

Commercial and Industrial Printing Business

Toward Solving Material Issues

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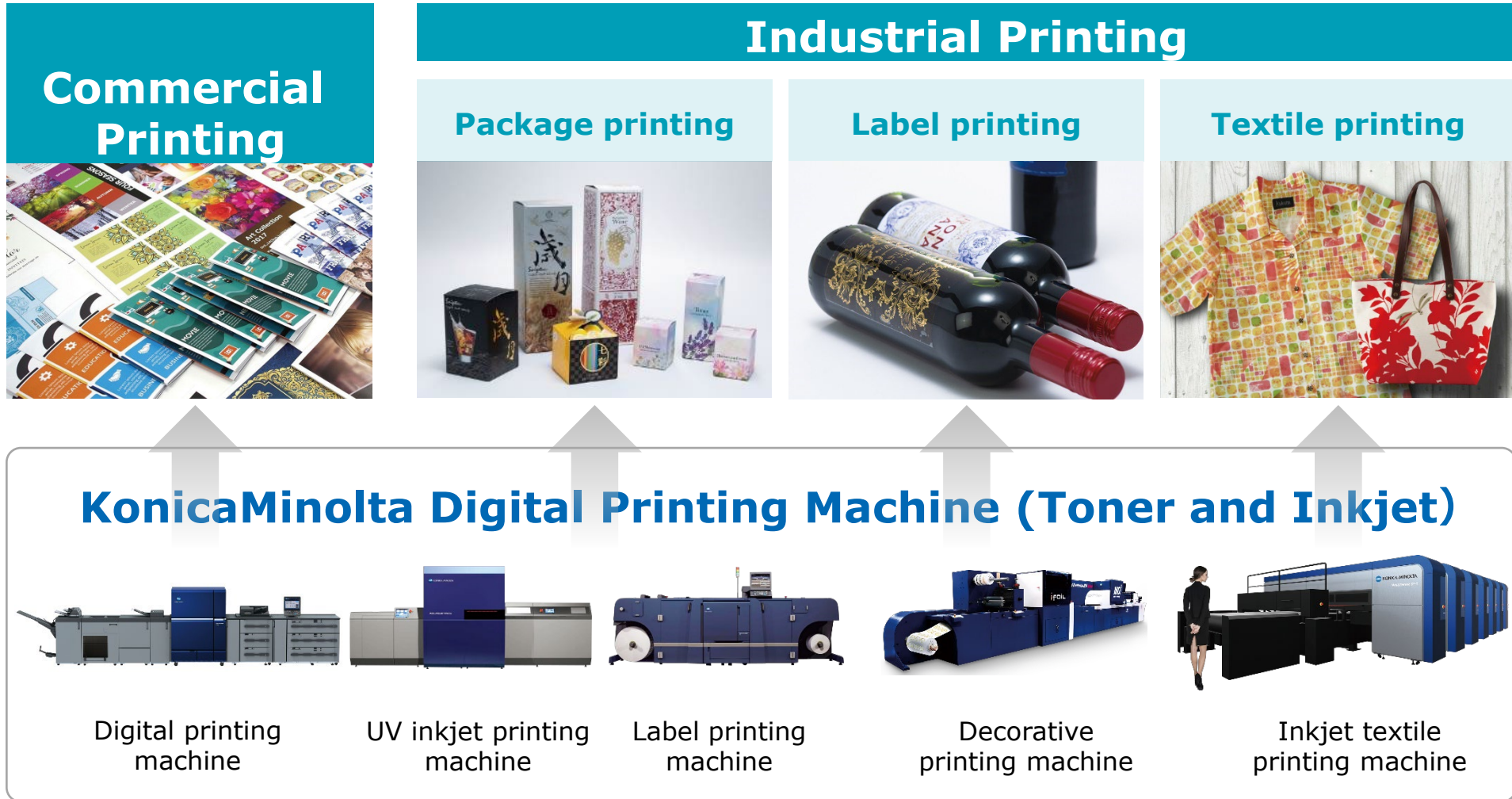
Corporate Senior Vice President

Division President of Professional Print Business Headquarters



Professional print business

We create a society where high-value print is efficiently distributed without environmental impact with shifting from analog to digital printing.



R&D Concept

1960: 1st copy machine
Wet Diazonium copy machine
「Minolta Copy Master」



2003:
High-speed digital color MFP
「8050」



2015:
Single pass IJ textile printing machine
「NASSENGER SP-1」



2016:
IJ digital printing machine
「AccurioJet KM-1」



2020:
「AccurioPress C14000」



Passion to create "anyone can use"

Realize automation, labor-saving and skill-less with Digital technology

1971:
Uncoated paper copy machine
「U-Bix480」



1987:
Simple color proofing system
「Konsensus」



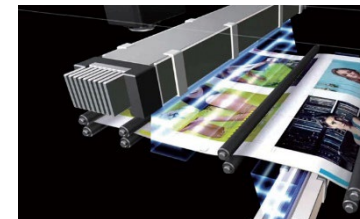
1999:
Inkjet textile printing machine
「Nassenger KS-1600」



