

Multi-Client Study

Research Proposal

[2024 version of Inkjet Printing Market Forecast]

**"The Latest Market Trends in Inkjet
Technology Expanding from
Printing to Manufacturing"**

*=Comprehensive analysis of the commercial and industrial inkjet market
(hardware, ink, and printheads)=*



September 2024
Data Supply Inc.

<Overview>

I. Theme

[2024 version of Inkjet Printing Market Forecast]

“The Latest Market Trends in Inkjet Technology Expanding from Printing to Manufacturing”

=Comprehensive analysis of the commercial and industrial inkjet market (hardware, ink, and printheads)=

II. Abstract

Inkjet technology, which enables precise control over printing on a wide range of materials, **has seen a notable rise in adoption across various fields and applications in recent years**. Inkjet technology is gaining attention as a potential game-changer in the paper printing market, including advertising, commercial, and packaging printing, as well as in non-paper printing markets like textiles, ceramic tiles, construction materials, and metals. Its applications extend beyond printing to manufacturing, including additive manufacturing (AM) and printed electronics (PE).

A review of recent industry trends reveals that, **while inkjet technology as a whole continues to evolve with higher-performance heads and improved ink quality, the market has not achieved the growth that the industry had hoped for**. While some applications, such as commercial and packaging printing, continue to see market growth, others, such as signage and textiles, are still recovering from the significant post-pandemic decline. In the inkjet consumables business, major printer and ink manufacturers in Japan, the U.S., and Europe have focused on the development of water-based pigment inks for a variety of applications in recent years. However, there has been little progress in their full-scale adoption in the various markets.

Inkjet technology is regarded as **a technology that can reduce environmental impact**, as it improves material utilization and reduces waste. It is also expected to bring innovation to manufacturing as **a microfabrication technology that can be used with a variety of materials**. In addition to printer manufacturers looking to expand their global reach, small and medium-sized integrators with extensive knowledge and expertise in inkjet technology will work with head and ink manufacturers to create innovations in a variety of fields and applications. Given the unique nature of this industry, **inkjet technology is poised for growth over the medium to long term**.

The 2024 edition of the Inkjet Printing Market Forecast is the eighth in the series. This year's report offers a professional and objective outlook on the future of markets including signage and graphics, textiles, transactional printing, commercial printing, label and packaging, marking and coding, ceramic tile and building materials, and 3D printing. It is our hope that this report will help to invigorate the industry.

III. Items and Makers

1. Surveyed Markets

Graphics Market	Wide-format printers (A2 and up) for photos, proof, and posters printing and the market mainly handling sales of inks for wide-format printers.
Technical Market	Wide-format printers (A2 and up) for CAD and GIS (Geographic Information System) printing and the market mainly handling sales of inks for wide-format printers.
Signage Market	It's a market of wide-format printers (A2 and up) mainly used for large outdoor signs and sales of inks for wide-format printers, but includes related markets of UV printers used to decorate smartphone cases and plastic cards, as well as latex printers used for indoor wallcoverings.
Textile Market	The market is mainly formed by DTF (Direct to Fabric) printers, sublimation transfer printers with transfer media, and DTG (Direct to Garment) printers used for T-shirt printing. Sales of hardware machines and inks are the center of the market. In recent years, the market has expanded beyond clothing to include home textiles such as curtains and bedspreads.
Transaction Market	It mainly refers to a printing market of high-speed and mass variable data processing such as credit card bills/statements. The market has spread to include DM printing based on customer information.
Commercial Printing Market	The market is mainly formed by printing of corporate promotional tools such as catalogs and leaflets, but this reports extends to include publication printing such as books and magazines, among others.
Labels Printing Market	This market is centered on the sale of adhesive label printers that produce labels placed on consumer products and the sale of ink. Only printing machines costing 10 million or more per unit are covered and small-sized or desk-top machines are not included.
Packaging Market	The market focuses on sales of large printers and ink for folding carton, flexible packaging, and corrugated packaging. This report only covers mass production printers and excludes small inkjet proofers.
Marking & Coding Market	This is the market of printers that print product information (production date/place of origin/barcode) on cardboard and labels, and it also includes the ink sale for these printers.
Ceramic Printing Market	The market is mainly comprised of the sale of hardware machines and ink for ceramic tile and related product printing.
Building Material Printing Market	The market is mainly comprised of the sale of hardware machines and ink for building material printing such as wall coverings and exterior walls.
Other Markets	They include 3D printer market, printed electronics market, anti-counterfeiting market, and food market.

