Multi-Client Study

Research Proposal

[2019 version of Inkjet Printing Market Forecast]

"The Latest Trend of the Industrial Inkjet Market Driven by China and Asia"

= Detailed market analysis of commercial printing, industrial printing hardware, inks, and printheads =

March 2019

Data Supply Inc.

<Overview>

Ⅰ． Theme

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"The Latest Trend of the Industrial Inkjet Market Driven by China and Asia"

= Detailed market analysis of commercial printing, industrial printing hardware, inks, and printheads =

Ⅱ． Abstract

The environment surrounding the commercial and industrial printing is changing significantly. On top of the worldwide prevalence of mobile devices and the rise of social media services, IoT- and AI-driven management in manufacturing and logistics is more common than ever, leading to **an explosive growth of digital data**. Amid this, **personalized marketing to satisfy individual customer needs** through analysis of increasingly growing digital data is becoming essential in many lines of business. In response, the printing industry is also trying hard to create a digital-based printing market away from the traditional analog printing.

In the industrial digital printing market, **the innovation-led inkjet method is becoming dominant**, whereas the electrophotography is reaching its limit in terms of non-paper media handling, printing media size, as well as productivity and costs. In contrast, inkjet printing is applicable to film, fabric, plastic, wood, and many other media, and supports B2 size printing more widely. There's still room for improvement of productivity but inkjet printing is making steady progress, and in the industrial inkjet market, **third-party inks were used to some degree to expand the market**, which helped customers economically.

By application, besides the conventional graphics and signage fields, ceramic tile printing has also been covered mostly by inkjet technology, while inkjet textile printing has been successful in Italy. Looking forward, **the inkjet technology is expected to make inroads into packages, labels, publication, and commercial printing among others**. By country and region, China and Asia will lead the industry. People in the industry are especially carrying high hopes for **China and other emerging nations in Asia** to drive the market and its expansion as textile and package printing is closely linked to population and income growth backed by urbanization. Among them, China, which is becoming very concerned about environmental issues, can shift to industrial inkjet printing including the textile field quickly. Market watchers are closely observing the development.
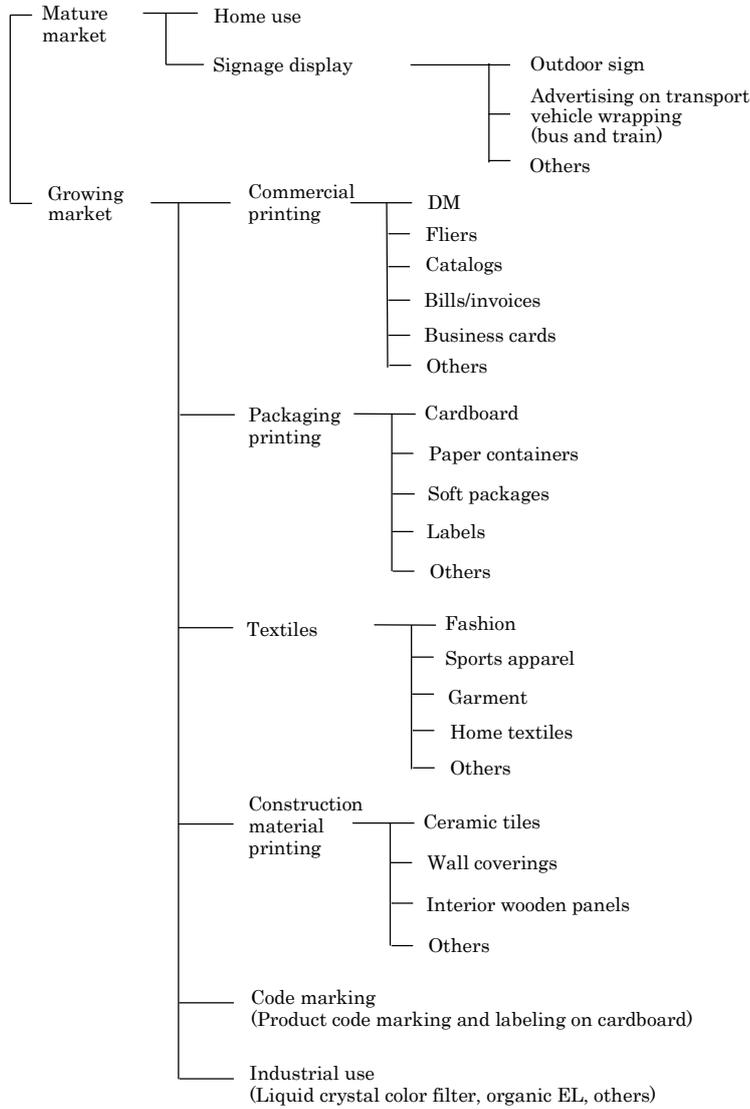
In the market, Japanese copier and printer manufacturers have distributed inkjet printheads globally, and they have come to **invest heavily in the inkjet business** as their core market of office equipment was overcrowded at a faster pace. From this point on, they as hardware manufacturers will face competition with those from Europe and the US as well as China. In the meantime, fast growing inkjet technology will further be developed while **upgrading levels and creating demand of inks and printheads**.

