

**Industrial  
Printing  
Business**

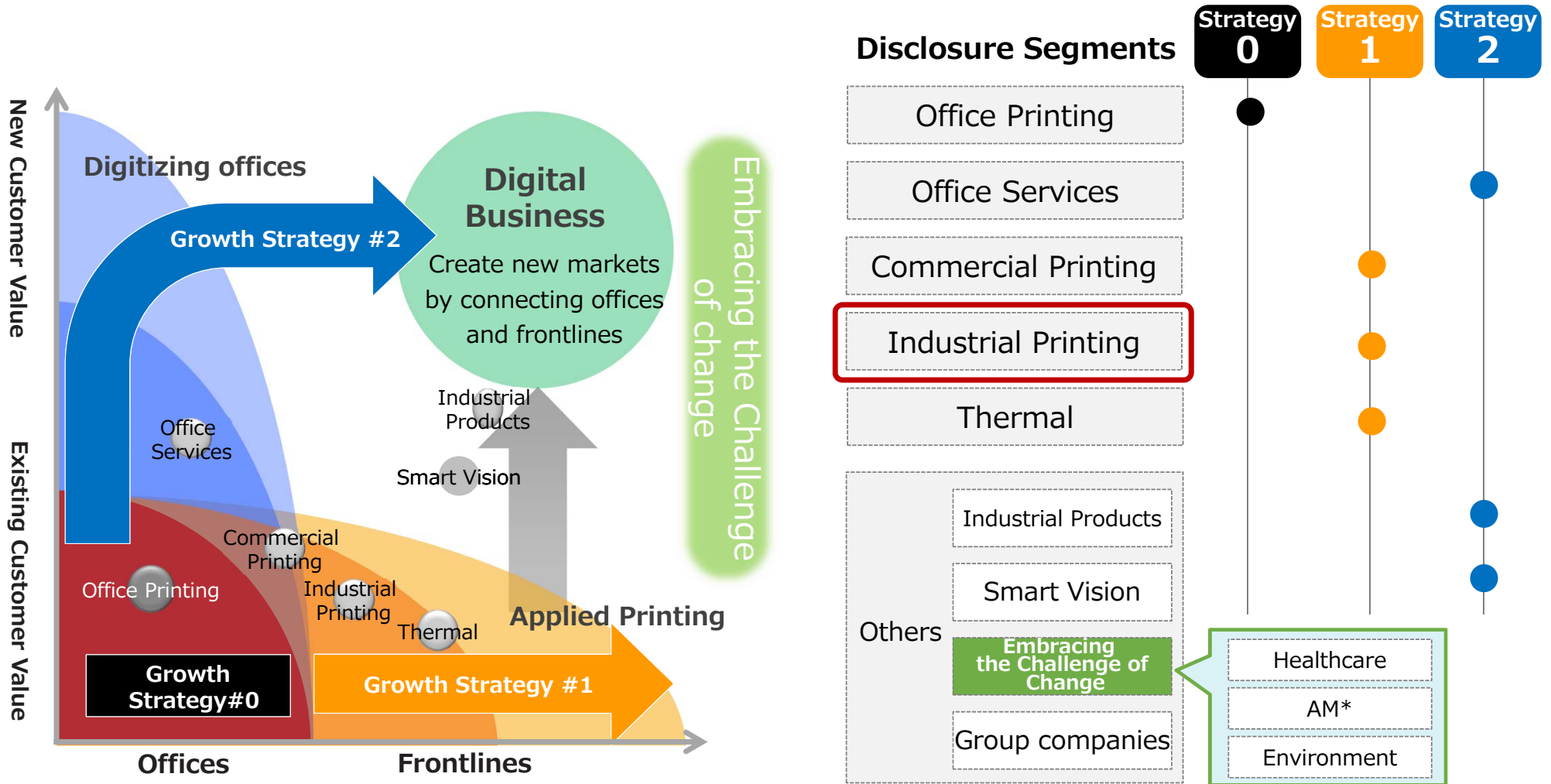
**April 11, 2019**

**Tetsuya Morita**

**General Manager of  
Industrial Printing Business Group**

**Ricoh Company, Ltd.**

# RICOH Ignite Growth Strategy

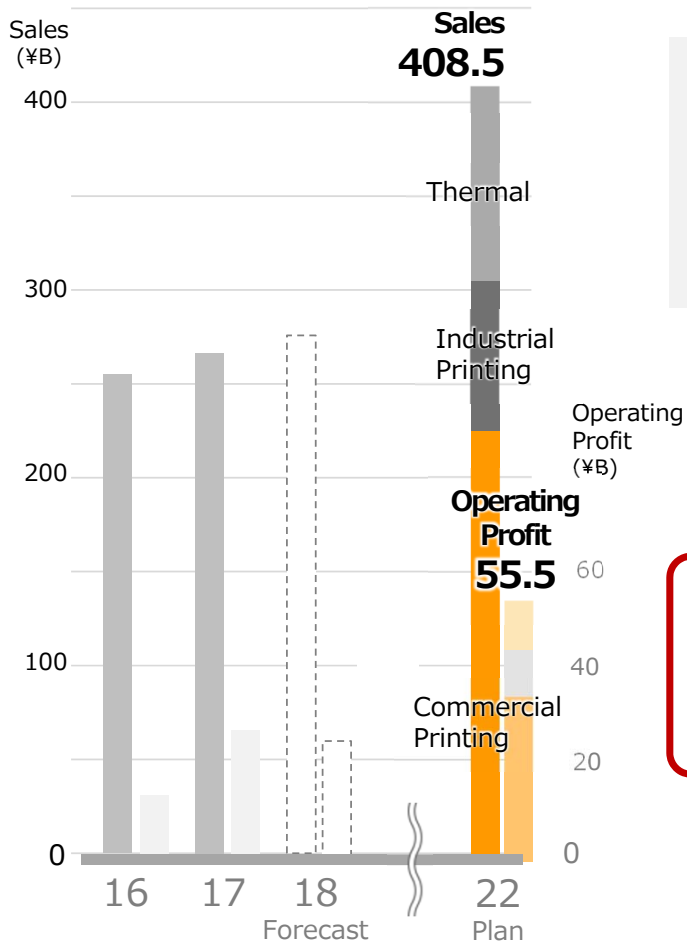


\*AM: Additive Manufacturing

# Toward FY2022

Growth Strategy  
#1

**RICOH**  
imagine. change.



## Growth Strategy #1 toward FY2022

**Expand Commercial Printing business earnings and invest headily to drive Industrial Printing business growth**

**Commercial Printing:** Bolster solutions to cater to various market needs in core, enterprise, commercial, and other printing areas, supporting customers and printing businesses and growing with customers

**Industrial Printing:** Expand our customer value proposition and reduce environmental impact by materializing our digital micro factory concept, opening up new vistas for industrial printing "

**Thermal:** Leverage competitive edge in existing businesses to maximize earnings while launching new operations to expand our business and increase the operating margin to more than 10%

# Industrial Printing Business Overview (Products)

## Industrial Printing Business

Provide industrial printing solutions that contribute to more eco-friendly production processes and safer and more reliable clothing, food, and housing

### Print heads and inks

A lineup that caters to diverse industrial printing needs

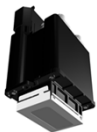
#### Key products



**GH series**  
Low-cost print head for office and photo printers



**MH series**  
Print heads that are No. 1 in ink head in industrial photo curable ink market for outstanding durability, performance, and viscosity



**TH series**  
High-performance heads for low-cost silicon micro-electric mechanical systems industrial applications



**Industrial inks**  
Including photo curable inks with outstanding adhesion and color development and latex inks with exceptional safety and quality

### Industrial printers

Direct to garment printers, wide format decorative and sign graphic printers, and other models

#### Key products



**RICOH Ri 100**  
Compact direct to garment printer



**RICOH Ri 6000**  
Professional direct to garment printer



**RICOH Pro L5160**  
Sign graphics printer



**RICOH Pro T7210**  
Decorative printer

### Imaging systems

Collaborating with factory automation vendors and system integrators while supplying modules for embroidery machine, wallpaper, and flooring industrial inkjet printing systems

