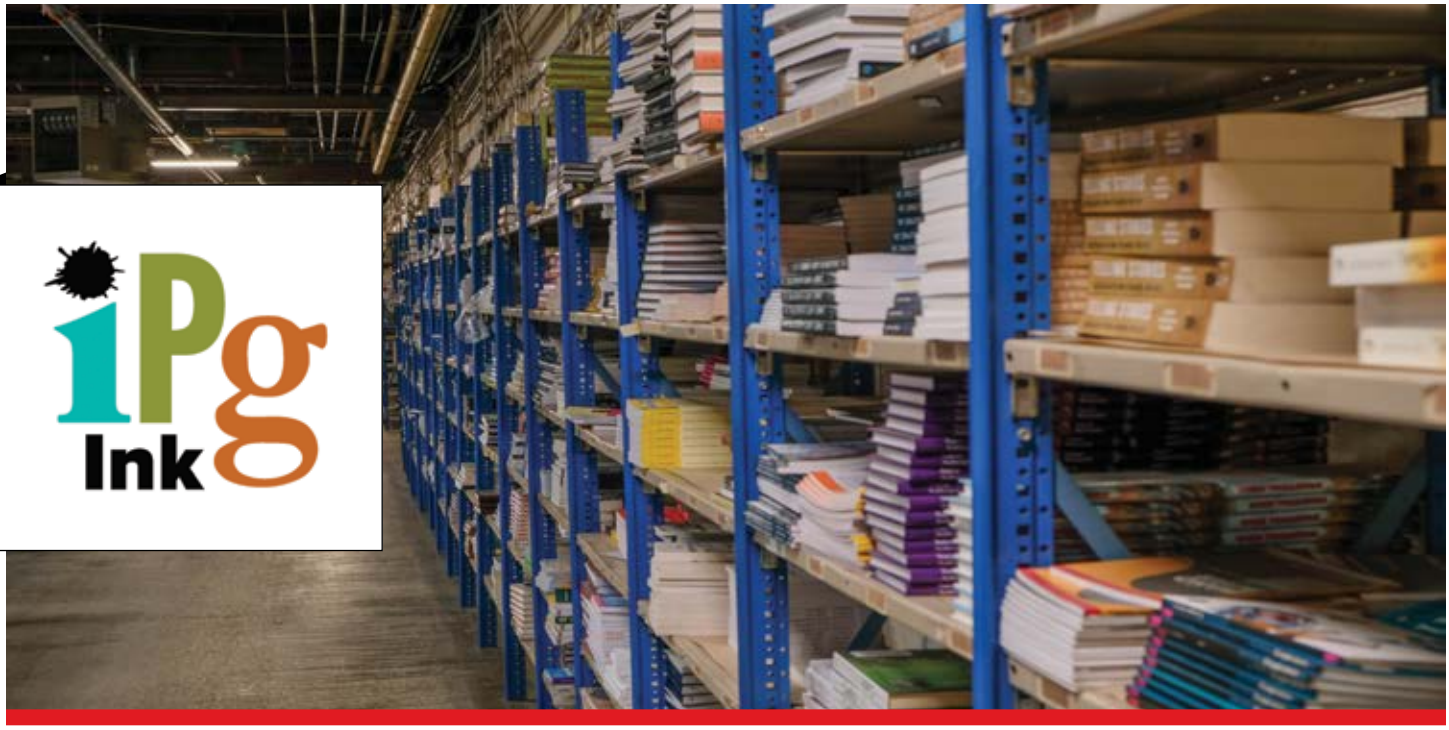
INDEPENDENT PUBLISHERS GROUP

Book distributor/manufacturer doubles its business in two years while decreasing labor costs. Latest workflow software from Canon automates and streamlines its production process for greater efficiency and profitability.



IPG owns and operates a 190,000 square foot distribution facility that contains millions of books.

Established in 1971, Chicago-based Independent Publishers Group (IPG) was the first organization specifically created for the purpose of marketing titles from independent publishers to the book trade. With more than 1,000 client publishers from around the world, it distributes books, e-books, and audiobooks and is a top ten supplier of book content to Amazon, Barnes & Noble, independent bookstores, libraries, specialty markets, and thousands of retailers globally—in total, more than 20,000 customers.

Historically, small and midsize publishers often have difficulty selling their books effectively. Their size means they cannot afford the major functions of a large publishing house, like a warehouse, manufacturing plant, or an IT department. They are also not able to speak directly to companies like Amazon, Barnes & Noble, or most retailers or wholesalers.

