



Production Inkjet:
Zooming in on
Photo Products

Canon

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Even in today's increasingly digital world, printed photographs remain highly desired to preserve memories and document experiences. Production inkjet printing technology has emerged as a competitive platform for photo specialty production, with sheetfed and web fed presses capable of producing stunning prints and allowing print service providers new entry points to this growing application area.

The photo specialty applications benefiting the most from the rise of inkjet include photobooks such as albums and yearbooks, as well as calendars, cards, posters and photo prints. For print service providers, the demand for these products spans businesses and consumers, providing significant growth opportunities to explore.

This report highlights the opportunities in photo specialty applications, the key trends influencing the market, and the new role of high-end inkjet presses in the production process. Additionally, Entourage, a Princeton Junction, New Jersey-based yearbook printer that has invested in a Canon varioPRINT iX series inkjet sheetfed press, will share its experience with the technology.

THE PHOTO SPECIALTY OPPORTUNITY

The Decline of Silver Halide

For print service providers seeking to enter the market, the current growth trajectory of photo specialty applications, combined with the decline in silver halide photo processing and rise of digital printing technology, has made this an opportune time.

Silver halide printing, while offering a high-quality result, has been knocked for its negative sustainability track record, given its use of heavy metals and hazardous chemicals in the production process. Additionally, photo specialty products produced using silver halide are not recyclable.

Production inkjet technologies have reached a quality level that can compete with silver halide, while helping to reduce the negative environmental impact.

Sustainability advantages of production water-based photo specialty inkjet printing include:

- The reduction of photo chemicals in the production process
- Reduced noise and odor in production, helping to make a safer, more pleasant experience for employees
- Ink removal capabilities that enable recycling
- Significantly reduced waste throughout production
- The capability of recto/verso printing and the flexibility of substrates and formats, allowing inkjet users to print a variety of products on one press



Who Produces Photo Specialty?

In addition to its stronger environmental track record, digital printing has lowered barriers to entry for many types of printers to access the photo specialty segment. Retailers such as Walgreens, CVS, Walmart and Target, among many others, are key players in the photo specialty realm, offering consumers the ability to upload photos and purchase printed applications online and in store. Online photo retailers such as RitzPix and Artifact Uprising offer a variety of photo specialty products via an easy-to-use consumer-facing ecommerce interface. Similarly, companies such as Shutterfly, Vistaprint, Minted, Zazzle and Picaboo, all offer consumer-facing online storefronts, while also offering services to businesses.

General commercial printers, meanwhile, have entered the photo specialty mix, many of which come to the segment with an ingrained knowledge of digital printing, variable data, color management, finishing and bindery. In addition to serving customers in the markets they currently do business in, general commercial printers can get involved in photo specialty by offering white label digital printing solutions to the larger photo specialty entities. Current users of suitable inkjet technology can also fill excess capacity by adding print volume of photo products to their offering, especially in peak season at year-end when photo (r)e-tailers outsource the most.

The Emergence of Production Inkjet

There are few substrates today that cannot have a photograph printed on it. The latest inkjet print technology has made it possible to produce high-quality photos in personalized commemorative books, calendars, postcards, marketing copy, wall art, and even three-dimensional promotional products. With the latest inkjet printing technology, photo specialty applications can now be produced by a variety of print service providers.

Given the custom nature of the photo specialty segment, it has historically been a perfect fit for digital printing and production technology. However, the segment has been dominated by silver halide technology for flat photos, as well as offset and electrophotographic printing. This is because with the latter technologies, the ink or toner sits toward the surface of the substrate, enhancing the vividness of the color gamut.

However, with the emergence of high-speed production inkjet devices capable of producing comparable photo applications to offset and toner equipment, print service providers are being presented with a new solution with clear advantages. These include better overall cost effectiveness due to ease of use, output consistency, and other underlying factors.

The obstacles that inkjet once faced are being eliminated by the latest production inkjet technology to hit the market. Canon's ColorGrip is one example of inkjet innovation, in which a conditioning layer is applied to the sheet prior to the ink, which instantly immobilizes the pigments in the ink to help prevent pigments from being absorbed in uncoated media, while also helping to prevent dot gain on coated media. This results in a high color gamut, vibrant colors, and the ability for fine line details. Holding the ink closer to the surface of the paper reduces the chance for paper deformation and helps ensure a high-quality result on a variety of substrates.

The Canon varioPRINT iX-series sheetfed inkjet press is among the production inkjet solutions for photo specialty production.



In addition to substrate flexibility, production inkjet solutions have been designed using open architectures to support an array of workflow and finishing systems. This flexibility has been beneficial for print service providers at the beginning of their inkjet photo specialty journey in allowing them to maintain the off-line systems they are accustomed to and reducing the level of investment to enter inkjet photo specialty.