2. Surveyed Makers

- 1) Hardware makers (Over 100 makers in Japan and abroad)
- 2) Printhead makers (18 makers in Japan and abroad)
- 3) Ink/dispersions makers (Over 150 makers in Japan and abroad)
- 4) Others (integrators and parts makers among others)

IV. Survey Period and Methodology

1. Survey period

The survey period is set from 2021 to 2027 and target regions are: Japan, North America, Europe, China, and other regions.

2. Methodology

- 1) Based on on-site and in-person interviews with target makers as a principle
- 2) Analysis and review of open materials and statistics
- 3) Analysis of Data Supply's own proprietary database

V. Survey Format and Report Preparation Period

1. Survey format: Multi-client study

2. Survey period: August to October of 2024

3. Release date: December 9, 2024

4. Report format: PDF (2023 version contains 389 pages)

5. Price: \$6,000-

6. Researchers are:

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VI. Surveyed Items

A. Comprehensive Analysis

1. Trends in overall shipment value of the industrial and commercial inkjet (2021-2027)
2. Digital versus analog in the printing market
3. Industrial and commercial inkjet business sales share by IJ maker (2022/2023)
4. Shipment trends in hardware machines by market (volume and value: 2021-2027)
5. Overview of the ink market (shipment volume and value: 2021-2027)
6. Overview of the printhead market (value: 2021-2027)
7. Major acquisitions in the industrial inkjet market
8. Regulations and safety standards for industrial inkjet

***Shipment values for each item are shown in Japanese yen and U.S. dollar terms.**

B. Market Trends

B-1. Graphics & Technical market

1. Overall shipment value (hardware & ink: 2021-2027)
2. Market summary (digital ratio and inkjet ratio)
3. Demand ratio by region (2023)
4. Graphic & Technical business sales share by IJ maker (2023)
5. Shipment trends in hardware machines by application (graphics/technical: 2021-2027)
Shipment volume/shipment value/shipment volume share by maker (2023)
6. Shipment trends in ink by type (water-based pigment/water-based dye: 2021-2027)
Shipment volume/shipment value/shipment volume share/technological trends/price trends
7. Printhead adoption trends
8. Summary of major makers
9. List of major machines of each company

Primary surveyed region

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

B-2. Signage market

1. Overall shipment value (hardware & ink: 2021-2027)
2. Market summary (digital ratio and inkjet ratio)
3. Demand ratio by region (2023)
4. Signage business sales share by IJ maker (2023)
5. Shipment trends in hardware machines by type of ink (solvent/UV/latex: 2021-2027)
Shipment volume/shipment value/shipment volume share by maker (2023)
6. Shipment trends in ink by type (hard solvent/eco solvent/UV/latex: 2021-2027)
Shipment volume/shipment value/shipment volume share/technological trends/price trends
7. Printhead adoption trends
8. Summary of major makers
9. List of major machines of each company