2019 version of Inkjet Printing Market Forecast will be the third publication of the series, with **stronger focus on the Chinese market expected to grow further**. We hope many readers will find the report beneficial to their inkjet-related business.
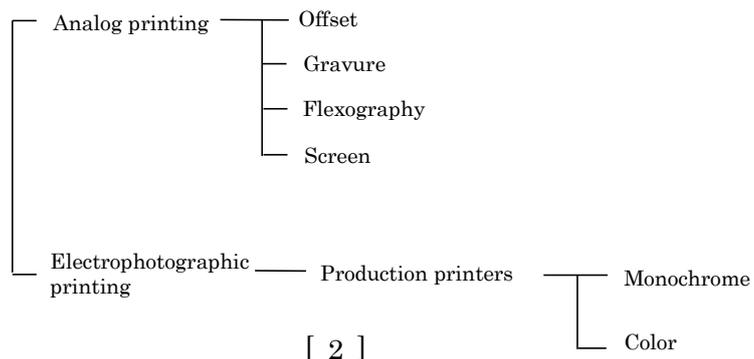
Ⅲ. Items and Manufacturers

1. Items
 1) Inkjet-related Items

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┬ Mature ── ┬ Home use
│ market    │
│           └ Signage display ─── ┬ Outdoor sign
│                                  │ Advertising on transport
│                                  ├ vehicle wrapping
│                                  │ (bus and train)
│                                  └ Others
│
└ Growing ── ┬ Commercial ── ┬ DM
  market     │ printing      ├ Fliers
             │               ├ Catalogs
             │               ├ Bills/invoices
             │               ├ Business cards
             │               └ Others
             │
             ├ Packaging ── ┬ Cardboard
             │ printing     ├ Paper containers
             │              ├ Soft packages
             │              ├ Labels
             │              └ Others
             │
             ├ Textiles ── ┬ Fashion
             │             ├ Sports apparel
             │             ├ Garment
             │             ├ Home textiles
             │             └ Others
             │
             ├ Construction ── ┬ Ceramic tiles
             │ material        ├ Wall coverings
             │ printing        ├ Interior wooden panels
             │                 └ Others
             │
             ├ Code marking
             │ (Product code marking and labeling on cardboard)
             │
             └ Industrial use
               (Liquid crystal color filter, organic EL, others)
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 2) Rival Markets

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┬ Analog printing ── ┬ Offset
│                    ├ Gravure
│                    ├ Flexography
│                    └ Screen
│
└ Electrophotographic ── Production printers ── ┬ Monochrome
  printing                                      └ Color
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2. Manufacturers

    1) Hardware manufacturers   (18 makers in Japan and more than 80 from overseas)

    2) Printhead manufacturers   (8 makers in Japan and 4 from overseas)

    3) Ink manufacturers   (7 makers in Japan and more than 10 from overseas)

    4) Dye and pigment manufacturers   (8 makers in Japan and several from overseas)

    5) Others (post-processing equipment makers and parts manufacturers)

Ⅳ． Research Period and Methodology

  1. Research period

     The research period is set from 2016 to 2022 and target regions are Japan, North America, Europe, China, and other regions.

