

**Broadening Market  
Opportunities with  
High-Speed Sheetfed Inkjet**



# BROADENING MARKET OPPORTUNITIES WITH HIGH-SPEED SHEETFED INKJET

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Commercial and in-plant printers are facing a marketplace demanding ever-higher print quality, faster turnarounds, and shorter runs. As the market shifts to digital production, high-speed inkjet presses have revolutionized the way printers think about their production print jobs.

The extremely fast running speeds, high duty cycles, and outstanding uptime of these presses have changed the profitability equation for many print service providers. Recent technological advances resulting in stunning image quality and a wider range of printable substrates further expands the profit opportunities these production inkjet presses provide.

When most printers think about high-speed inkjet, they think of webfed production. Webfed presses offer tremendous cost-efficiencies, combined with outstanding quality and variable data capabilities. However, their extremely low running costs are based on the ability to feed from massive paper rolls and run nonstop for days or even weeks at a time. This does not reflect the job mix of the average commercial and in-plant shop.

There are a number of factors that make webfed production challenging for the average commercial and in-plant printer:

- They have a broad mix of clients, both internal and external, running different combinations of substrates, including heavy stocks, that webfed presses are not designed to run.
- These shops see a varied mix of jobs, and it is not unusual for shops to switch out substrates multiple times a day.
- Many jobs require multiple media within the same job.
- Clients are increasingly moving to on-demand production. Long, static runs are being replaced by multiple shorter targeted and customized runs.
- Turnarounds are increasingly short, requiring frequent job changes throughout the day.

Webfed inkjet is not designed for this work environment. That is why, historically, the highest quality jobs run on heavier substrates and mixed media have been handled on toner-based sheetfed devices. Yet, while offering the necessary image quality and substrate flexibility, these devices have cost and production limitations that make migrating to high-volume environments prohibitive. This points to the need for a sheetfed inkjet solution.

## EXPANDING MARKET OPPORTUNITIES

The good news is that the sheetfed inkjet category is advancing rapidly, and the technology has become mainstream. With today's high-speed sheetfed inkjet presses, you can get the ink coverage, paper options, and application flexibility of toner-based printers at much higher volumes and lower running costs. Furthermore, you can achieve all these benefits at offset or better quality. The result is more profit and more business.

For many shops, sheetfed inkjet has been a game-changer. With marketing budgets largely static and printers fighting for every dollar, sheetfed production inkjet provides the profitability and cost-efficiencies necessary to the survival of commercial print service providers, as well as the flexibility that enables them to adapt and pivot to new market realities and applications at any time.

For print shops that don't fit the webfed model, sheetfed formats bring a wide range of benefits:

- When compared to webfed inkjet, sheetfed inkjet offers a wider range of printable media, including the ability to handle heavier stocks, run multiple stocks in the same job, and offer faster changeover of media. This translates into more application flexibility.
- When compared to toner, it offers the same high level of quality and media flexibility at higher speeds and higher monthly duty cycles. The result is the ability to run the same types of applications at higher volumes and lower running costs.
- When compared to offset, it offers a lower running cost, while adding variable data capabilities. Simpler, more automated press operation also means lower staffing requirements and the ability to reallocate staffing resources to other projects.

For owners and operators of high-speed sheetfed presses, these benefits open doors to more market opportunities. If they are already running toner, it gives them the ability to compete for higher volume jobs. If they are not already running toner, it gives them the ability to produce a wider variety of jobs, especially those with variable components. They also have the ability to consolidate jobs previously run on different processes into a single, unified workflow for greater profitability.

For in-plant printers, in particular, sheetfed inkjet can provide a transformation in the type of work they can produce. If they have been running earlier generation inkjet or high-speed laser equipment, they can add stunning, high-quality four-color that catapults them into new markets. They can improve their ability to serve internal clients while building their revenue streams by pursuing commercial work.

## CANON VARIOPRINT iX QUANTUM EFFECT

Despite many quantum leaps that have been enjoyed by sheetfed inkjet in recent times, the evolution is not finished. Enter the Canon varioPRINT iX-series sheetfed inkjet press. The varioPRINT iX is a fundamentally different kind of press. Based on Canon's iQuariusiX technologies, the varioPRINT iX delivers speed, uptime, and application flexibility previously unavailable in the sheetfed inkjet market.

The varioPRINT iX can output up to 4,500 12x18" sheets per hour (or up to 312 letter images per minute) on a wide range of media, including offset coated paper ranging from 90 to 350 gsm. It prints and processes at 1,200 dpi and produces sharp, color-rich images suitable for high-end marketing collateral and premium direct mail, as well as catalogs, magazines, and books — and it does it at volumes, speed, and uptime that toner can't touch.