Primary surveyed region

Region	Country	Maker
Japan	—	Mimaki Engineering/Roland DG/Mutoh Industries/Seiko Epson/Ricoh/Fujifilm
N. America	USA	HP/EFI (VUTEk)
Europe	UK	Inca Digital Printers (Agfa-Gevaert)
	Italy	Durst
	Netherlands	Canon Production Printing (formerly Océ, Canon)
	Belgium	Agfa-Gevaert
	Switzerland	SwissQprint AG
	Israel	Matan Digital Printers (EFI)
Asia	S. Korea	DGI/Dilli
	China	Beijing JHF/Fei Yeung Union/Gongzheng Group/XULI/ALLWIN/Wit-Color/HANDTOP/FLORA/Human Digital/Fortune-lit/Techwin/Sky Air Ship/New Century/Others

B-3. Textile market

1. Overall shipment value (hardware & ink: 2021-2027)
2. Market summary (digital ratio and inkjet ratio)
3. Demand ratio by region (2023)
4. Textile business sales share by IJ maker (2023)
5. Shipment trends in hardware machines by type (large textile printing machines/medium and small textile printing machines/DTG/DTF: 2021-2027)
 Shipment volume/shipment value/shipment volume share by maker (2023)/DTG and DTF shipment trends/Market positioning of DTF printers
6. Shipment trends in ink by type (water-based pigment/water-based dye: 2021-2027)
 Shipment volume/shipment value/ink shipment volume share by maker/technological trends/price trends
7. Printhead adoption trends
8. Summary of major makers
9. List of major machines of each company

Primary surveyed region

Region	Country	Maker
Japan	—	Konica Minolta/Mimaki Engineering/Mutoh Industries/Seiko Epson/Toshin Kogyo/Brother Industries/Ricoh/Seiren/Others
N. America	USA	HP/Ricoh Printing Systems America (formerly Anajet, Ricoh)
Europe	Italy	MS Printing Solutions (Dover)/Reggiani (EFI)/Epson Como Printing Technologies (formerly Robustelli, Epson)/Mimaki La Meccanica (Mimaki)/Durst
	Netherlands	SPGPrints/Hollanders Printing Systems
	Austria	Zimmer/Aeoon
	Israel	Kornit Digital
Asia	S. Korea	DGI
	China	Atexco/Homer/Hopetech/Human Digital/ALLWIN/CNTOP/Nocai/Others

B-4. Transaction market

1. Overall shipment value (hardware & ink: 2021-2027)
2. Market summary (digital ratio and inkjet ratio)
3. Demand ratio by region (2023)
4. Transaction business sales share by IJ maker (2023)
5. Shipment trends in hardware machines by size (2021-2027)
Shipment volume/shipment value/shipment volume share by maker (2023)
6. Shipment trends in ink by type (water-based pigment/water-based dye: 2021-2027)
Shipment volume/shipment value/ink shipment volume share by maker/technological trends/price trends
7. Printhead adoption trends
8. Summary of major makers
9. List of major machines of each company

Primary surveyed region

Region	Country	Maker
Japan	—	Ricoh / SCREEN / Miyakoshi / Fujifilm / Kyocera DS
N. America	USA	HP / Xerox / Kodak / BlueCrest
Europe	UK	Domino (Brother)
	Netherlands	Canon Production Printing (formerly Océ, Canon)
Asia	China	Founder / Inkj Digital / Spande / Others

B-5. Commercial printing market

1. Overall shipment value (hardware & ink: 2021-2027)
2. Market summary (digital ratio and inkjet ratio)
3. Demand ratio by region (2023)
4. Commercial printing business sales share by IJ maker (2023)
5. Shipment trends in hardware machines by size (continuous-feed/sheet-feed: 2021-2027)
Shipment volume/shipment value/shipment volume share by maker (2023)
6. Shipment trends in ink by type (water-based pigment/UV: 2021-2027)
Shipment volume/shipment value/ink shipment volume share by maker/technological trends/price trends
7. Printhead adoption trends
8. Summary of major makers
9. List of major machines of each company

Primary surveyed region

Region	Country	Maker
Japan	—	Konica Minolta / Fujifilm / Ricoh / SCREEN / Komori Corporation/Canon
N. America	USA	HP / Kodak
Europe	Netherlands	Canon Production Printing (formerly Océ, Canon)
	Israel	Landa
Asia	China	Founder / Inkj Digital / HanGlobal / Others