  2. Methodology

   1) On-site and in-person interviews with target manufacturers

   2) Analysis and review of open literatures, materials, statistics, and other sources

   3) Analysis of Data Supply's own proprietary database

Ⅴ． Format and Report Preparation Period

  1. Research form: Multi-client study

  2. Research period: January to March of 2019

  3. Publication date: An English version will be published in late June, 2019 (Japanese version will be available on March 28, 2019)

  4. Report format: A4 size (PDF format: 2018 version contains 270 pages)

  5. Price: $5,000-

  6. Researchers

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VI. Items to Be Covered

A. Comprehensive Analysis

1. Trend of overall shipment value of industrial inkjet (2016-2022)

2. Digital VS Analog use of industrial inkjet

3. Industrial inkjet business sales and market share by IJ manufacturer (2018)

4. Shipment trend of hardware by market (volume and value: 2016-2022)

5. Shipment trend of ink

  5-1. Shipment trend by market (volume and value: 2016-2022)

  5-2. Shipment trend by type of ink (volume and value: 2016-2022)

  5-3. Technological trend of ink by market

  5-4. Price trend of ink by market

6. Trend of shipment value of printheads (2016-2022)

7. Major acquisitions in the industrial inkjet market

8. Comparison with related markets

B. Market Trend

<Definition of each market>

Graphic market	It's a market of wide-format (A2 or larger) printers and their inks for photos, proofing, and posters.
Technical market	It's a market of wide-format (A2 or larger) printers and their inks for CAD and GIS (Geographic Information System).
Signage market	It's a market of wide-format (A2 or larger) printers and their inks mainly for large outdoor signage, but the market extends to include UV printers for embellishing smart phone cases and cards, and latex printers for indoor wallcoverings.
Textile market	It's a market of DTF（Direct to Fabric）printers, sublimation transfer-based printers, DTG (Direct to Garment）printers and their inks. On top of fabric printing, the market is extending to include home textile printing such as curtains and bedspreads in recent years.
Transaction market	It's a market of printing financial transaction bills and statements in a high-speed mass variable data processing field. The market includes customer-based DM printing.
Commercial printing market	The market normally includes printing of corporate promotional tools such as catalogs and leaflets, but shall include publication printing such as books and magazines among others in the report.
Labels market	It's a market of adhesive label printing systems and their inks. Such labels are used for products targeting general consumers. Machines worth 10 million yen or more will be discussed in this report and excludes small desk-top type devices.
Packaging market	It's a market of large printers and their inks for folding carton, soft and corrugated packages. Mass printing machines will be discussed in the report and small proofing devices are excluded.
Marking & Coding market	It's a market of marking and coding printers and their inks for corrugated packages and labels to stamp product information such as data of production, origin, and barcodes.
Ceramic printing market	It's a market of printing machines and their inks for ceramic tiles and other ceramic-based products.
Construction printing market	It's a market of machines and their inks for wallcoverings and exterior walls as well as other construction material printing applications.

B-1. Graphic & Technical market
   1. Overall shipment value (Hardware & ink: 2016-2022)
   2. Digital VS Analog
   3. Graphic & Technical business sales and market share by IJ manufacturer (2018)
   4. Shipment trend of hardware by application (Graphic/technical: 2016-2022)
      Shipment volume/shipment value/shipment volume and market share by manufacturer
   5. Shipment trend of ink by type (Water-based dye/water-based pigment: 2016- 2022)
      Shipment volume/shipment value/technological trend/price trend
   6. Printhead use trend
   7. Trend of individual manufacturers
   8. List of major machines of each company

   Primary target region

Region	Country	Manufacturer
Japan	—	Seiko Epson/Canon/Ricoh/Mutoh Industries
N. America	USA	HP

B-2. Signage market
   1. Overall shipment value (Hardware & ink: 2016-2022)
   2. Digital VS Analog
   3. Signage business sales and market share by IJ manufacturer (2018)
   4. Shipment trend of hardware by type of ink (Solvent/UV/latex: 2016-2022)
      Shipment volume/shipment value/shipment volume and market share by manufacturer
   5. Shipment trend of ink by type (Solvent/UV/latex: 2016-2022)
      Shipment volume/shipment value/technological trend/price trend
   6. Printhead use trend
   7. Trend of individual manufacturers
   8. List of major machines of each company