2010:
「bizhub PRESS C8000」



2017:
Auto-quality optimization unit
「IQ-501」

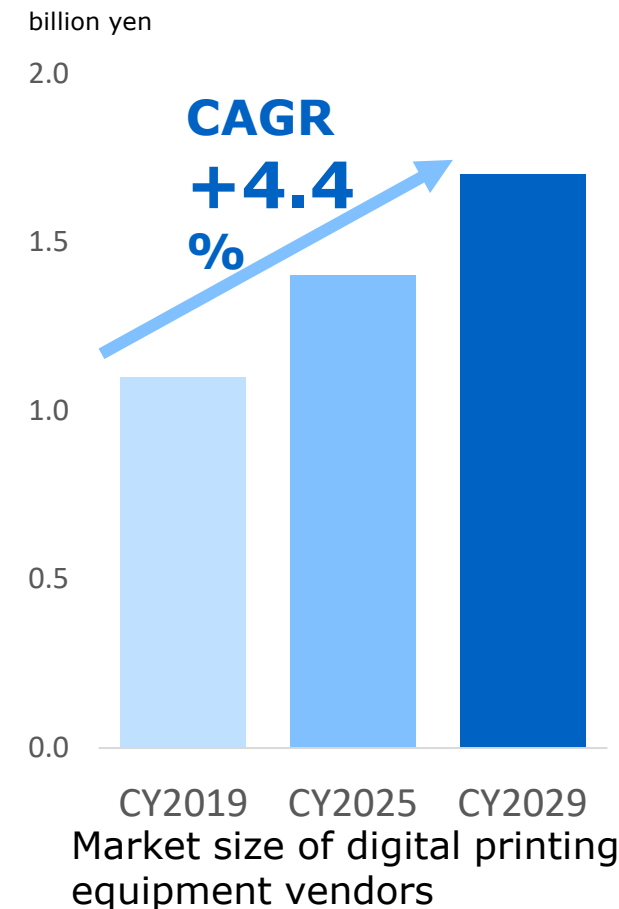
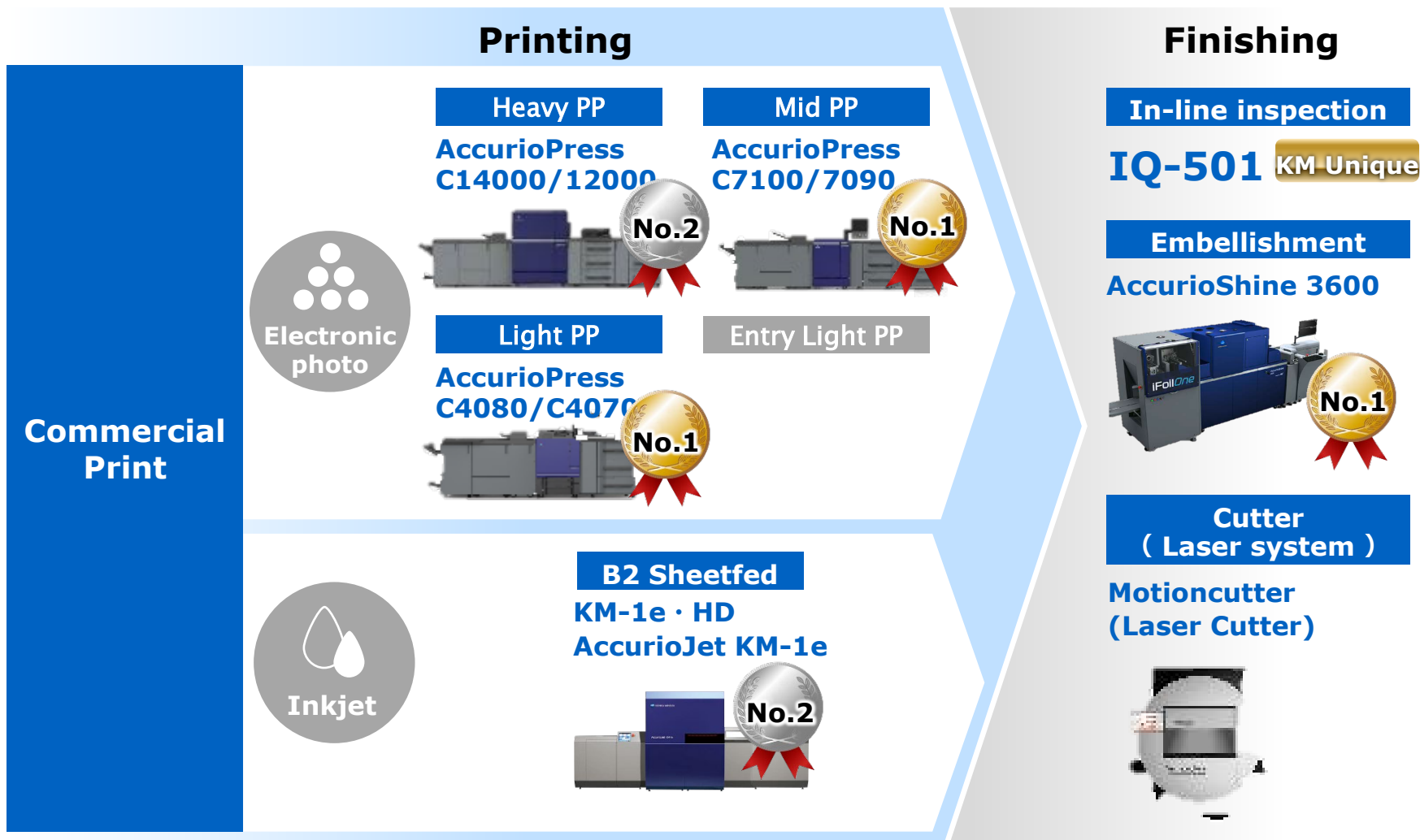