B-6. Labels & Packaging market

1. Overall shipment value (hardware & ink: 2021-2027)
2. Market summary (digital ratio and inkjet ratio)
3. Demand ratio by region (2023)

4. Labels & Packaging business sales share by IJ maker (2023)
5. Shipment trends in hardware machines by application (labels/corrugated packaging/folding carton/flexible packaging: 2021-2027)
Shipment volume/shipment value/shipment volume share by maker (2023)
6. Shipment trends in ink by type (labels/corrugated packaging/folding carton/flexible packaging: 2021-2027)
Shipment volume/shipment value/shipment trends by ink type/ink shipment volume share by maker/technological trends (labels/corrugated packaging/folding carton/flexible packaging)/price trends
7. Printhead adoption trends (labels/packaging)
8. Summary of major makers
9. List of major machines of each company

Primary surveyed region (labels)

Region	Country	Maker
Japan	—	Seiko Epson/Canon/SCREEN
N. America	USA	Mark Andy/Colordyne Technologies
Europe	UK	Domino (Brother)/Afinia Label/Daco Solutions
	Germany	KBA-Kammann/MPrint/Gallus
	Italy	Durst
	Switzerland	BOBST/Mouvent
	Netherlands	Canon Production Printing (formerly Océ, Canon)/Amica Systems
	Belgium	Xeikon
Asia	Denmark	Trojanlabel (AstroNova)
	S. Korea	Dilli/APL Korea
	China	HanGlobal/FLORA/Others
	India	MONOTECH

Primary surveyed region (corrugated packaging)

Region	Country	Maker
Japan	—	Konica Minolta
N. America	USA	HP/EFI/SUN Automation
Europe	Spain	Barberán
	Italy	Durst, Engico
	Germany	Koenig & Bauer Durst
	Belgium	Xeikon
	Switzerland	BOBST
Asia	China	Hanglory Group/Wonderjet

Primary surveyed region (folding carton)

Region	Country	Maker
Japan	—	Komori Corporation
Europe	France	MGI
	Germany	Koenig & Bauer Durst
	Israel	Landa

Primary surveyed region (flexible packaging)

Region	Country	Maker
Japan	—	Fujifilm/Miyakoshi/SCREEN/Think Laboratory/Tritek
Europe	Italy	UTEKO
	Israel	Landa

B-7. Marking & Coding market

1. Overall shipment value (hardware & ink: 2021-2027)
2. Market summary (digital ratio and inkjet ratio)
3. Demand ratio by region (2023)
4. Marking & Coding business sales share by IJ maker (2023)
5. Shipment trends in hardware machines by type (CIJ/DOD: 2021-2027)
Shipment volume/shipment value/shipment volume share by maker (2023)
6. Shipment trends in ink by type (water-based/solvent/UV: 2021-2027)
Shipment volume/shipment value/ink shipment volume share by maker/technological trends/price trends
7. Printhead adoption trends
8. Summary of major makers
9. List of major machines of each company

Primary surveyed region

Region	Country	Maker
Japan	—	Hitachi Industrial Equipment Systems/Kishu Giken/Keyence /Others
N. America	USA	Videojet Technologies (Danaher)/Weber Packaging Solutions
Europe	UK	Domino (Brother)
	Germany	Leibinger
	Switzerland	Markem-Imaje (Dover)
Asia	China	Beijing Hi-Pack Coding
	Taiwan	Anser Coding
	India	Control Print