   Primary target region

Region	Country	Manufacturer
Japan	—	Mimaki Engineering／Roland DG／Mutoh Industries／Seiko Epson／OKI Data／Ricoh／Fujifilm／Screen
N. America	USA	HP／VUTEk (EFI)
Europe	UK	Inca Digital Printers (Screen)
	Austria	Durst Phototechnik AG
	Netherlands	Océ (Canon)
	Belgium	Agfa-Gevaert
	Switzerland	SwissQprint AG
	Israel	Matan Digital Printers (EFI)
Asia	S. Korea	DGI／Dilli
	China	JHF／Fei Yeung Union／Gongzheng Group／FLORA／Others
	Taiwan	GCC

B-3. Textile market
　　1. Overall shipment value (Hardware & ink: 2016-2022)
　　2. Digital VS Analog
　　3. Textile business sales and market share by IJ manufacturer (2018)
　　4. Shipment trend of hardware by type (DTF/sublimation transfer/DTG: 2016-2022)
　　　　Shipment volume/shipment value/shipment volume and market share by manufacturer/shipment trend of DTF & sublimation transfer by speed segment/ shipment trend of DTG by mass production devices and by desktop devices
　　5. Shipment trend of ink by type (Reactive/acid/sublimation transfer/pigment: 2016-2022)
　　　　Shipment volume/shipment value/market share by ink manufacturer (DTF/sublimation transfer)/technological trend/price trend
　　6. Printhead use trend
　　7. Trend of individual manufacturers
　　8. List of major machines of each company

Primary target region

Region	Country	Manufacturer
Japan	—	Konica Minolta／Mimaki Engineering／Mutoh Industries／Seiko Epson／Toshin Kogyo／Brother Industries／Shima Seiki／Seiren／Others
N. America	USA	Anajet (Ricoh)
Europe	Italy	MS Printing Solution (Dover)／Reggiani (EFI)／Robustelli (Epson)／Aleph／La Meccanica (Mimaki)
	Netherlands	SPGPrints／Hollanders Printing Systems
	Austria	Durst Phototechnik AG／Zimmer
	Israel	Kornit Digital
Asia	S. Korea	DGI
	China	Atexco／Homer／Dozens of others

B-4. Transaction market
　　1. Overall shipment value (Hardware & ink: 2016-2022)
　　2. Digital VS Analog
　　3. Transaction business sales and market share by IJ manufacturer (2018)
　　4. Shipment trend of hardware by size (2016-2022)
　　　　Shipment volume/shipment value/shipment volume and market share by manufacturer
　　5. Shipment trend of ink by type (Water-based dye/water-based pigment: 2016-2022)
　　　　Shipment volume/shipment value/technological trend/price trend
　　6. Printhead use trend
　　7. Trend of individual manufacturers
　　8. List of major machines of each company
　　Primary target region

Region	Country	Manufacturer
Japan	—	Ricoh／Canon／Screen／Miyakoshi／Others
N. America	USA	HP／Xerox／Kodak／Pitney Bowes
Europe	France	Impika (Xerox)
	Netherlands	Océ (Canon)

B-5. Commercial printing market

   1. Overall shipment value (Hardware & ink: 2016-2022)

   2. Digital VS Analog

   3. Commercial printing business sales and market share by IJ manufacturer (2018)

   4. Shipment trend of hardware by size (Continuous-fed/sheet-fed: 2016-2022)

     Shipment volume/shipment value/shipment volume and market share by manufacturer

   5. Shipment trend of ink by type (Water-based pigment/UV: 2016-2022)

     Shipment volume/shipment value/technological trend/price trend

   6. Printhead use trend

   7. Trend of individual manufacturers

   8. List of major machines of each company

    Primary target region

Region	Country	Manufacturer
Japan	—	Konica Minolta ／ Fujifilm ／ Ricoh ／ Canon ／ Screen ／ Miyakoshi／Others
N. America	USA	HP／Xerox／Kodak
Europe	France	Impika (Xerox)
	Netherlands	Océ (Canon)
	Israel	Landa