The solution for these publishers is to use a book distributor. The distributor, with the combined strength of many small and midsize publishers, can afford an infrastructure similar to that of a "Big Five" publisher. In essence, a distributor collects publishers that come together for the purpose of clout. What IPG does is give its independent publishers the same voice that a major publisher would have.

Over the years, technology has changed the book trade. The advent of desktop publishing led to an explosion of new publishers and new titles that overwhelmed booksellers. Independent publishers began looking to offload functions like warehousing, shipping, and customer service as they found it increasingly difficult to provide the level of service being demanded by national chains and wholesalers. Orders must be processed electronically, in addition to invoices, purchase order acknowledgments, and advance shipping notices. Today's large customers and Internet booksellers need accurate, frequent, and complete title information data feeds to support their very sophisticated supply chain management systems. IPG provides that level of support.

IPG's warehousing has been a major attraction for independent publishers. It implemented a top-of-the-line warehouse management system to ensure the on-hand quantity of an item is accurate and reportable at any moment.

THE MOVE TO MANUFACTURING

IPG's warehousing has been a major attraction for independent publishers. Until recently many publishers used offset technology when ordering a print run of thousands of books, often printed at low cost plants in China or India. Time from order placement to delivery could take ten to twelve weeks, but that was acceptable given the tempo of the world then. As Clark Matthews, VP and General Manager for IPG Ink, the book manufacturing division of IPG, describes it, "What that meant for IPG is that we were in the business of accepting backorders. When an order came in, it didn't have to be fulfilled the next day or even the next week. It was a generally accepted practice that books get back-ordered. Customers would wait for weeks and weeks for back orders to get filled. That fit nicely into the world of offset manufacturing where the turnaround times were lengthy but the cost of production was very low." A warehouse was critical in such a situation. IPG would store tens of millions of offset-printed books that publishers estimated would eventually be sold.

But times have changed. Customers are no longer willing to wait weeks to get a book. Turnaround times need to be fast. The expectation of consumers, retailers, and wholesalers today is a two-to-five-day turnaround time. In addition, as titles get older, order volume drops, and titles stop being frontlist titles and start being backlist titles. The publisher doesn't want the book to be out of print but also can't justify another offset print run of 5,000 copies if, for example, the book may be selling only ten copies a month.

IPG recognized that its clients had a need for shorter turnaround times and shorter print runs, especially for older books. The solution was digital book production. In 2016, IPG allowed a digital printing company to set up shop within its warehouse facility. "At that point we thought we didn't have the skill set to do the printing ourselves," explained Clark. "This third-party company manufactured on our behalf. We called it the Print Cell. It was a great advantage for our clients. It enabled us to offer an ultra-quick turnaround time with no waiting for shipments from an outside printer. This was a huge part of the supply chain that our client publishers needed."

Unfortunately, after two years, the third-party manufacturer was unable to continue its printing services and left behind its digital printing equipment. IPG had a major decision to make. Many of its client publishers had become addicted to a quick turnaround time on their book production. In fact, many clients no longer used book manufacturing from any company other than IPG. And much of the manufacturing the publishers were doing had become print-to-order versus print-to-stock. IPG viewed its growing book manufacturing business as vital to both its future and that of its client publishers, so it brought the print production in-house using its own employees. That business is now called IPG Ink.

PARTNERING WITH CANON

Clark had been developing a relationship with Canon through trade shows like Graph Expo. He felt he needed to better understand the printing business so he could better understand what the third-party printer in his warehouse was doing. And that third-party printer had been using digital printers from Canon.

As he visited with various companies at the print trade shows, he was impressed by the interest Canon showed in his company. "Other print companies seemed to write me off as not being a good fit for their equipment or not being large enough to be of interest to them," explains Clark. "But Canon was different. They seemed to recognize that manufacturing for a company like IPG was probably the future. They wanted to understand what IPG was all about. Bottom line — when we lost our third-party digital printing supplier, I felt like I already had a partner. I had a company in my corner that was going to be able to help me get through the rest of the learning curve."

Clark Matthews is VP and General Manager of IPG Ink, the book manufacturing division of IPG.

Shortly before IPG made the decision to internalize its short-run digital printing business, Clark was able to attend Canon's thINK Ahead conference. thINK is a community of Canon production inkjet customers, solutions partners, and print industry experts. One of its activities is an annual conference to network with peers, share best practices, and learn from industry leaders. "It was very clear to me that inkjet technology was going to be a game changer. It lowers the cost of production enormously and creates an interesting new space for digital book production," says Clark. "It used to be that digital was used for only a few hundred books, but with inkjet technology, 1,000 or even 2,000 books can be produced digitally. It's a new and larger space for digital book production to exist and a more inexpensive one, too." Clark credits the thINK conferences with making his eventual move to inkjet more comfortable. "It was clear to me I wasn't the only person thinking about manufacturing with inkjet," says Clark.