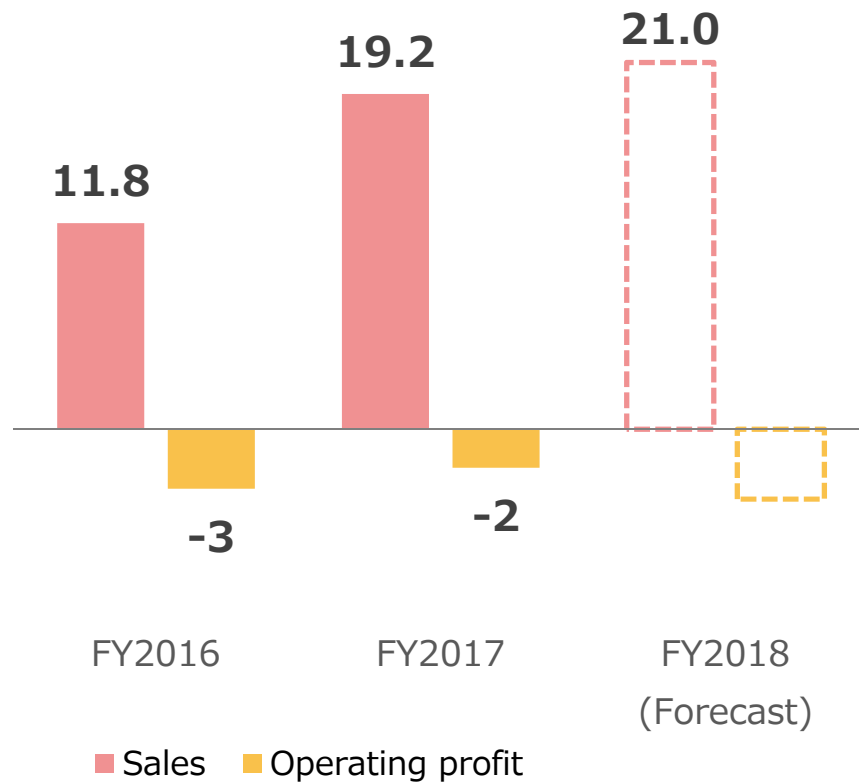


**COLOREEL**  
One thread. Unlimited colors.

# Industrial Printing Business (Results)

## Performances

(Billions of yen)

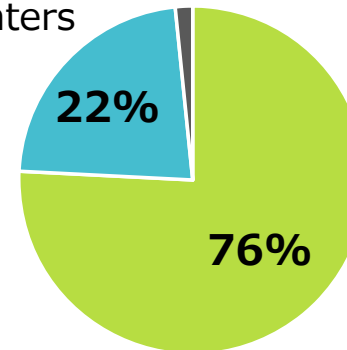


## Sales composition

FY2016

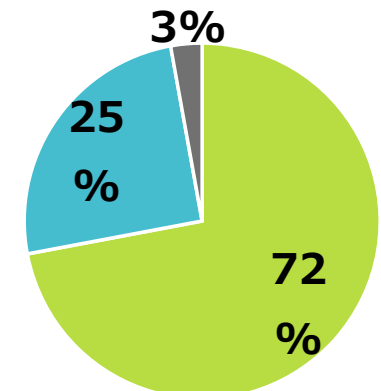
FY2018  
(Forecast)