B-6. Label & Package market

   1. Overall shipment value (Hardware & ink: 2016-2022)

   2. Digital VS Analog

   3. Label & Package business sales and market share by IJ manufacturer (2018)

   4. Shipment trend of hardware by application (Label/package: 2016-2022)

     Shipment volume/shipment value/shipment volume and market share by manufacturer

   5. Shipment trend of ink by type (Water-based pigment/UV: 2016-2022)

     Shipment volume/shipment value/technological trend (label, corrugated package, folding carton, flexible package)/price trend

   6. Printhead use trend (Label/package)

   7. Trend of individual manufacturers

   8. List of major machines of each company

    Primary target region

Region	Country	Manufacturer
Japan	—	Seiko Epson／Iwatsu／Screen
N. America	USA	EFI／Mark Andy
	Canada	Buskro
Europe	UK	Domino (Brother)
	Germany	Heidelberger
	Austria	Durst Phototechnik AG
	Denmark	Trojanlabel (AstroNova)

B-7. Marking & Coding market

　　1. Overall shipment value (Hardware & ink: 2016-2022)

　　2. Digital VS Analog

　　3. Marking & Coding business sales and market share by IJ manufacturer (2018)

　　4. Shipment trend of hardware by type (CIJ/DOD: 2016-2022)

　　　　Shipment volume/shipment value/shipment volume and market share by manufacturer

　　5. Shipment trend of ink by type (Solvent/UV: 2016-2022)

　　　　Shipment volume/shipment value/technological trend/price trend

　　6. Printhead use trend

　　7. Trend of individual manufacturers

　　8. List of major machines of each company

　　Primary target region

Region	Country	Manufacturer
Japan	—	Hitachi Industrial Equipment Systems／Kishu Giken／Others
N. America	USA	Videojet Technologies (Danaher)
Europe	UK	Domino (Brother)
	Switzerland	Markem-Imaje (Dover)

B-8. Ceramic tile & Construction material market

　　1. Overall shipment value (Hardware & ink: 2016-2022)

　　2. Digital VS Analog

　　3. Ceramic tile & Construction material business sales and market share by IJ manufacturer (2018)

　　4. Shipment trend of hardware by type (Ceramic tiles/construction material: 2016-2022)

　　　　Shipment volume/shipment value/shipment volume and market share by manufacturer

　　5. Shipment trend of ink by type (Oil-based/water-based: 2016-2022)

　　　　Shipment volume/shipment value/technological trend/price trend

　　6. Printhead use trend

　　7. Trend of individual manufacturers

　　8. List of major machines of each company

　　Primary target region

Region	Country	Manufacturer
Japan	—	Ricoh (planning)
Europe	Italy	Sacmi／System Ceramics／SITI-B&T／Tecno Ferrari
	Austria	Durst Phototechnik AG
	Spain	Creta Print (EFI)／KERAjet
Asia	China	Hoptech／Meija／Keda Clean Energy／FLORA／Teckwin

C. Inkjet Printhead Market

1. Changes in shipment value by manufacturer (2016-2022)

2. Breakdown of total sums of shipment value by market (2018)

3. Summary of individual companies

Primary target region

Region	Country	Manufacturer
Japan	—	Kyocera／Seiko Epson／Konica Minolta／Ricoh／SII Printek／Toshiba TEC／Panasonic／Brother
N. America	USA	Fujifilm Dimatix／HP／Kodak
Europe	UK	Xaar

D. Related Market

D-1. Shipment trend of inkjet printers for home and office use (2016-2022)

Shipment volume/shipment value/sales and market share by manufacturer (2018)

D-2. Shipment trend of electrophotographic products (2016-2022)

Shipment volume/shipment value/sales and market share by manufacturer (2018)