2022:
Label printing machine
「AccurioLabel 400」



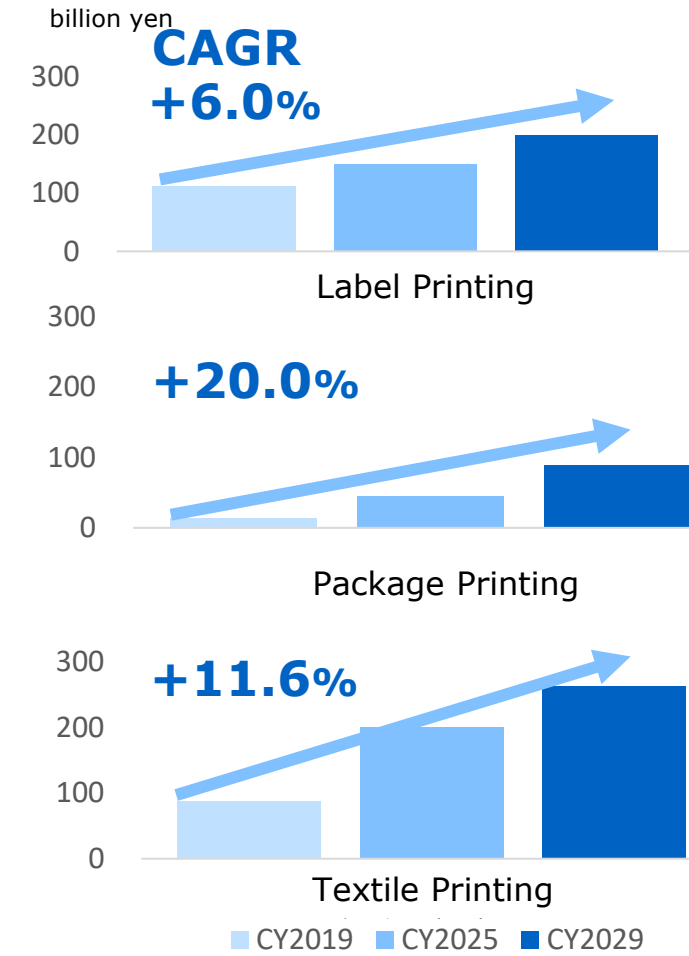
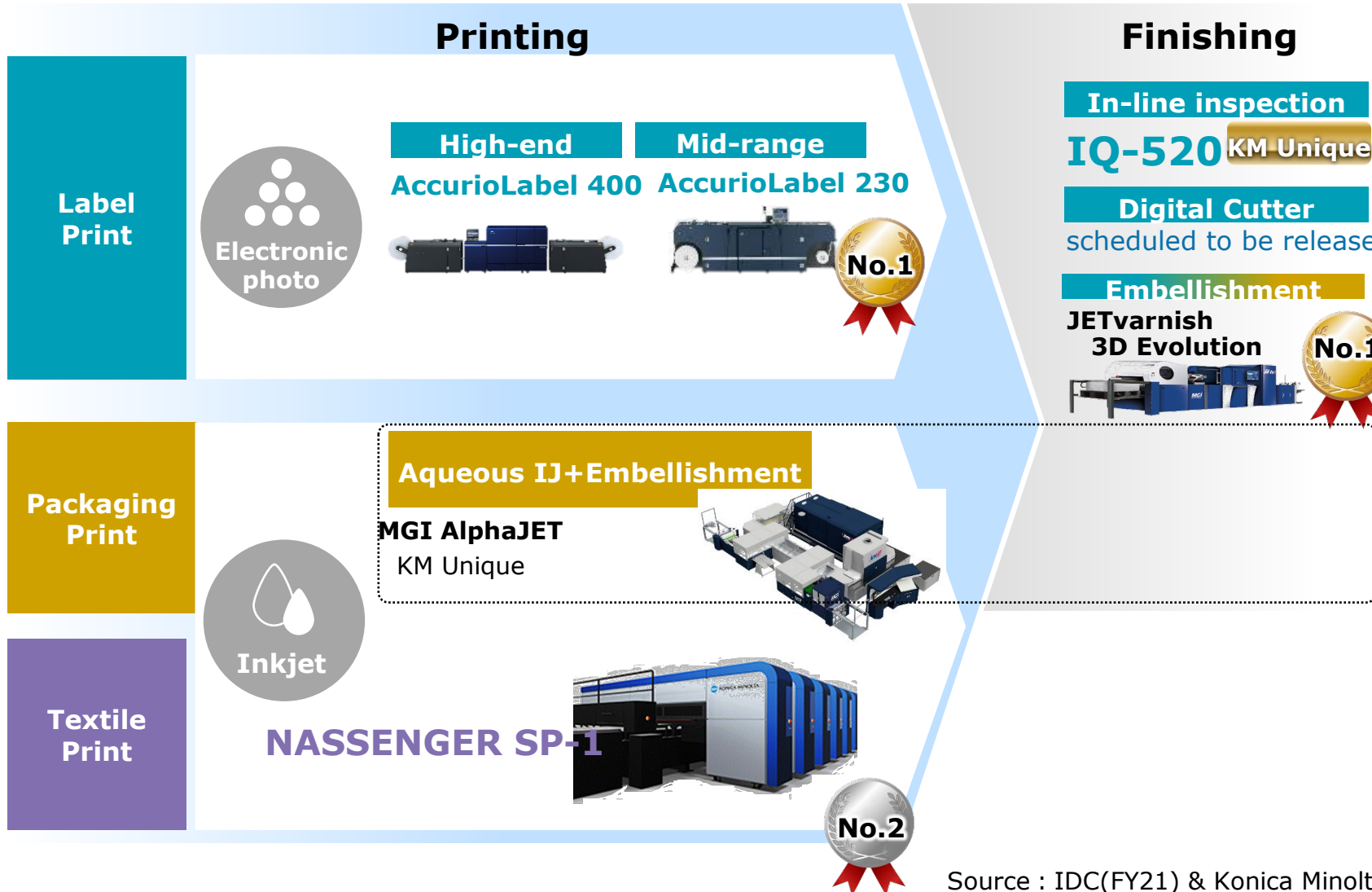
Commercial printing segment

- Expanding market thanks to increasing digital penetration
- Growing print volume by increased sales of Mid-range and High-end production print



Industrial printing segment

- **Labels:** Increasing penetration of digital Printing
- **Package:** Overall optimization including finishing is the key for digitization
- **Textiles:** Accelerating digitalization to solve environmental issues as wastewater and disposal



Market size of digital printing equipment vendors
Source : I. T. Strategies & Konica Minolta estimate

Rapid change in macro-environment

Change in brand owner buying pattern

1. Small lot order at last minutes for event
2. Shift from mass marketing to individual marketing

Business environment in printing companies




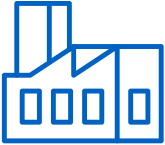


1. Difficult to secure skilled operator
2. Soaring materials
3. Soaring paper cost
4. Respond to small lot and short delivery request