What enables the varioPRINT iX series to be such a game-changer? Canon's iQuariusiX technologies. iQuariusiX combines three key innovations:

- A breakthrough drying system utilizing heat, humidification, and cooling to protect paper and help ensure robust prints on a wide media range — straight and ready for finishing.
- New proprietary polymer pigment, water-based inks, and ColorGrip technology for producing high-quality, vibrant, and robust color on a variety of media, including coated stock up to 350 gsm.
- Quality control technologies for high-end image quality that eliminate streakiness, ensure color stability, and result in extremely high image quality.

Together, these innovations deliver a balance of excellent image quality, media and application versatility, reliable productivity, and cost efficiency, all in a single inkjet press.

Canon's new Book iX Solution expands these opportunities even further. Using Automated Job Tickets (AJT) and Conveyance Software, printers can take advantage of the varioPRINT iX's near "push button" production capabilities to create highly efficient, profitable book factories. Online connection to finishers enables end-to-end automated workflows. Sheets come out of the straight stack delivery ready for processing.

**With this level of "smart" technology, commercial and in-plant printers can produce more work in the same amount of time with 1,200 dpi image quality.**

## ENHANCED MARKET OPPORTUNITIES

With the varioPRINT iX high-speed inkjet press, commercial and in-plant printers can go after jobs they couldn't touch before. The advances specific to the varioPRINT iX fall into four categories: image quality, productivity, media versatility, and cost efficiencies. Let's look at each in more detail and how these technology advances result in more opportunities, more profit, and more business.

### **1. IMAGE QUALITY: BREAK INTO HIGH-QUALITY COMMERCIAL MARKETS**

New technology in the varioPRINT iX produces 1,200 dpi output that results in extremely high print quality that meets or exceeds offset and toner. This high print quality allows the varioPRINT iX-series to be placed in commercial markets producing high volumes. This level of print quality is made possible with iQuariusiX, which takes the guesswork out of the science that enables ink and paper to work together. iQuarius makes it possible to handle a wide range

of media and to print at incredibly high speeds while retaining razor-sharp details, outstanding color, and a perfectly flat finish.

Specific advances include:

- Enhanced drying process that solidifies the ink in the media instantly, keeping the ink on the surface of the substrate. This increases the color gamut and enables extremely precise dot placement for the highest quality graphics.
- Nozzle Uniformity Control (NUC) controls individual nozzles to ensure consistently high, smooth print quality Nozzle Activity Control (NAC) that controls the nozzle performance and automated correction, when needed, for maximum, stable quality without operator intervention or productivity loss.
- iX Performance Inks that work with Canon's ColorGrip technology that helps condition the media when needed. These inks use a proprietary water-based formulation for excellent image quality and robustness on many different media types.

Among the market opportunities enabled:

- **Break into high-quality commercial work.** Produce high-end direct mail, marketing collateral, magazines, and catalogs. No project is off-limits due to image quality.
- **Transition to white paper factory.** Stunning, high-quality digital color allows you to print 100% full-color variable content on the fly. Eliminate pre-printed offset shells and enable clients to save money on warehousing and get to market faster.
- **Migrate offset work and consolidate print processes.** Transition offset projects to the varioPRINT iX and print on one press what you used to print on two. Migrate toner jobs for higher profitability.
- **Simplify short-run book production.** Capitalize on profitable new opportunities presented by dynamic and on-demand book production — from short runs and one-offs to backlists, out-of-print titles, reprints, and more.

## 2. PRODUCTIVITY: MORE JOBS AND HIGHER VOLUME JOBS

The varioPRINT iX offers advanced automation features that allow printers to set up jobs more quickly, increase productivity, and meet faster turnarounds. In fact, the varioPRINT iX has an average of 94% uptime. With these features, operators can spend less time monitoring the press and more time outputting work. Even novice operators can produce industry-leading quality.

The varioPRINT iX requires no daily color calibration. Once a color is dialed in to the press, repeat jobs can be produced with 100% color accuracy. Any press operator, regardless of skill level, can hit previous colors dead on. Even when running high-volume jobs, there is no need to stop and start the job to check the color.

Intelligent job set-up gets the varioPRINT iX printing faster with minimal operator intervention. Thanks to its PRISMAsync print server, the press automatically sets the appropriate printing

parameters for the media selected, as well as enables advance scheduling of up to eight hours of production. With integration of Automated Job Tickets (AJT), jobs can run from press to bindery with no manual intervention.

Even once the job is running, the varioPRINT iX requires very little monitoring. It will automatically inspect the sheets, clean the ink heads, and even check that the job is using the correct, undamaged media. If there is a defect, the varioPRINT sentry unit will kick out the sheet on the fly. If the media doesn't hit the right point at the right time, the press will adjust its speed to keep things on track.

With this level of "smart" technology, commercial and in-plant printers can produce more work in the same amount of time. It minimizes manual intervention and frees that operator up to do other things. Imagine what this kind of productivity can do for your business!