Industrial printers



Print heads

Imaging systems



¥11.8 billion

¥21.0 billion

# Print Heads and Inks (Business Strategies)



<b>Key business strategy</b>	<b>Maintain and reinforce position as No.1 in Chinese market while expanding silicon thin-film printhead business</b>	FY2022 sales target: ¥30 billion
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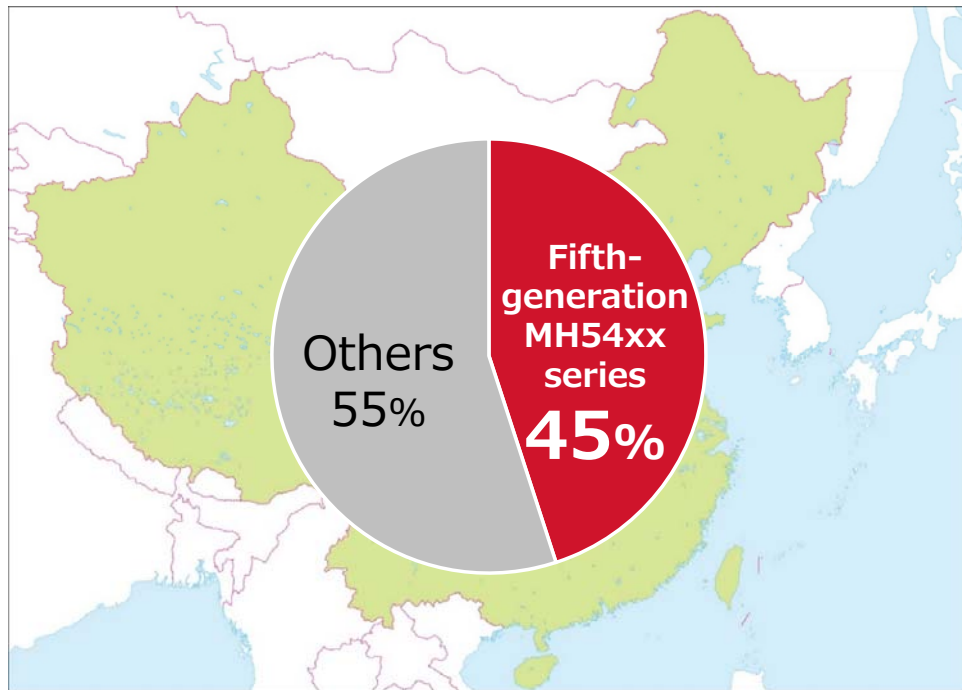
Domain Strategies	Measures	Results through FY2018	KPI (FY2022)
<ul style="list-style-type: none"> <li>● Maintain and reinforce our No.1 position in China's sign graphics market and expand our textile market business</li> </ul>	<ul style="list-style-type: none"> <li>● Expand business in sign business domain that harnesses our strengths</li> </ul>	<ul style="list-style-type: none"> <li>● In inkjet heads, we were No.1 (with a <b>45%</b>*1 share) in the sign graphics market</li> <li>● Deployed GEN6 series printheads offering improved ink compatibility, productivity, and safety</li> </ul>	<ul style="list-style-type: none"> <li>● <b>64%</b> market share in UV ink printers</li> </ul>
<ul style="list-style-type: none"> <li>● Expand business through low-cost silicon thin-film silicon printheads</li> </ul>	<ul style="list-style-type: none"> <li>● Fully enter the textile market</li> <li>● Achieve low costs through mass production</li> <li>● Provide single pass heads for high-speed printers</li> </ul>	<ul style="list-style-type: none"> <li>● Entered textile market and captured <b>5%</b> share*2</li> <li>● Rolled out low-cost, single-pass silicon thin-film silicon printheads</li> </ul>	<ul style="list-style-type: none"> <li>● <b>30%</b> market share in textile printers</li> <li>● <b>¥8.0 billion</b> in thin-film printhead sales</li> </ul>



\*1: Share for photo-curable printheads; Ricoh estimate  
 \*2: Share for inkjet heads in textile market; Ricoh estimate

# ■ Printheads and Inks (Products)

- Our fifth-generation MH-series gained No.1 in inkjet printheads in China's sign graphics market



Source: Percentage of photo-curable printers at Shanghai Ad & Sign Expo 2018 incorporating Ricoh inkjet printheads

- In 2019, commercializing sixth-generation printheads compatible with inks for diverse applications

**Productivity**

- Up to 50 kHz
- 80% higher flow rate\*<sup>1</sup>

**Impact accuracy**

- 7pl→5pl for droplets
- 50% better impact accuracy\*<sup>1</sup>

**Durability**

- Compatible with photo curable, solvent, and aqueous inks
- Greater durability for aqueous inks

