is the source of social issues arising from the textile industry.

Traditional textiles and dyes are safe because they are derived from natural materials and plants. The need for volume production has increased the use of synthetic dyes.
Our Digital Micro Factory concept shows how we can help lower the environmental impact of apparel production processes. We are pushing ahead with partners in many areas in this regard.

The apparel manufacturing flow starts with fabric manufacturers determining color patterns, after which fabrics are printed, cut, and sewn to complete items.

Conventional analog printing delivers large volumes at low costs by employing roller plates. This setup is similar to that of offset printing, using plates in a process of repeated runs for each color. The drawback is the high environmental impact.

Ricoh will supply its Digital Micro Factory systems to small, medium-sized, and mid-major apparel brand owners.
Ricoh’s Industrial Printing business vision is to contribute to safer and more reliable clothing, food, and housing.

- Ricoh’s Industrial Printing business vision is to contribute to safer and more reliable clothing, food, and housing.
Ricoh’s Digital Micro Factory concept is applicable to all aspects of clothing, food, and housing, including in food labels and packaging, construction materials, and furniture.

We will push ahead with SDGs (Sustainable Development Goals) initiatives while transforming inkjet processes through our Print to Everything approach, transforming value chains to help resolve social issues.
We aim to generate 80 billion yen in segment sales and 10 billion yen in operating profit by FY2022. We will get there by expanding our customer value proposition and reducing environmental impact to materialize our Digital Micro Factory concept, opening up new vistas for industrial printing.

That completes my presentation. Thank you very much for your time.
Forward-Looking Statements

The plans, prospects, strategies and other statements, except for the historical events, mentioned in this material are forward-looking statements with respect to future events and business results. Those statements were made based on the judgment of Ricoh's Directors from the information that is now obtainable. Actual results may differ materially from those projected or implied in such forward-looking statements and from any historical trends. Please refrain from judging only from these forward-looking statements with respect to future events and business results. The following important factors, without limiting the generality of the foregoing, could affect future results and could cause those results to differ materially from those expressed in the forward-looking statements:

a. General economic conditions and business trend
b. Exchange rates and their fluctuations
c. Rapid technological innovation
d. Uncertainty as to Ricoh's ability to continue to design, develop, produce and market products and services that achieve market acceptance in hot competitive market

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Note: In this document, fiscal years are defined as follows:
FY2018 = Fiscal year ended March 31, 2019, etc.