This productivity powerhouse will enable your business to:

- **Print full digital at high volumes.** Print up to 10 million ppm in full color with the full power of variable imaging.
- **Empower salespeople to sell more work.** Salespeople no longer have to sell based on limited press time. With 94% uptime, they have more press capacity to sell more jobs and make more money.
- **Optimization of workforce.** Operators are no longer tied to the press. This frees them to produce other jobs while the press is running.
- **Make more money on complex jobs.** Use automated job tickets (AJTs) to automatically set up binding and finishing equipment for fully automated, hands-free production.
- **Launch a digital book factory.** Combine Canon's Book iX solution and Conveyance software with Automated Job Tickets (AJTs) to gain seamless entry into the book market. Print text, trade, and coffee table books at a high level of profitability.

### **3. MEDIA VERSATILITY: UNLIMITED APPLICATION POSSIBILITIES**

One of the most outstanding ways the varioPRINT iX expands the types of applications you can produce is its media versatility. Enhanced drying technologies allow the press to print on an extremely wide variety of substrates, including stocks up to 350 gsm, as well as stocks with heavier ink coverage. It does this at full rated speed.

This drying is accomplished in three steps.

**1. Drying system drum:** The sheets are transported to a moderately heated drum and held to the drum using a vacuum, which prevents out-of-plane deformation (cockling) during drying. Hot air impingement — blowing hot air onto the drum at high velocity — is used to evaporate the water and dry the ink. These air jets result in faster water evaporation than natural airflow.

**2. Post-fixation unit with InkFusion technology:** Although the ink is dry after step one, not all sheets will have a robust ink layer yet. Especially heavy-weight offset coated media. During step two, the polymer particles in the iX inks are exposed to a high temperature to melt the particles into a firm layer, protecting the printed image.

This post-fixation step is unique in the industry, delivering an instant high-humidity heat shot to the sheet. This allows for fast and effective formation of the ink film while avoiding over drying of the paper. The result is a robust print on a flat sheet.

**3. Cooling the sheet:** After the two drying steps, the sheets are cooled with cold air impingement and either moved into the print process again for rear-side printing or moved to the stacker or finisher for post-processing. The cooling step ensures that the sheets have the correct temperature for printing and for stable stacking.

The result is unparalleled media versatility enabling:

- **Print jobs on heavier stock.** Whether it's a high-end brochure, a sturdy postcard, or a catalog, the varioPRINT iX allows you to prep, personalize, print, and finish a job with the highest image quality.
- **Print jobs with heavy ink coverage.** Even heavy coverage jobs can be printed with the highest level of quality. Output high-end, commercial work at full rated speed.
- **Run jobs on specialty stocks like teslin, NCR stock, textured, tab, or ID media.** Expand opportunities to produce marketing collateral, direct mail, and specialty applications on glossy, specialty, and other high-impact substrates for higher margin work.
- **Bring jobs in-house.** Outsourcing jobs due to substrate limitations? With the varioPRINT iX, you can bring those jobs back in-house for more profit.

## 4. COST-EFFICIENCIES: MAKE MORE MONEY

The varioPRINT iX is designed from the ground up to save you money. With advanced automation in production, maintenance, and service, the press actively works to reduce its own operating costs and improve your bottom line.

In addition to advanced automation for outstanding productivity, the press even monitors its own need for maintenance. If the varioPRINT iX is running low on ink or the output module is full — if anything is out of order — the operator gets a text.

It even anticipates the need for service. Got a build-up on the rollers? Is a part reaching its lifecycle? The press alerts the Canon service team and sends a text to the operator. If parts are necessary, those parts can be ordered so that they are available when the tech arrives. Schedule downtime around your SLAs.

With these and other cost-efficiencies, the varioPRINT iX stays operating when other presses go down. While the industry average is 75%-80% uptime, the varioPRINT iX achieves uptime of 94%. This not only saves you money, but it opens new windows for you to get more work.

Optimization of your business:

- **Higher uptime.** Lets you plan for more work on press.
- **Improved ability to hit SLAs.** Minimizes unexpected stoppages due to maintenance or service calls to interrupt the schedule and delay projects.
- **Turn work more quickly.** Schedule faster-turn projects with confidence.
- **Get more productivity from existing operators.** With the intelligence behind the varioPRINT iX, press operators can be doing other tasks while the engine is running. The operators can use an app called PRISMAsync remote control and when the iX-series needs attention the iX-series can send a message to the operator.

## DO BUSINESS DIFFERENTLY

With its extensive automation, stunning print quality, and outstanding uptime, the varioPRINT iX is a different kind of press. It opens doors to new markets and allows you to increase your profitability and grow your business, all with your existing staff.

The result? The ability to say “yes” to virtually any job, with your existing operators, and print with the productivity and cost efficiency that gives you more profit and more business.