But before diving into the technology, print service providers must understand the trends, opportunities, and challenges of photo specialty production. While it is a growing and highly lucrative segment, education is imperative before investing in a photo specialty workflow. At Entourage for example, Elias Jo, CEO and founder, and his brother Edward Jo, the company's CFO, explain that they gathered intel on several production inkjet presses that they were impressed with before ultimately deciding on the Canon varioPRINT iX sheetfed inkjet press.

"The iX has a very good consistency," Edward Jo says. "And we had to check this over because the stated consistency we just didn't believe. Everyone says their machine is consistent, but during our analysis we were surprised at how consistent the iX was over days and weeks."

Understanding the Photo Specialty Landscape

Like all segments of print, the photo specialty market was impacted by COVID-19. However, while some photo specialty applications and opportunities were diminished by the pandemic, others saw influxes in demand. For example, as quarantines and travel restrictions set in, the large gatherings that are prime opportunities for commemoration via photo specialty applications essentially disappeared. Weddings were postponed throughout 2020, negating the need for photo albums. Business travel, conferences, and trade shows were also all severely diminished by the virus, reducing opportunities for photo specialty promotional products.

But other segments filled the void, including an increase in photo cards and calendars around the holidays. In a year in which social outlets and opportunities were drastically reduced, holiday cards became a way to stay connected and experienced a positive increase as a photo specialty application. In fact, after a summer of minimal COVID restrictions gave way to Delta and Omicron throwing a wrench in holiday plans, interest in photo cards increased around the 2021 holiday season. This sustained interest in holiday photo cards was a welcome opportunity for photo specialty printers, who often rely on the seasonal influx of business in Q4.



GETTY IMAGES / ANDREY SAYFUTDINOV

GETTY IMAGES / NARVIKK

A September 2021 study conducted by Ipsos on behalf of Shutterfly found that younger age groups show more interest in photo cards than traditional cards, with 38% of respondents between the ages of 18 to 34 stating they are interested in photo cards. Meanwhile 41% of respondents stated that they would like to receive photo cards.

Yearbooks are another photo specialty application that remained strong throughout the pandemic, despite school closures and the rise of online learning.

At Entourage, Elias Jo explains that while the initial school closings were concerning for the business's prospects in 2020, demand quickly ramped up as schools sought out yearbooks as a way to stay connected during the crisis. Jo recalls that at the start of the pandemic, Entourage saw an increase in cancellations while the rate of new orders decreased. But that turned around quickly, when schools realized they could still generate yearbooks despite the altered circumstances.

"Yearbooks are a resilient product," he says. "It's COVID-friendly. You can distribute one to each student. You can send it to each student's house rather than distribute it at the school. There is still an enormous amount of memories that are generated at a school, even though they're in remote learning or social distancing. Personally, it made me fall in love with the industry all over again, just realizing the positive impact our yearbooks have in the communities we work in."

Additionally, the company's in-house digital printing equipment has been highly beneficial in navigating the business through the pandemic. Edward Jo explains that because Entourage controls its own production and can offer the reduced makeready and turnaround times that digital provides, the company was able to ensure customers received their orders despite the challenging circumstances.

"I think because we did have control of the production in house, we made the decision that the yearbooks would be delivered on time," he says. "We promised we would get it done. We'll turn on the machines and take the necessary precautions to make sure these books still go out the door."



The Three Key Components of Production Inkjet in Photo Specialty

When considering inkjet solutions for photo specialty production, print service providers should ensure they understand three key components of the workflow process — the press and its ink laydown capabilities, its substrate compatibility and versatility, and how the press interacts with finishing processes.

1. Press and Ink Laydown

From a print quality perspective, new inkjet presses such as the Canon ProStream and varioPRINT iX offer 1,200 dpi print resolution to produce the high-quality output demanded by providers of photo specialty products. On the ink laydown side, one of the historical challenges of inkjet printing in photo specialty was the heavy ink volumes often required in photo printing. But innovations in production inkjet including ColorGrip conditioner (mentioned earlier) and the use of ICC color profiles to objectively quantify ink laydown and color performance of the device produce an accurate rendering on a wide range of media substrates.

2. Substrate Versatility

Unlike other print technologies, historically inkjet ink penetrated the fibers of uncoated paper substrates. With the quantity of ink required for photo specialty production, this can saturate the sheet, leading to undesirable results. In addition, photo specialty printers' substrate flexibility has been restricted to environmentally unfriendly and expensive options until recently. Canon's varioPRINT iX, ProStream, and ColorGrip conditioner have opened the door to using a variety of media substrates ranging from 60 gsm to 350 gsm including offset, uncoated, coated, and specialty medias ideally suited for the photo specialty market.