**Comparing with before COVID-19,
"digital print" recovered and increases,
100 to 150%**

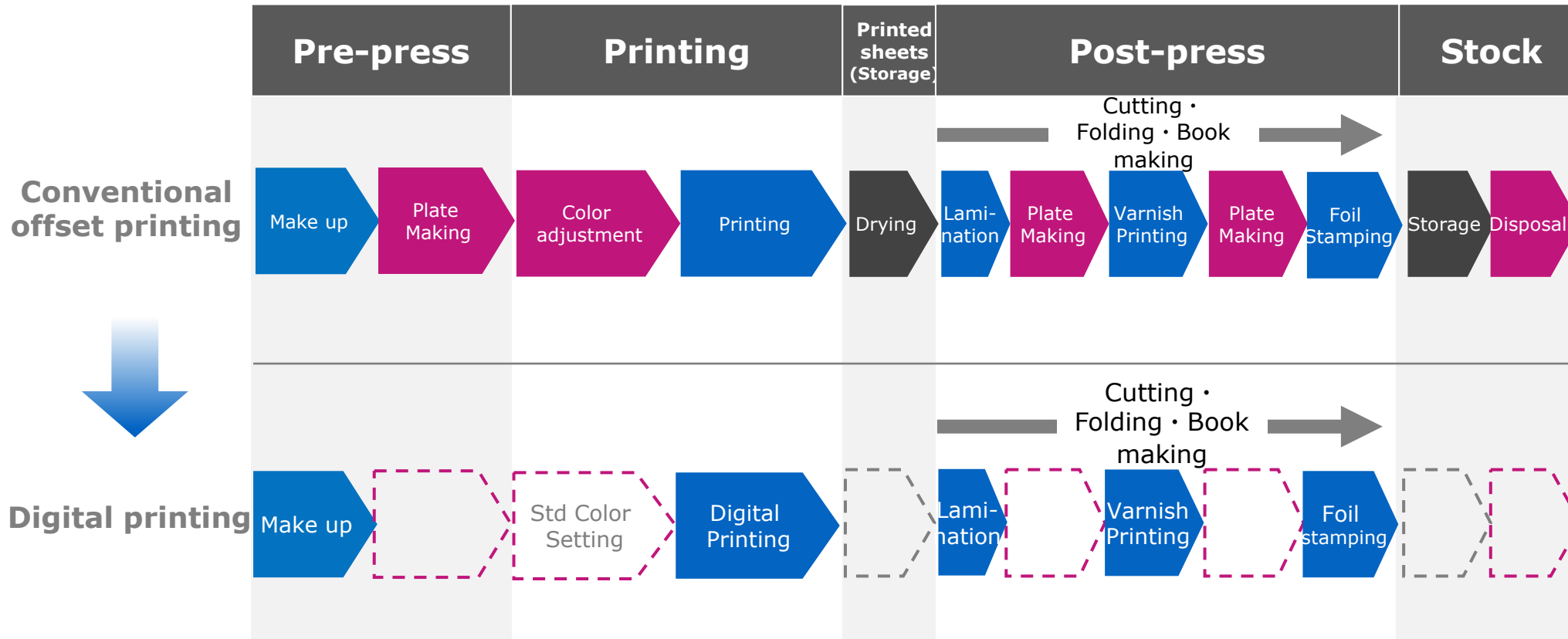
Increasing environmental awareness



1. To address an environmental issues become one of important factors in brand selection
2. Movement to reduce CO2 emission
3. Increasing awareness to reduce waste

Sustainability impact from professional print business activity

	Current issue	Society KM create	Materiality	
Prints 	<ul style="list-style-type: none"> ● Uniform ● Mass disposal ● Waste liquid and material during production ● Multiple Transportation 	<p>Minimizing environmental impact Propose values unique to print method</p>	<p>Response to climate change</p> 	<p>Effective use of limited resources</p> 
Printing company 	<ul style="list-style-type: none"> ● Delay of digitalization ● Be in an exhausted condition ● Difficult to secure human resources 	<p>Vibrant workplace with rationality and creativity (Labor shortage, Business continuity)</p>	<p>Job engagement improvement and revitalization of business entities</p>	
Brand 	<ul style="list-style-type: none"> ● Limited expectation to printing value ● Less knowledge on print performance improvement 	<p>Commoditize the communication to excite diverse individuals</p>		

Environmental Contribution by analog to digital transformation in the commercial printing business



 Delete process
+ Reduce materials
 Delete Process

- **Reduce disposing materials and CO₂ emissions :**
 - ① **Reduce printing plate, waste paper and the disposal of printing products**
 - ② **Reduction of power consumption (polymerized toner)**
- **Eliminate all VOC emissions : Safe and clean work environment**

Environmental Contribution by analog to digital transformation in the textile printing business