**New** Sixth-generation series printheads (MH5320 and 5340)

\*1: Compared with predecessor MH54xx series

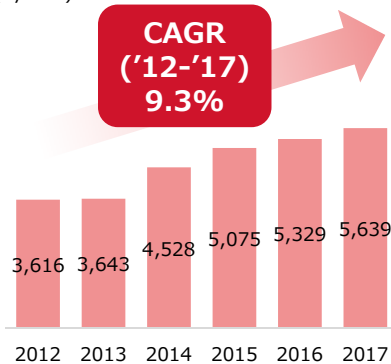
# Textile & Wide Format Printers (Initiatives to Date)

## Market trends

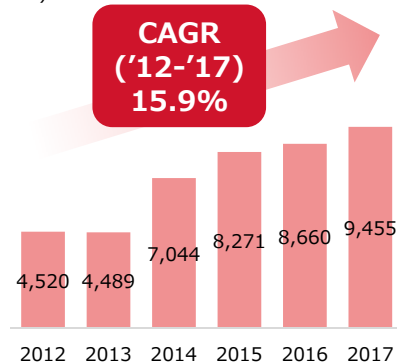
### Signage and decoration applications

- Strong growth prospects for UV ink and latex printers

#### UV ink printers (by unit)



#### Latex Inkjet Printers (by unit)



Source : Keypoint Intelligence

### Direct to garment and textile markets

- Waste water pollution from analog printing propelling demand for digital printing
- Digital printing accounts for just 5% of T-shirt demand and 3% of the textile market, so there is plenty of upside potential

## Ricoh's strengths

- High Productivity, high Image quality and high durability
- High Performance Printheads and Inks with exceptional safety and quality (Internal manufacturing)
- Rich Workflow solutions

## Initiatives and results

- Launched wide format latex printer for ornamental and sign graphics



RICOH Pro L5160

- Launched flatbed printer for decoration sector



RICOH Pro T7210

- Developed and introduced four direct to garment printer models for small and medium-sized customers, principally in United States
- Functionally enhanced and supply wide format printers for textiles applications



# Textile & Wide Format Printers (Business Strategies)



<b>Key business strategy</b>	<b>Capture top market share by rolling out competitive offerings in specific areas</b>	FY2022 sales target: ¥20 billion
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Domain strategy	Measures	KPI (FY2022)	Results stance
<ul style="list-style-type: none"> <li>● Increase share of direct to garment market</li> </ul>	<ul style="list-style-type: none"> <li>● Employ Ricoh Group's sales and services network</li> </ul>	<ul style="list-style-type: none"> <li>● Capture of top market share</li> </ul>	<ul style="list-style-type: none"> <li>Set to increase earnings through business expansion</li> </ul>
<ul style="list-style-type: none"> <li>● Expand business in textile market</li> </ul>	<ul style="list-style-type: none"> <li>● Deployed digital micro factory concept</li> </ul>	<ul style="list-style-type: none"> <li>● <b>¥10 billion</b> sales in FY2022</li> </ul>	<ul style="list-style-type: none"> <li>Poised to undertake extensive forward investments</li> </ul>
<ul style="list-style-type: none"> <li>● Develop technologies with view to entering flexible packaging, label, and other packaging fields</li> </ul>	<ul style="list-style-type: none"> <li>● Accelerating R&amp;D of key technologies</li> </ul>	<ul style="list-style-type: none"> <li>● Enter flexible packaging market</li> </ul>	<ul style="list-style-type: none"> <li>Poised to undertake extensive forward investments</li> </ul>

# Textile & Wide Format Printers (Market Expansion)

We are leveraging machine, printhead, and ink technologies amassed in the decoration and sign graphics fields to expand into new markets while drawing on our workflow software in endeavoring to transform the value chain in the textiles market



# Lowering Environmental Impact in Textiles Market

The textiles industry profoundly affects the environment, including through wastewater pollution from analog printing. We strive to lower environmental impact by supplying printing systems using eco-friendly aqueous ink