E. Individual Manufacturers

E-1. Business summary of major manufacturers
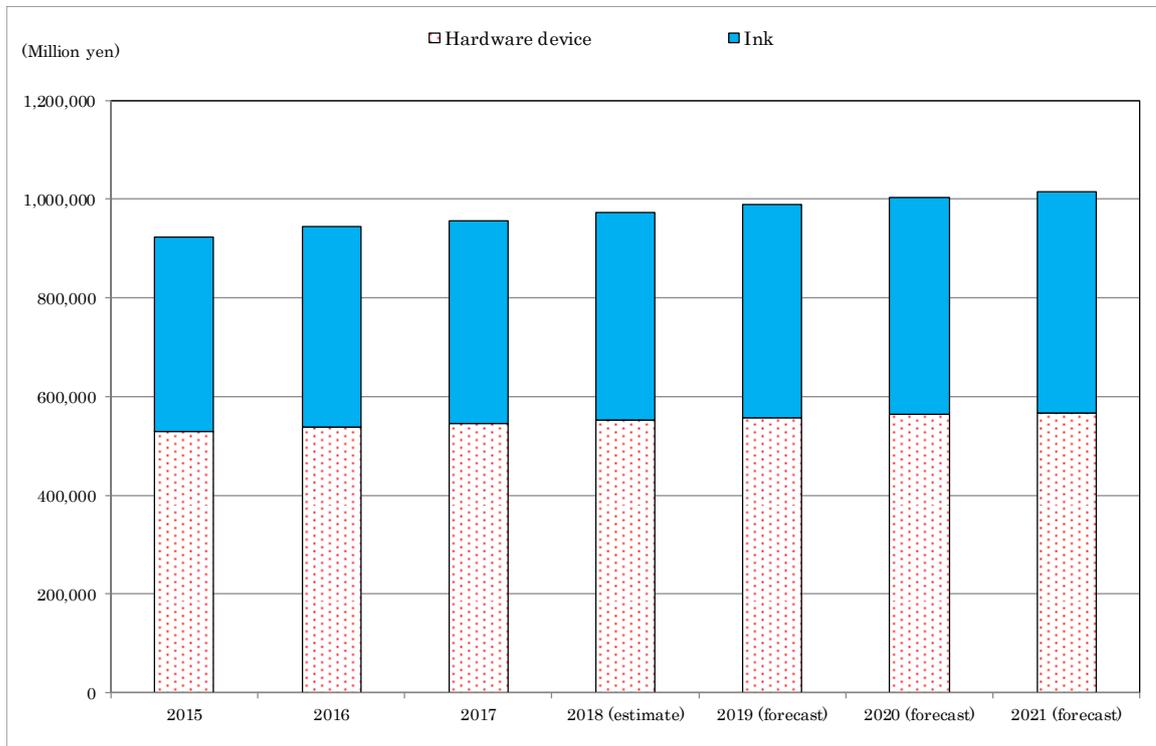
《Common items》

Sales of industrial inkjet by field (2018)/shipment trend of hardware and ink (shipment volume, shipment volume of ink: 2018)/future target market/acquisition and investment trend/partnership/development and production base/others
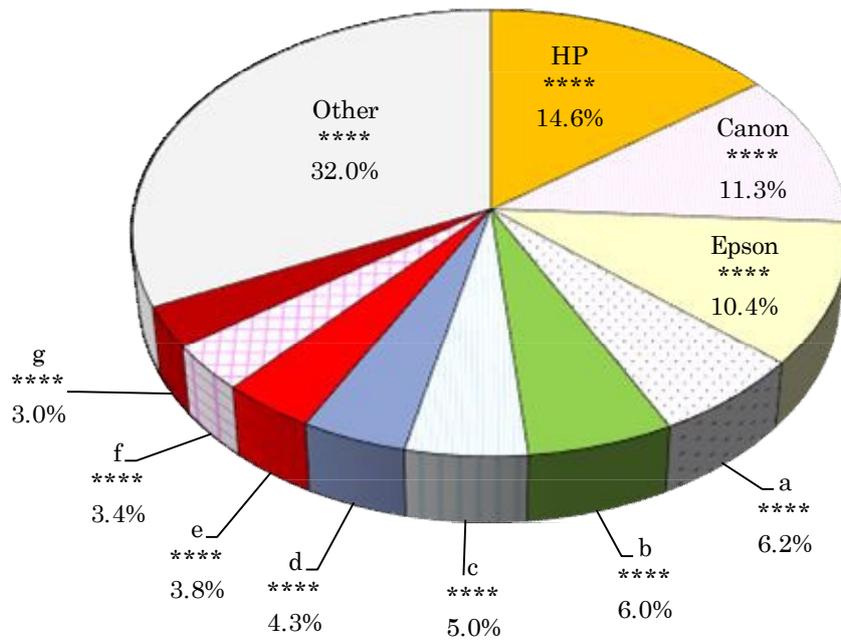
E-2. Corporate summary