B-8. Ceramic tiles & Construction material market

1. Overall shipment value (hardware & ink: 2021-2027)
2. Market summary (digital ratio and inkjet ratio)
3. Demand ratio by region (2023)
4. Ceramic tiles & Construction material business sales share by IJ maker (2023)
5. Shipment trends in hardware machines by application (ceramic tiles/construction materials: 2021-2027)
Shipment volume/shipment value/shipment volume share by maker (2023)
6. Shipment trends in ink by type (oil-based/UV: 2021-2027)
Shipment volume/shipment value/ink shipment volume share by maker/technological trends/price trends
7. Printhead adoption trends
8. Summary of major makers
9. List of major machines of each company

Primary surveyed region

Region	Country	Maker
Japan	—	Ricoh
N. America	USA	EFI
Europe	Italy	Sacmi/Durst/System Ceramics/SITI-B&T/Tecno Ferrari
	Germany	Hymmen
	Spain	EFI Cretaprint/KERAjet
Asia	China	Hope Ceramics/Meija/KEDA/FLORA/Teckwin

B-9. 3D printing market

1. Overall shipment value (hardware & material: 2021-2027)
2. Market summary (digital ratio and inkjet ratio)
3. Demand ratio by region (2023)
4. 3D printing business sales share by IJ maker (2023)
5. Shipment trends in hardware machines by application (2021-2027)
Shipment volume/shipment value/shipment volume share by maker (2023)
6. Printhead adoption trends
7. Summary of major makers
8. List of major machines of each company

Primary surveyed region (3D printer)

Region	Country	Maker
Japan	—	Mimaki Engineering / Keyence / CMET
N. America	USA	Stratasys / 3D Systems / HP / Desktop Metal
Europe	Israel	Xjet
	Germany	Voxeljet
	Sweden	Digital Metal
Asia	China	ALPHA / AMSKY Technology / EasyMFG / Fenghua Zhuoli Technology (FHZL) / KOCEL / Laseradd / Lingyuan AFS / Sailner

B-10. Other markets (industrial applications/other markets)

1. Display
2. Solar cells
3. Electronic circuit board
4. Lithium-ion secondary battery
5. Biotechnology
6. Anti-counterfeiting
7. Food products
8. Nail art
9. Medical

Primary surveyed region (industrial applications)

Region	Country	Maker
Japan	—	Ishii Hyoki / AIMECHATEC / Canon / SHIBAURA MECHATRONICS / Tokyo Electron / Toray Engineering / MicroCraft / SIJTechnology
N. America	USA	Kateeva / MicroFab Technologies
Europe	Israel	Nano Dimension / Orbotech / PV Nano Cell
	UK	M-Solv
	Germany	Notion Systems / SÜSS MicroTec / Schmid Group
	France	Ceradrop
	Netherlands	MuTracx
Asia	S. Korea	SEMES

C. Inkjet Printhead Market

1. Changes in shipment value by printhead system (2021-2027)
2. Changes in shipment value by maker (2021-2027)
3. Breakdown of total shipment value by market (2023)
4. Maker's share by market (2023)
5. Summary of individual companies
6. List of industrial inkjet printhead products by maker

Primary surveyed region

Region	Country	Maker
Japan	—	Kyocera/Seiko Epson/Konica Minolta/Ricoh/SII Printek/RISO Technologies (formerly Toshiba TEC)/Brother/Funai Electric
N. America	USA	FUJIFILM Dimatix/HP/Xerox
Europe	UK	Xaar
Asia	China	Suzhou Real Fast Print Technology/AMSKY Technology/Others

D. Related Market (Home & Office Inkjet Printer Market)

1. Shipment trends in hardware machines (2021-2027)
Shipment volume/shipment value
2. Share by maker (2023)
3. Shipment trends in ink (2023)

E. Individual Makers

E-1. Business summary of major makers

《Common items》

Sales of industrial inkjet by field (2023)/shipment trends in hardware machines and ink (shipment volume of machines, shipment volume of ink: 2023)/market-by-market trends

E-2. Summary of each company (Japanese maker/overseas maker)