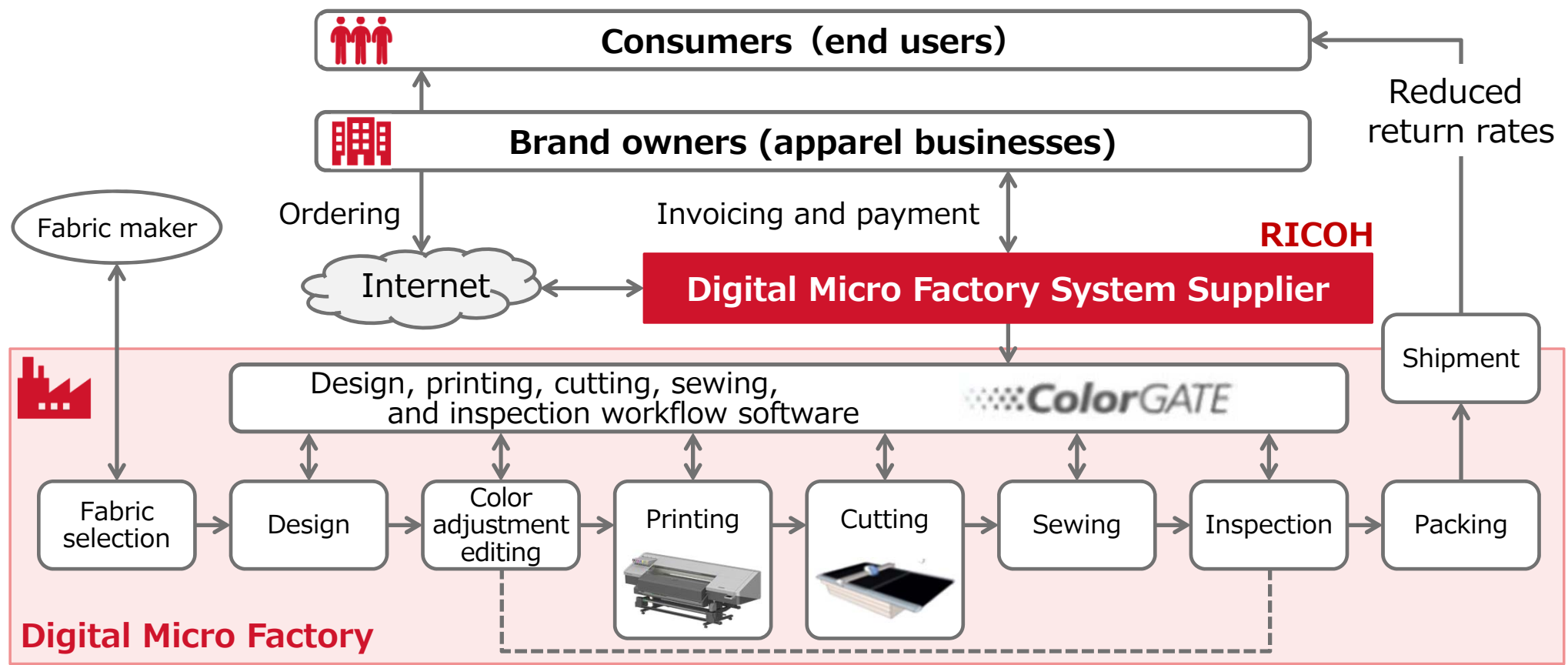


# Digital Micro Factory Concept

Lowering environmental impact of apparel production processes



Transforming the value chain in the apparel market



**Digital Micro Factory**

# Industrial Printing Business (Vision)

**Ricoh aims to become a leading provider of industrial printing solutions that contribute to more eco-friendly production processes and safer and more reliable clothing, food, and housing**