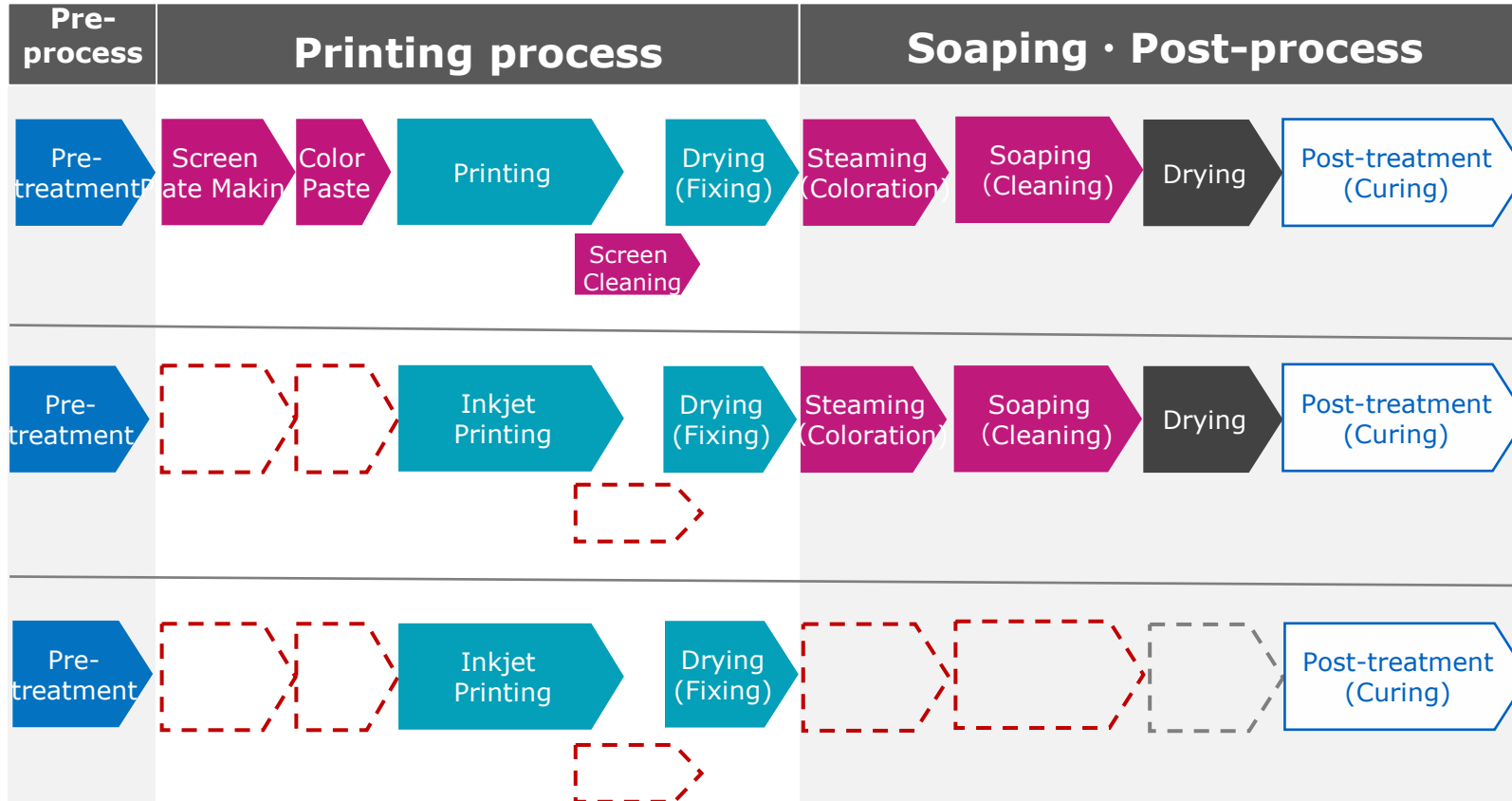
Conventional screen printing



Konica Minolta textile inkjet printing



Konica Minolta unique wastewater-less digital printing



Reduction Ratio (approx.)

Printing process :
 CO² emissions; **10%**
 Water consumption; **43%**
The whole process :
 CO² emissions; **4%**
 Water consumption; **9%**
 Electricity consumption; **20%**

The whole process :
 CO² emissions; **57%**
 Water consumption; **83%**
 Electricity consumption; **60%**

 Delete process + Reduce materials
 Delete Process

Sustainable printing eco-system by acceleration of analogue to digital



Social Contribution by Konica Minolta Professional Print

Passion for last one-mile to achieve analogue to digital

Until achieve proper print quality

1. Passion to achieve offset level print quality
2. Passion to care post-print flow

Until professionals can use well

1. Passion in the view of print operator
2. Passion in the view of brand owner

Konica Minolta proposed value with competitive advantages - 1 : Solving customer pain points



Color-related problems

- Difficulty in color matching
- Color condition check
- Color fluctuations not to maintain consistent quality
- Address color irregularities

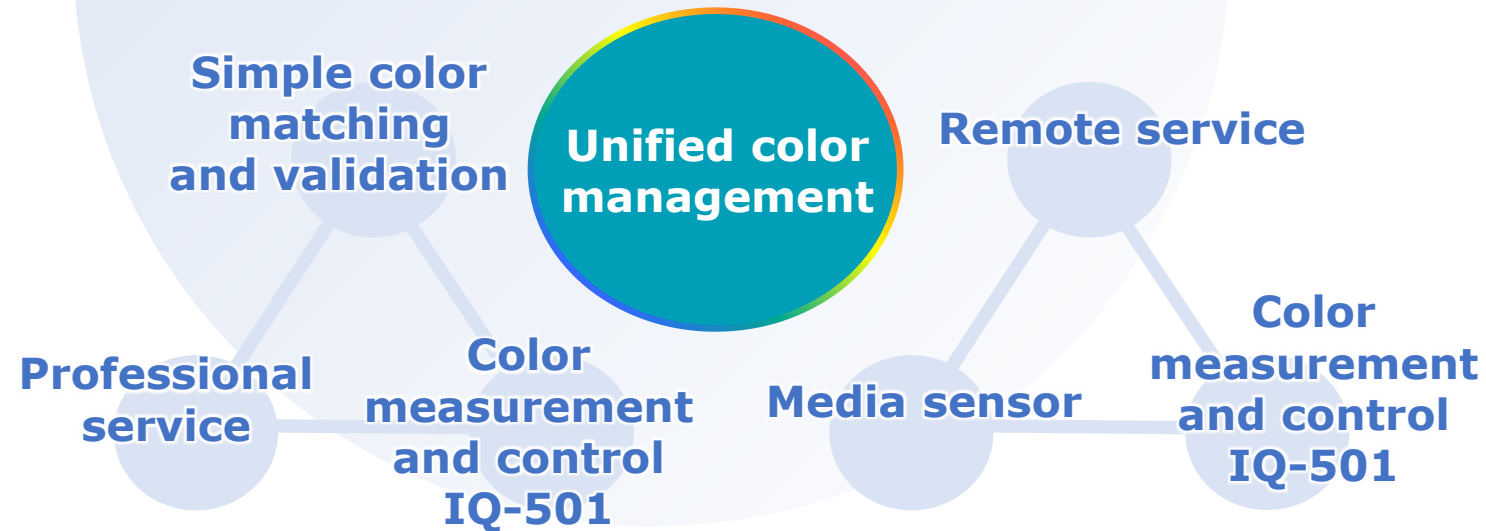
Other problems

- Time-consuming issues
 - Front-to-back registration adjustment
 - Inspections
 - Optimal settings for a new paper type
- Waste-paper due to errors or print failures