《Common items》

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

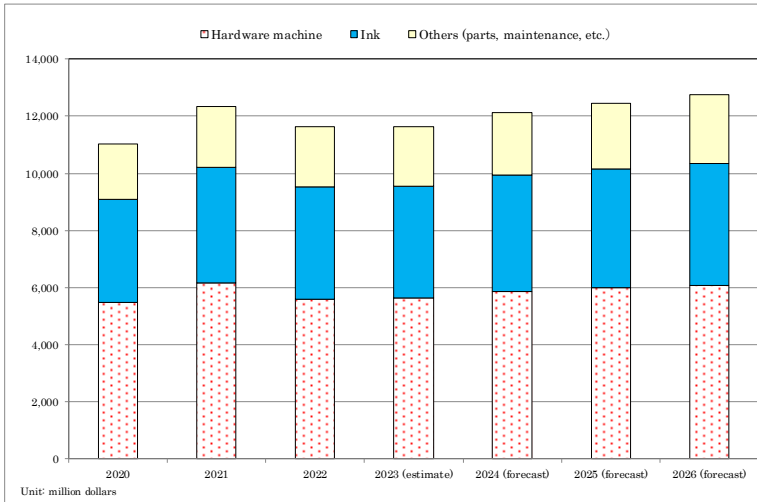
E-3. List of industrial inkjet-related makers (printer makers/integrators/printhead makers/ink and dispersions makers)

《Common items》

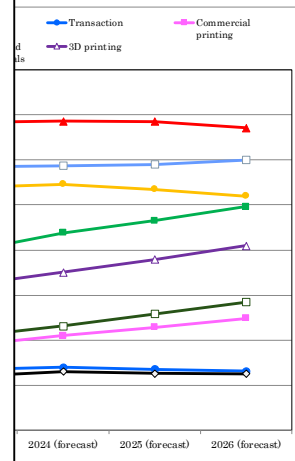
Company name/address of head office/target market (water-based/solvent/UV/textiles/ceramics/others)/production capacity, etc.

◆ Sample pages of the report (2023 version)◆

(2) USD basis



	2020		2021		2022		2023 (estimate)		2024 (forecast)		2025 (forecast)		2026 (forecast)	
	Value	%	Value	%	Value	%	Value	%	Value	%	Value	%	Value	%
Hardware machine														
Ink														
Others (parts, maintenance, etc.)														
Total														



Unit: million yen

	2024 (forecast)	2025 (forecast)	2026 (forecast)
Labels and packaging			
Marking and coding			
Ceramic tiles and building materials			
3D printing			
Total			

2) Key ink technology

As an important ink technology, (1) ink composition technology compatible with a drying technology and (2) color material technology are required, based on properties of the printing media.

(1) Drying technology

- ① Penetration drying
- ② Evaporative drying
- ③ Phase-change drying (UV curing / wax)

The liquid ink lands on the media and dries (in the setting process) as it evaporates or penetrates through the media, while it also spreads sideways and causes feathering and beading to damage the image quality. In order to achieve high image quality, the media with an ink receiving layer and a high temperature drying system are required. On the other hand, phase-change inks (ultraviolet / UV curing / hot-melt wax) changes to a solid phase right after landing due to ultraviolet curing and other effects, making such inks less susceptible to deterioration of image quality caused by ink's dependence on the media properties. Among the phase change type inks, a normal UV curing ink was not able to prevent dots from spreading just slightly between the time the ink is deposited on the media surface and the UV lamp is provided. However, the UV gel ink has a lower viscosity due to pre-heating to achieve stable ejection. The heating cools when the ink is deposited, causing the ink to gel, and preventing it from spreading like ink drops. The ink is then cured by UV light to provide even better dot reproducibility.

(2) Colorant technology

Colorants used in inkjet printing vary depending on the media and coloring process. The followings are known as typical colorants.