3. Finishing

While printing vivid images is a quintessential component of photo specialty production, the various finishing processes that photo applications are subjected to should not be overlooked. Coatings, laminations, and foil embellishments, for example, can be applied to printed photos to add a matte, satin, or gloss appearance, and even replicate the appearance and tactility of silver halide photos. The latest production inkjet presses have been designed with a partnership approach in mind, pairing with multiple finishing equipment providers' products. This ease of integration has been highly beneficial in implementing production inkjet to the photo specialty workflow.

At Entourage, Elias Jo explains that each of these key components were imperative in yearbook production. With high-quality photos a must on each page, for the company to bring an inkjet solution on board, the platform would have to maintain the integrity of the substrate while ensuring compatibility with finishing.

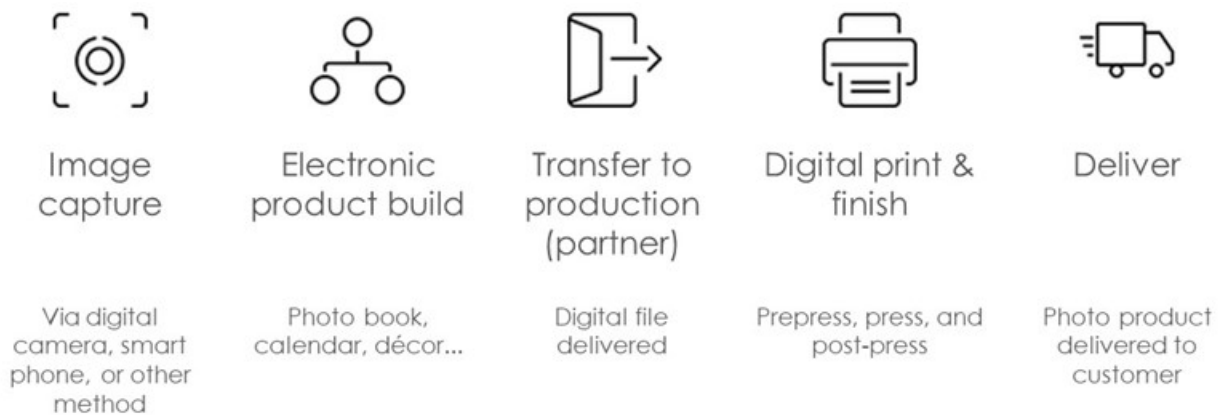
“We have high coverage on our products,” he says. “If you look at a yearbook page, the pages are just covered in ink. So on inkjet, it would just soak the paper. When you soak the paper with ink, it would curl and we'd have all kinds of problems down the line. Canon does some smart stuff ... so it comes out the way we expect it to — flat sheets that we can finish well.”



The Canon technologies that provide this advantage include the company's proprietary water-based polymer ink that provides color intensity and stability, along with ColorGrip. Additionally, the varioPRINT iX's three-step drying process supports ink permeation and robustness. The first step is a heated drum that uses vacuum suction and hot air impingement to dry the water-based ink. This is then followed by a post fixation unit, in which the paper is subjected to higher temperature humidity that fixates the polymer particles into the paper. Finally, the paper is cooled down as it passes through the cooling unit, allowing it to result in a durable and flat printed sheet.