AccurioPress C14000

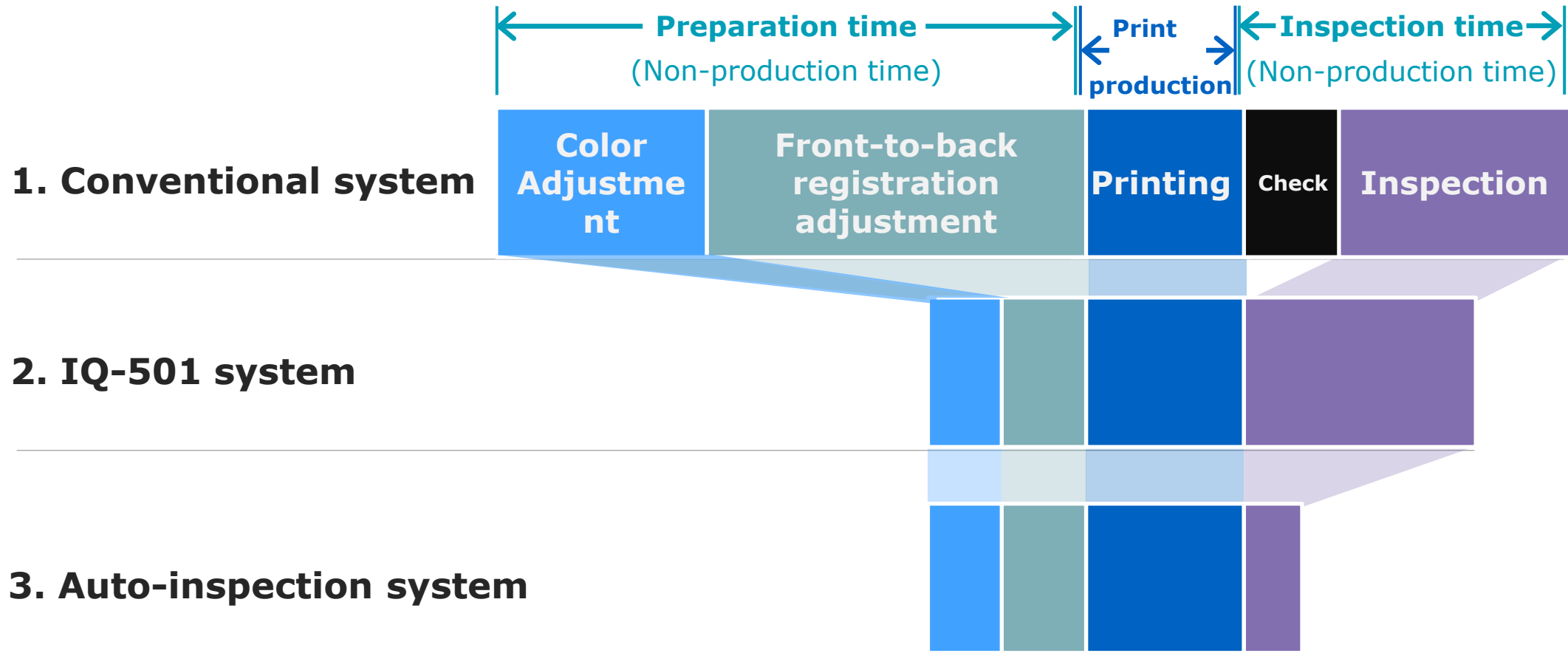
Minimize printer downtime and printing-related tasks



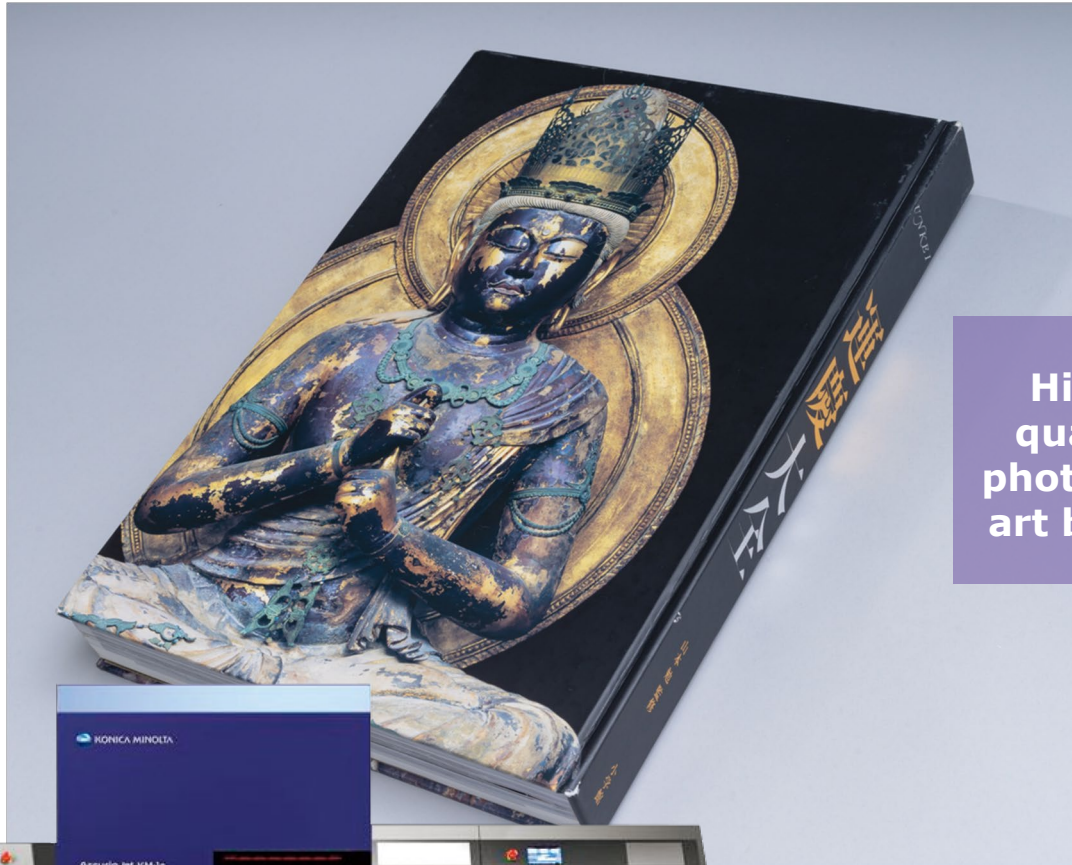
Evolving value that gives a competitive advantage: Automation benefit with Konica Minolta unique solution, IQ501