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>
> *— Clark Matthews, VP and General Manager for IPG Ink*

COMPLICATED DIGITAL WORKFLOW

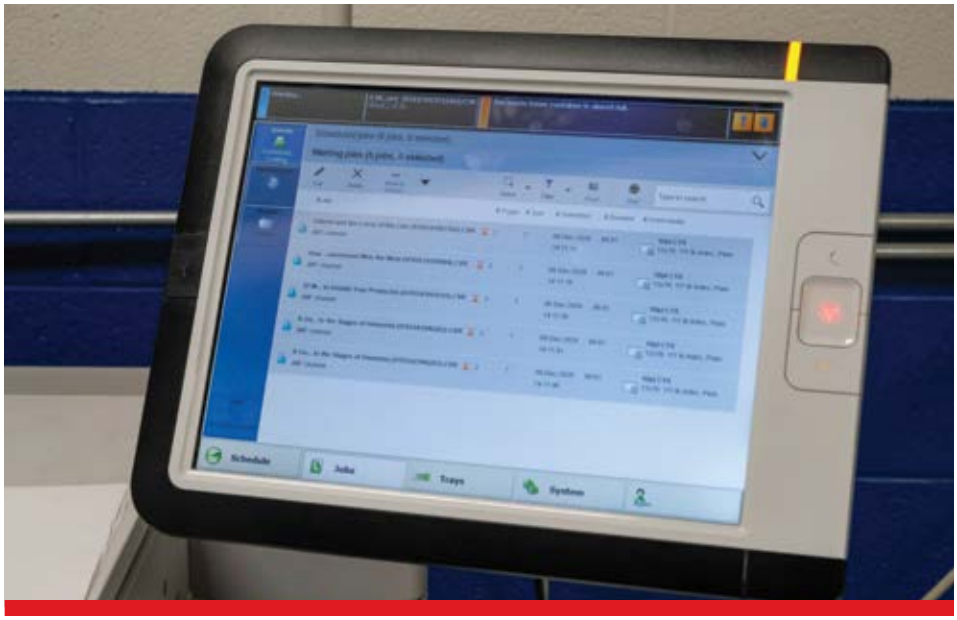
Two years into IPG's in-house printing program, it realized it was hitting a crisis point. The logistics of managing 600 possible book configurations and thousands of files each day were, according to Clark, "a logistical nightmare."

At that time, IPG Ink had two kinds of production. One type of client did short-run digital production of 50–1,000 units/month of the same book with an SLA of five to seven business days. These were small print runs that enabled the client to keep their titles in stock without risking an offset print run. The other type of client was print-on-demand — i.e., printing only to firm orders — printing exactly what Amazon or Barnes & Noble ordered, for example. These clients maintained a zero inventory at IPG's warehouse. That size order ranged between one copy to two hundred copies, with an average of three or four books. IPG ensured that their clients' titles would print to order on a two-day turnaround time.

This level of service is what IPG's clients demanded and what their clients' customers expected. But there were many variables to manage — quantity per order, trim size, six types of paper stock, matte or gloss covers, page imposition differences per printer — in total, about 600 possible configurations for thousands of files per day.

IPG's challenges of a physical workflow for small orders of thousands of titles included:

- **Excessive labor** — digital toner-based printers required constant cutting of paper stock both before and after printing



Conveyance software manages the entire print production process, enabling IPG Ink to efficiently handle a complex logistical workflow.

- **Slow speed** — "One-up" true book-of-one manufacturing slowed down the sheetfed press
- **Excessive click fees** — A single impression per side was up to four times more expensive
- **Slow long runs** — IPG had too much volume to spend the entire day printing 1,000 units on relatively slow printers
- **Print order for covers and interiors** — 1,000 print jobs required 1,000 covers and 1,000 interiors that needed to go to two different machines in identical order
- **Print quantity entry** — 1,000 jobs meant that an operator had to hand-key the quantity data into each printer for each job
- **Imposition** — Jobs could be small, large, oblong, extra-large, or saddle stitched, each with its own imposition, which had to be applied manually
- **Variables** — with six paper stocks, two cover stocks, five impositions, and six printers, there were hundreds of manual steps that could go wrong.