Managing the Digital Production Workflow

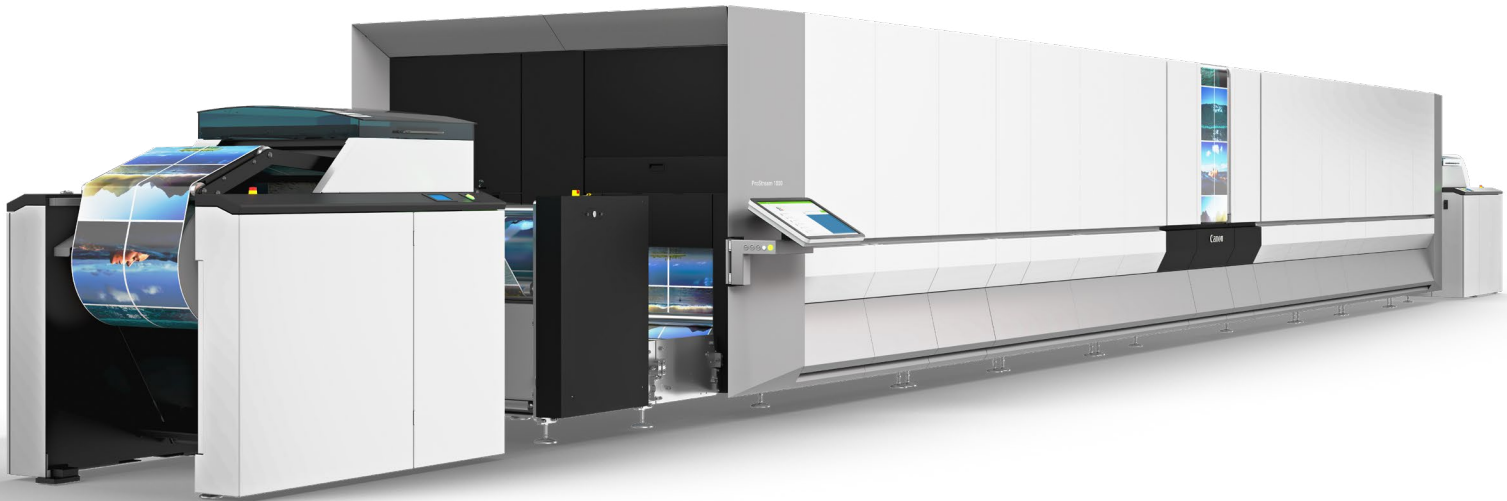
In addition to managing the printing and finishing components of the production process, integrating production inkjet into photo specialty environments requires a robust workflow system and understanding of the complexities of producing and delivering orders with a run length as short as one.



Because photo specialty printers are tasked with printing, binding, finishing, and distributing large quantities of files, not investing in the technology and expertise to manage this data opens the printer up to human error. When printing photo books, calendars, greeting cards, or other photo specialty applications, typically each photo will be different, and each client will have different requirements. One of the most pressing pitfalls that photo specialty printers must strive to avoid is “not mine,” or a client receiving a photo that does not belong to them.

Production inkjet platforms' ability to communicate openly with a wide variety of workflow systems helps manage the essential processes of PDF control such as first-in-first-out scheduling, web-based file transfer of PDF files and progress tracking.

This file management capability is also important given the seasonality of photo specialty work. Because so much production occurs toward the end of the year in preparation for the holidays, photo specialty printers need to be able to manage a drastic influx of jobs in a short period of time. It's estimated that photo specialty printers produce 26% to 30% of their annual revenue in the brief span between the day after Thanksgiving and the day before Christmas, so being able to provide quick, accurate, high-quality production with fast turnaround times is imperative to photo specialty success.



The Canon ProStream 1800 web-fed inkjet press can produce high-quality photo specialty productions at high speeds.

The Canon Advantage

As a leader in the digital printing space, Canon has established its varioPRINT and ProStream platforms as top inkjet solutions for the photo specialty segment. From an output perspective, the speeds of these presses are at the top of their class with the sheetfed varioPRINT iX3200 capable of producing 4,500 12 in. x 18 in. sheets 4/4 per hour. For flat greeting cards produced four-up, this equates to 18,000 cards per hour. Meanwhile, the web fed ProStream 1800 can print at speeds up to 436 fpm which equals 24,146 12 x 18 4/4 per hour or 149,241 4 in. x 6 in. 4/4 cards per hour.

Photography is also a key component of Canon's heritage as a brand serving the professional and personal imaging space. From its cameras to production level inkjet equipment, Canon has staked its leadership position in photography, and is poised to lead the way in production inkjet becoming a core technology in photo specialty production printing.

"I love the technology," Elias Jo says of Entourage's varioPRINT iX. "I love the platform. I think Canon has done a wonderful job of putting something together that makes total sense for the yearbook industry. Our intention is to double and triple in size and we think the Canon platform can play a strategic role in that."

For commercial printers, seeking out new application opportunities to grow the business and add revenue is essential in a world that is consistently going digital. The photo specialty market is a print segment that remains in high demand, providing physical keepsakes that consumers can value for decades. With silver halide falling out of favor and production inkjet on the rise, proving higher efficiency and uptime compared to alternative digital technologies, print service providers are now poised to become the preservers of these memories using familiar, accessible technology.

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At Canon Solutions America, our mission is to improve workflow efficiency and document processes for organizations of all sizes and industries. We demonstrate this mission by earning the No. 1 position in total inkjet market share, both in the U.S. and worldwide, and also lead market share for web-fed inkjet. Through our cutting-edge technologies and media support, we know that no matter the application, we'll have your solution. Canon prides itself on bringing innovative inkjet solutions to market and supporting those solutions with robust customer training and a renowned reputation for 24/7 service and support. Canon recently won Keypoint Intelligence's "Outstanding Innovation Awards in Production Print" for their contributions in the production inkjet space.

To learn more, visit pps.csa.canon.com or email us at productionprint@csa.canon.com or call us at 1-877-623-4969.

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