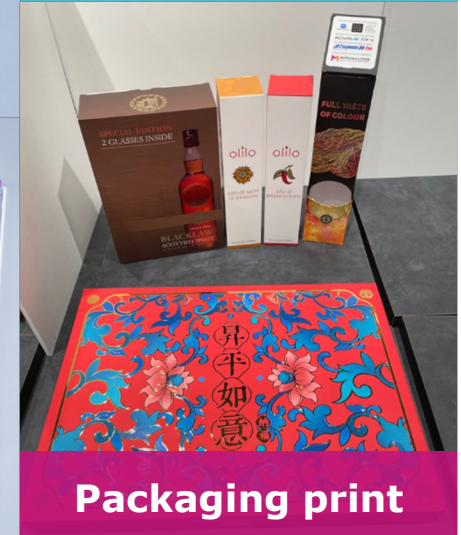
Help significantly reduce the time required for processes other than print production, such as print preparation, checking/inspection (**work that is not chargeable to clients**)



KonicaMinolta proposed value with competitive advantages -2 : Realization of digital printing with offset quality



High-quality photo and art books



AccurioJet KM-1e

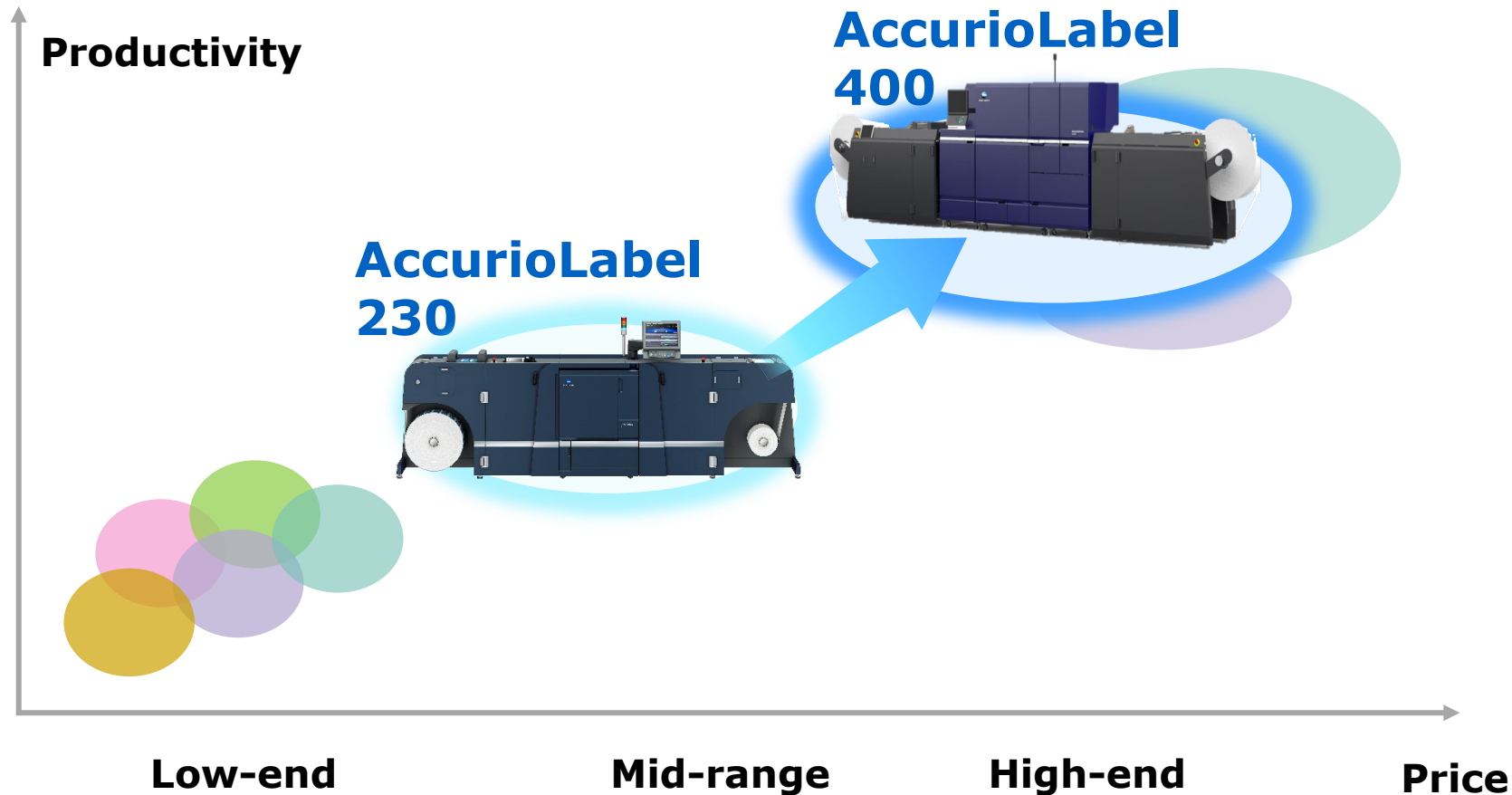
Satisfy 6 market requirements

- ① Productivity
- ② Media flexibility
- ③ Size
- ④ Print quality
- ⑤ Duplex
- ⑥ Cost efficiency

Konica Minolta proposed value with competitive advantages -3 : Label Printing



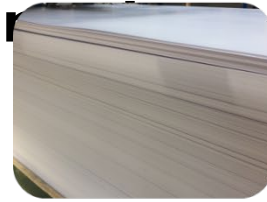
- Accomplish the long awaited mid-range label printing machine with toner technology
- Newly released high-end label printing machine to solve customers' challenges to automation, production efficiency and skill-less.