One example of the logistical complexity is quantity per order. It's relatively easy to produce one copy of each file. "Often what we actually need is one copy for one book, three copies for the next, two for the next, six for the next, three for the next, 400 for the next, 50 for the next," explains Clark. "The 1,000–2,000 print runs per day don't have just one copy. They need some range of copies produced. The printers have no idea how to parse that data. I had operators using the touch screen on the printers to manually type in each quantity needed for each of the 2,000 books across two machines — for covers and interiors. That means hand entry for 4,000 files on touch screens."

Clark continues, "I had a whole group of people all day long typing data into the machines and stewarding those print files, e.g., making sure both the cover

and the interior went to the correct press and that the page imposition was correct for each press. I started to call these people the air traffic controller people. They weren't manufacturing anything. They just had a computer and dragged and dropped files or entered data at each printer."

Initially, IPG needed some time to just figure out how to survive with its newly inherited digital printing business. But by 2019 it was ready to investigate what kind of tools were available in the marketplace to make its workflow more efficient — to eliminate what Clark called its "obnoxious manufacturing process."

CONVEYANCE SOFTWARE TO THE RESCUE

IPG's volume had grown large enough to make a roll-fed inkjet press viable about two years ago. The Canon ColorStream inkjet web press combined with an automated Hunkeler finisher was five times faster than a single sheetfed toner-based press. That speed eased the turnaround time for short and longer run production. The inline Hunkeler finishing device removed the guillotine cutting formerly needed prior to binding. Inkjet page costs were lower than toner costs, removing the four times toner cost premium for book-of-one production. And roll-fed paper was 30% less expensive than sheetfed paper. IPG also upgraded most of the slower toner-based printers to the current Canon imagePRESS Series of color toner presses and Canon varioPRINT 6000+ and Canon varioPRINT 6000 TITAN monochrome digital presses. It now operates six color presses, two monochrome presses, and the production inkjet press.

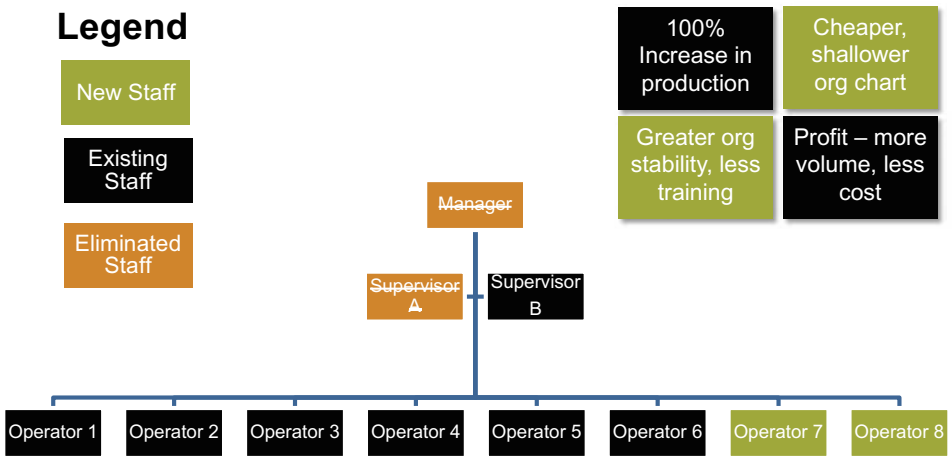
But the question still remained of how to streamline handling those thousands of small quantity PDF files every day. "All that new hardware was wonderful," says Clark. "But what really mattered was workflow." The answer — Conveyance workflow software.

Conveyance enables file transfer and job information exchange from a print requester or publisher to a print provider via a standardized, comprehensive XML-based file format workflow. Its intuitive, rule-based workflow allows complete automation of order submission, imposition, job grouping, and job splitting and routing while tracking the integrity of each order. Conveyance manages the entire print production process as well as the print product life cycle in a very detailed manner to fully recognize the efficiencies of digital short-run jobs.

It provides inline cover to text block authentication, flexibility for late bindery decisions or rush jobs, and manages reprints from the main production. Also, Conveyance enables communication to finishing devices that are both JDF-enabled or barcode-driven, inline or nearline. It communicates real time order status throughout the production process and helps drive profitability by reducing manual intervention, limiting paper changes, streamlining workflows, and steadily helping to reduce the cost of short-run digital production.