**Ricoh's inkjet technology helps resolve social issues**

# Industrial Printing Business (Vision)

## Textile



clothing



## Label/Packaging/ Corrugate



food



## Decoration



housing



## Sign Graphics



Painting

Ricoh's inkjet technology helps resolve social issues

# FY2022 Goals

## FY2022 Targets

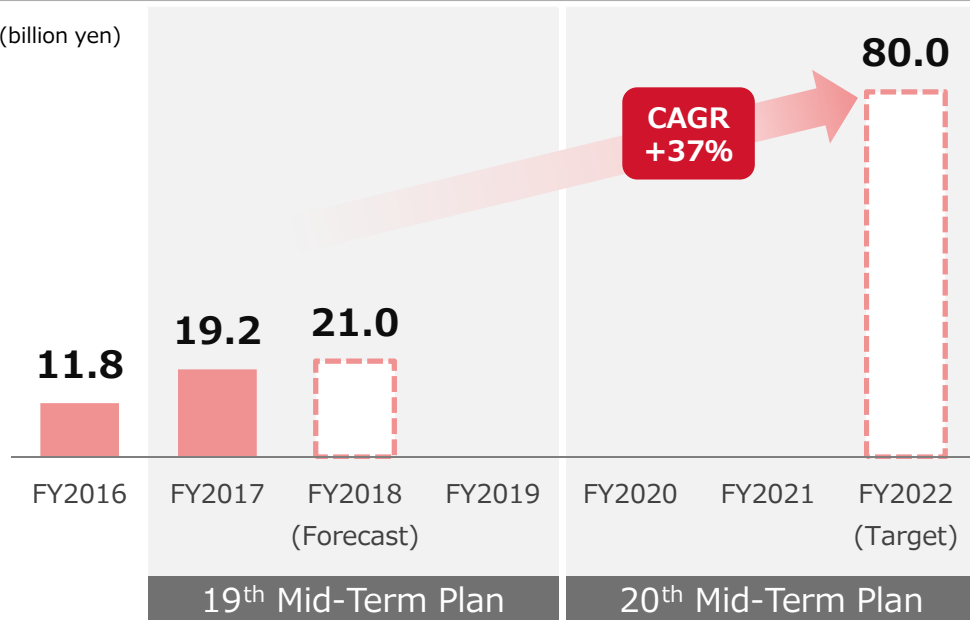
**Sales**                    **¥80.0 billion**  
**Operating profit**      **¥10.0 billion**

## <Key strategy(Pursuing further growth)>

Expand our customer value proposition and reduce environmental impact by materializing our digital micro factory concept, opening up new vistas for industrial printing

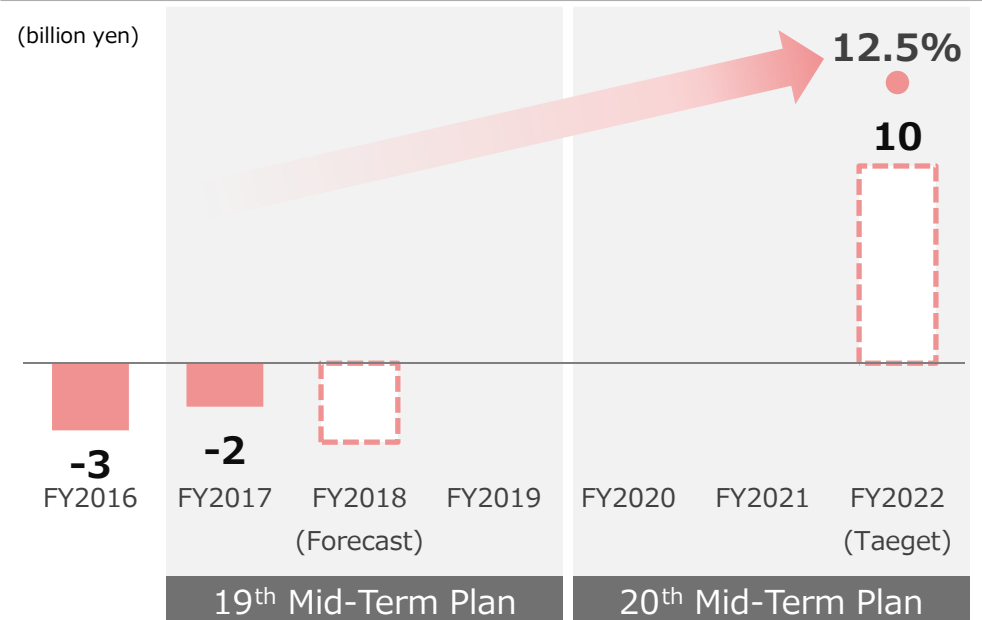
### Sales

(billion yen)



### Operating profit/Operating margin

(billion yen)



\*1 : From FY2016 to FY2022

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# 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.**