① Direct dye

As in a water-soluble group, it has an anionic group (sulfonic acid group and carboxylic acid group), and dying is completed just through printing and drying on cellulose fibers such as paper, cotton and hemp. So, basically, inks do not need the binder. When a large amount of dyes remains on the surface of the media through evaporative drying, uncolored dyes may damage the coloring effects or cause dyes to blur due to wetting by water.

(country)	Targeted company's business	Acquisition amount
	Coding	\$400m
l (UK)	Coding	\$110m
	Coding	n/a
	Wide-format signage printer	£ 30m
	UV ink	\$230m
	Wide-format signage printer	\$230m
	Wide-format signage printer	\$281m
A)	Wide-format Signage ink	n/a
	Coding	n/a
	Head	n/a
	Ink dye	£ 150m

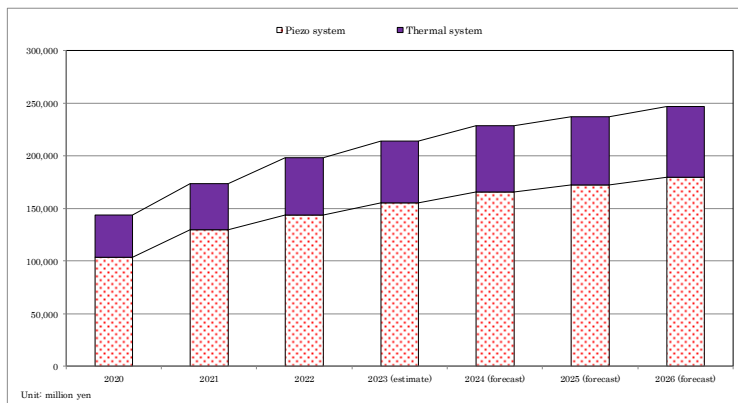
2007	EFI (USA)	Jetrion (USA)	Label printer	\$40m
2007	HP (USA)	MacDermid ColorSpan (USA)	Wide-format signage	n/a
2007	HP (USA)	NUR Macroprinters (Israel)	Wide-format signage	\$117m
2008	Sakata INX (Japan)	MegaInk Digital (Czech)	Wide-format Signage ink	n/a
2008	Sakata INX (Japan)	Anteprima (Italy)	Wide-format Signage ink	n/a
2010	Canon (Japan)	Océ (Netherlands)	Transaction · Signage	\$1.9b

C. Inkjet Printhead Market

1. Overall

1. Changes in shipment value by printhead method (2020-2026)
(1) JPY basis

	2020		2021		2022		2023 (estimate)		2024 (forecast)		2025 (forecast)		2026 (forecast)	
	Value	%	Value	%	Value	%	Value	%	Value	%	Value	%	Value	%
Piezo system														
Thermal system														
Total														



*The following exchange rate standards were applied: Year 2021: 1USD=110 yen / 1EUR=130 yen / 1GBP=150 yen; Year 2022: 1USD=131.5 yen / 1EUR=138.1 yen / 1GBP=161.9 yen; Year 2023 and beyond: 1USD=137 yen / 1EUR=149 yen / 1GBP=172 yen

are also on a significant upward

by B3 sheet-feed varioPRINT iX1700 in April 2024. The printhead has been replaced by a Canon thermal head. The new model features an ink recirculation system, a pre-ink bleeding, and high-density latex inks. Compared to the conventional model, the new model is shorter in depth and has also been significantly lowered in price. This move is aimed at promoting sales of lower-end models to further promote sales. The new model also offers improved durability, which is said to be the highest 99.99% uptime in a 24-hour operation.



varioPRINT iX1700

with the launch of the LabelStream LS2000, developed with U.K. integrator FFEI;

equipped with piezo heads from Xaar. In October 2023, Canon announced the new LabelStream LS2000 (50 million yen) for the market (scheduled for release in August 2024). Like the aforementioned commercial printer (varioPRINT iX1700), the new model is equipped with a Canon thermal head with an ink recirculation system and high-density latex ink.



LabelStream LS2000