《Common items》

Company name/address of head office/representative/established year/capital/sales (most recent FY)/number of employees (most recent)/summary of industrial inkjet business

◆ Images of the content from 2018 report◆

(Million yen)

Hardware device   Ink

1,200,000

1,000,000

800,000

600,000

400,000

200,000

0

2015   2016   2017   2018 (estimate)   2019 (forecast)   2020 (forecast)   2021 (forecast)

Overall shipment trend of industrial inkjet products

Other
****
32.0%

HP
****
14.6%

Canon
****
11.3%

Epson
****
10.4%

g
****
3.0%

f
****
3.4%

e
****
3.8%

d
****
4.3%

c
****
5.0%

b
****
6.0%

a
****
6.2%

Market share of sales of industrial inkjet business by inkjet manufacturer
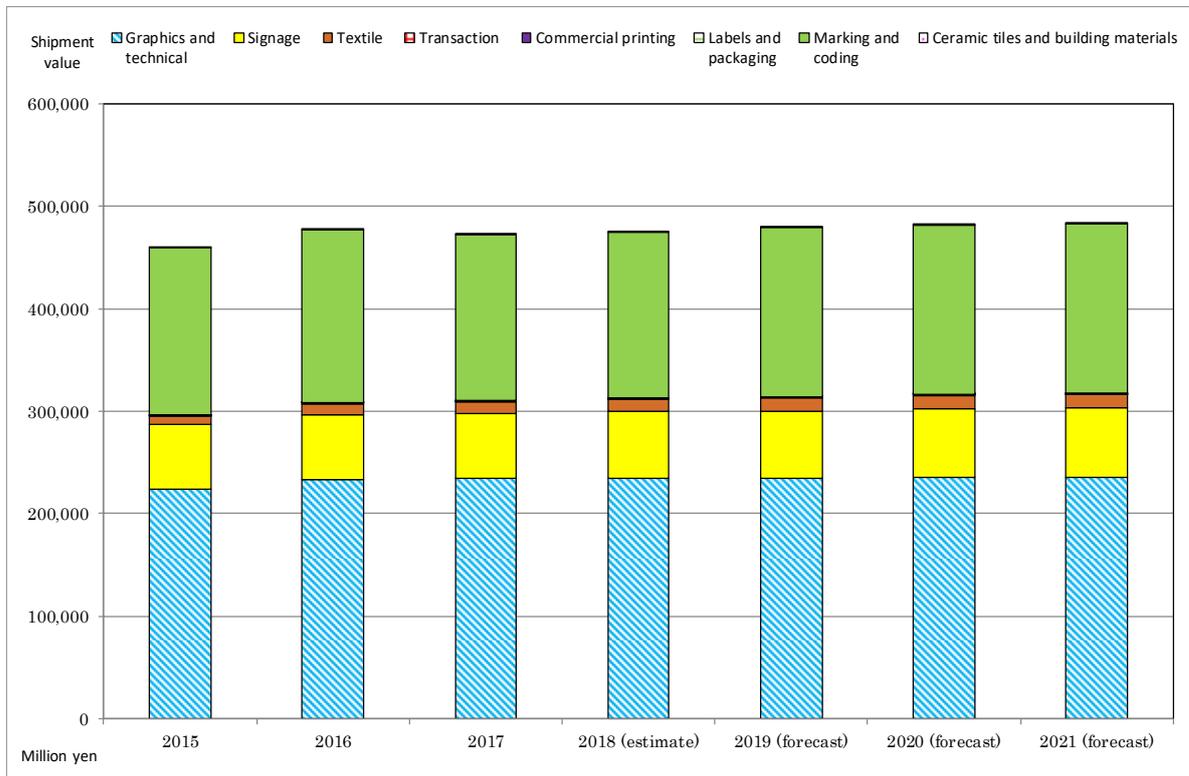
Shipment trend of hardware market
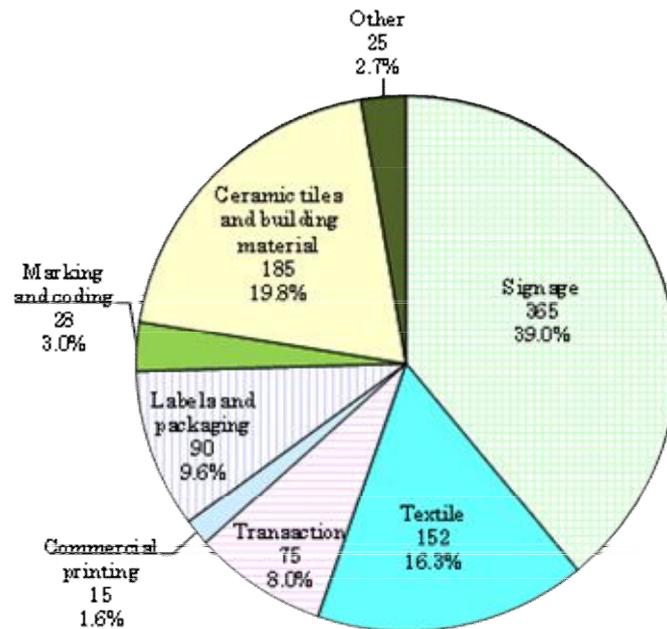
Breakdowns of total shipment value of inkjet printhead by market