Conveyance is tied directly into IPG's digital asset management system so it knows which of those 600 possible variables to apply to any of IPG's print-ready PDF files and communicates that information to the printers. Based on the job specifications, Conveyance decides

The Canon ColorStream inkjet web press vastly improved turnaround time for both short and longer run production and lowered page costs.



Implementation of a Conveyance-based workflow enabled IPG Ink to flatten its organization structure and reduce the cost of its production headcount.

where to route each job. That means that jobs are sent to cover printers and interior printers in precise order, every time, automatically. Quantity data and offset height data is communicated to the printers, along with required paper stock. There is no longer a need for operators to input the correct print quantity on the printer's touch screen. The correct imposition is pre-calculated for each printer automatically, ahead of time. Operators no longer need to make judgment calls at the press. All they do is load the correct media into the input trays.

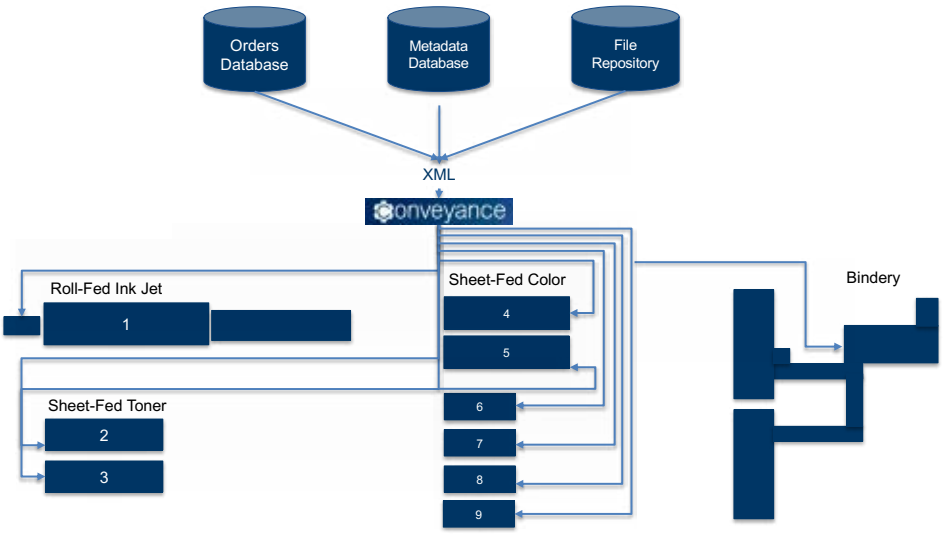
From a personnel standpoint, the detailed instructions Conveyance communicates to each of IPG's digital presses made two managerial/supervisory positions redundant. Those managers had been primarily providing the computer expertise necessary to run IPG's book-of-one manufacturing. Once those tasks were automated, IPG was able to flatten its organizational chart and reduce personnel costs even as its volume experienced substantial growth over the past two years as the pandemic generated increased demand for quick turnaround time books.

BOTTOM LINE RESULTS

Following the addition of the ColorStream inkjet web press, upgrading its slower toner-based presses to the current Canon imagePRESS Series and implementing Conveyance workflow software, IPG Ink has been able to more than double its output while shrinking the cost of its production headcount by 15%–20%. Turnaround time has held steady while volume has increased by 233%.

Two years ago, IPG was producing 45,000 books per month. One year later its output increased to 85,000 books per month. One year after that it produced 105,000 books per month — a 233% increase in just two years! "The power of this solution is very real," explained Clark. "Many print service providers don't pay much attention to the overhead cost of workflow. It's easy to focus on the speed of the printing equipment, but when you have to manufacture 1,000–2,000 different books in very small quantities with a short turn time, you need a system to keep all that organized. That's almost more important than the production itself. With our implementation of Conveyance software, much of our excess labor overhead just vanished. The logistics of getting file content to our presses was a formidable one for our business model, and that's just been totally handled."

Historically, IPG's core competency has been excellent book distribution. Now it has added a core competency in short-run digital book manufacturing and has had tremendous success in doing so.



Conveyance is tied directly into IPG's digital asset management system, thereby applying correct specifications to IPG's print-ready files and routing those files to the appropriate printer.

Testimonial disclaimer: The views and opinions expressed here are based on the actual experiences of the customer. Testimonials are not claimed to represent typical results, and various factors can impact different customers' results.

ABOUT US

Canon recommends forward-thinking strategies to help achieve the highest levels of information management efficiency for your unique business needs. Using superior technology and innovative services, we then design, implement, and track solutions that help improve information flow throughout your organization while considering the environment, helping to result in greater productivity and reduced costs.

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