Konica Minolta proposed value with competitive advantages -4 : Game changer ALPHAJET to solve analogue to digital challenges in package printing arena



● The 1st Factory 4.0 solution in industrial printing



Media



4-color
print



Spot varnish
flat & thick



Foil finish
flat, thick, emboss



Print, varnish,
one-pass
transport



ALPHAJET
Factory 4.0 Digital Inkjet Press



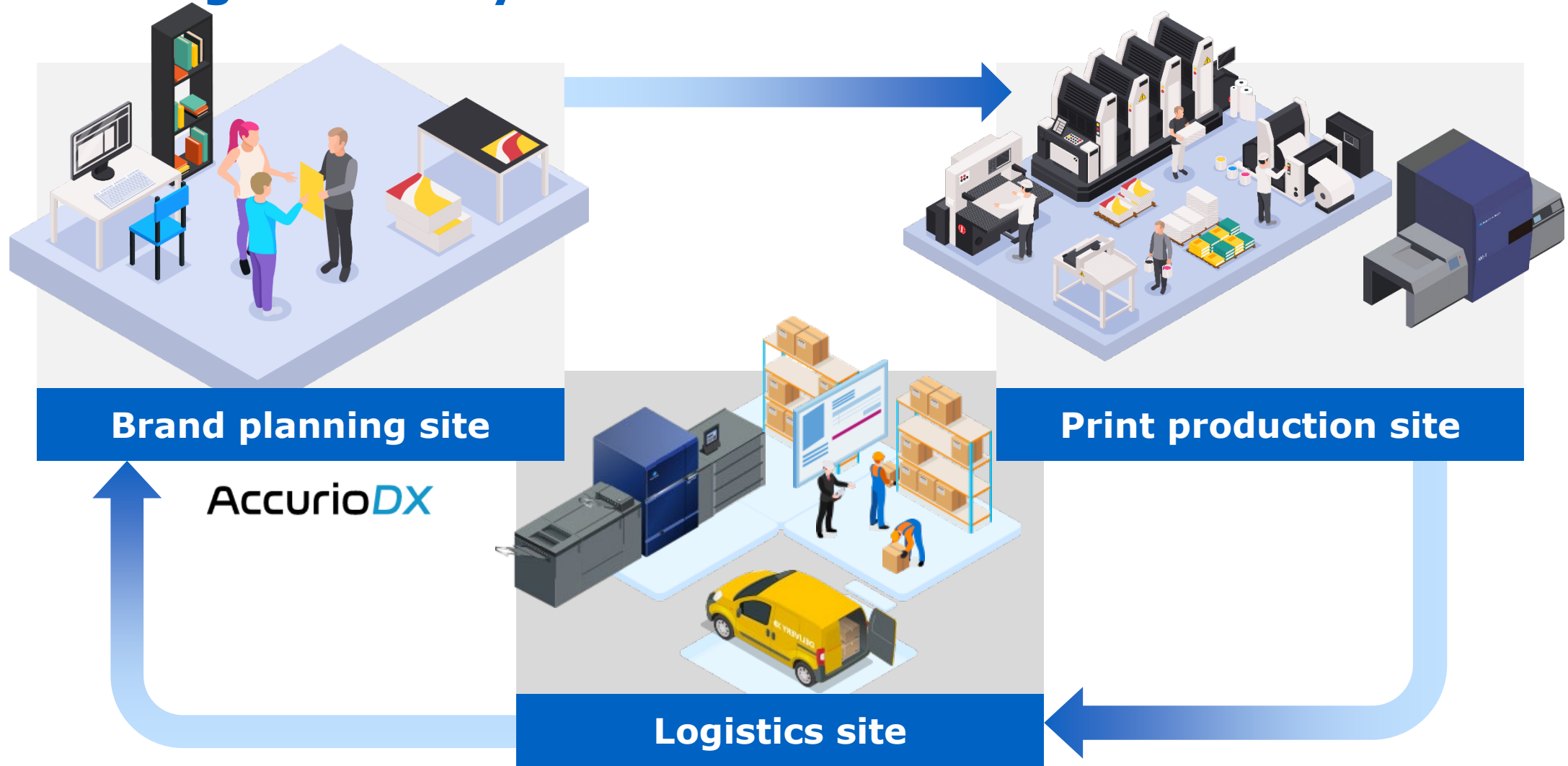
Konica Minolta proposed value with competitive advantages -4 : Game changer AlphaJET to solve analogue to digital challenges in package printing arena



150
YEARS



Professionals in digital printing bring enormous passion to create delight from anyone can use well



As a result, print supply chain starts to transform in any place and move forward to realize society we envision



KONICA MINOLTA

150

YEARS

APPENDIX

- **Commercial · Industrial printing segment (P4) :**
 - **Entry Light PP** (Entry Light Production Printer) : Monthly Print Volume (MPV) 100-300K pages, Low-pricing product range mainly for Central Reprographics Department at large company (CRD).
 - **Light PP** (Light Production Printer) : MPV 100-300K pages, Commercial printing market
 - **Mid PP** (Mid Production Printer) : MPV 300-1,000K pages, Commercial printing market
 - **Heavy PP** (Heavy Production Printer) : MPV 1,000K pages, Commercial printing market
 - **B2 sheet-fed** : Inkjet printing system for B2 size printing. Mainly a product for commercial printing market to replace offset printing machine.
- **CAGR (P4-5) :** = Compound Average Growth Rate. The rate of return required for an investment to grow from its beginning balance to its ending balance, assuming the profits were reinvested at the end of each period of the investment's life span
- **VOC (P8) :** = Volatile Organic Compounds. General term for an organic compound which is easy to evaporate in the air. There are more than 200 principal items.
- **Waste/ Wastepaper (P8/P11) :** Paper which was wasted during printing workflow. Normally it occurs in color and registration matching process.
- **Factory 4.0 (P15) :** Smart factory evolution in manufacturing industry by IoT production line advocated by Industry 4.0 (4th Industrial Revolution). 「1st Industrial Revolution」 (18th century, transition from man/horse-power to steam locomotive), 「2nd Industrial Revolution」 (19th century, mass production by assembly-line with belt-conveyor), 「3rd Industrial Revolution」 (1970s, factory automation with industrial robot in assembly-line), 「4th Industrial Revolution」 means complete automation different from the current automation. It enables “end-to-end” process automation connecting from pre and post workflow in the production.