[11]

Major acquisitions in the industrial inkjet market

Year	Acquirer company (country)	Acquiree company (country)	Business field of acquiree company	Acquisition sums
2002	Danaher (USA)	Videojet (USA)	Coding	$400 mil.
2002	Danaher (USA)	Linx (UK)	Coding	n/a
2005	Screen (Japan)	Inca (UK)	Wide-format signage printer	£30 mil.
2005	Fujifilm (Japan)	Sericol (UK)	UV ink	$230 mil.
2005	HP (USA)	Scitex (Israel)	Wide-format signage printer	$230 mil.
2005	EFI (USA)	VUTEk (USA)	Wide-format signage printer	$281 mil.
2006	Sakata Inx (Japan)	Triangle Digital (USA)	Wide-format signage ink	n/a
2006	Dover (USA)	Markem (France)	Coding	n/a
2006	Fujifilm (Japan)	Dimatix (USA)	Printhead	n/a
2006	Fujifilm (Japan)	Avecia (UK)	Ink dye	£150 mil.
2007	EFI (USA)	Jetrion (USA)	Label printing system	$40 mil.
2007	HP (USA)	MacDermid ColorSpan (USA)	Wide-format signage	n/a
2007	HP (USA)	NUR Macroprinters (Israel)	Wide-format signage	$117 mil.
2008	Sakata Inx (Japan)	Megaink Digital (Czech)	Wide-format signage ink	n/a
2008	Sakata Inx (Japan)	Anteprima (Italy)	Wide-format signage ink	n/a
2010	Canon (Japan)	Océ (Netherlands)	Transaction・signage	$1.9 bil.
2012	EFI (USA)	Cretaprint (Spain)	Ceramic tile printer	n/a
2013	DIC (Japan)	Sun Chemical (USA)	Ink	n/a
2013	Xerox (USA)	Impika (France)	Transaction	n/a
2014	Dover (USA)	MS (Italy)	Textile printer	$70 mil.
2014	Konica Minolta (Japan)	Verga IT (Italy)	Textile dealer	Several hundreds of million yen
2014	Investcorp (USA)	SPGPrints (Netherlands)	Textile printer	$240 mil.
2015	Sensient (USA)	Xennia (UK)	Textile ink	n/a
2015	Brother (Japan)	Domino (UK)	Coding	$1.5 bil.
2015	Epson (Japan)	For Tex S.R.L (Italy)	Textile ink	n/a
2015	IIMAK (USA)	American Ink Jet (USA)	Wide-format signage ink	n/a