



INTEGRATING INKJET

Leverage Analog Assets for Digital Print Production



OVERVIEW

Color inkjet printing is generating new opportunities for print providers. Previously, printers needed to make a large capital investment and reorganize their operations to acquire digital business.

Now, the key to overcoming those challenges is easier and more affordable than ever before. With a retrofit digital print engine, existing analog equipment can be used to create a digital hybrid work-center that captures the advantages of inkjet production.

Inkjet Integration

Today is a period of great opportunity for label producers. As Andy Thomas, editor of Labels & Labeling magazine noted, "The label industry is changing more quickly than probably at any time in the 38 years since Labels & Labeling was founded."

At the center of this change is the growth of digital printing solutions, and more recently, color inkjet solutions. Digital inkjet technology can transform print providers' business by giving them the tools to print cost-effective short runs and better serve their customers' needs.

With new opportunities also comes new challenges, and printers who make the move to digital printing are no exception. Integrating inkjet is an expensive undertaking. In addition, once the press is installed, the printer's operation and workflow need to adapt to support digital production. Once digital production is started, filling digital press capacity is key to achieving a fast return on investment.

To address these challenges, an increasing number of narrow web printers are choosing to retrofit. A retrofit solution integrates digital print by mounting a color inkjet print engine onto an existing asset. The hybrid solution gives print providers the best of both digital and analog production. Printers can take advantage of the opportunities color inkjet printing offers, without the issues that can accompany the installation of a new standalone digital press.

This white paper will look at the role digital inkjet printing plays in enhancing production and application capabilities, and how retrofitting leverages existing assets to deliver more opportunities, greater profitability and improved flexibility.

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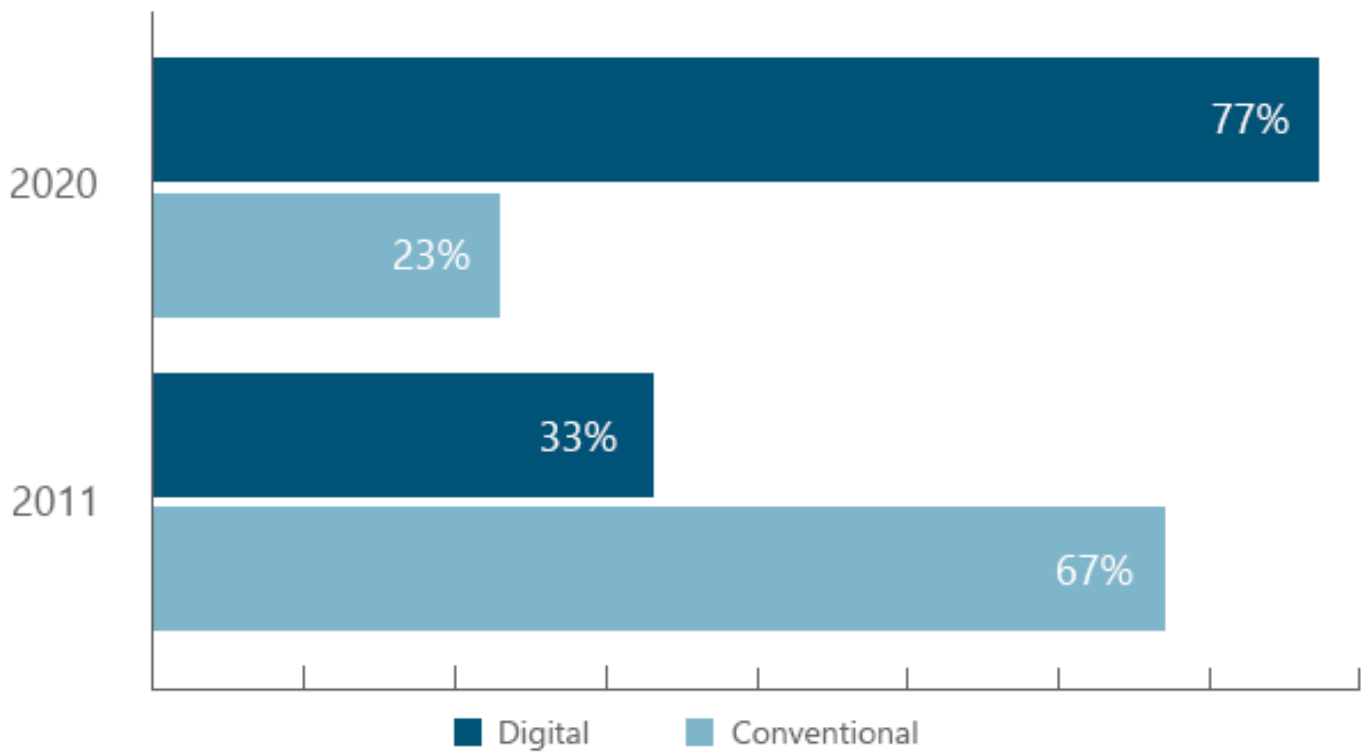
PART 1: THE DIGITAL INKJET OPPORTUNITY

Digital print is shaping market trends with on-demand, short run capabilities. Brand owners are no longer ordering long runs of the same label, instead they are looking for ways to incorporate greater SKU proliferation and variability.

The 2015 TLMI North America Digital Label Study by LPC projects that by 2020, three out of every four new presses purchased will be a digital solution, while only one of every press sold will be a conventional system.

These projections show that to continue meeting customers' needs with a high level of satisfaction, label printers must integrate digital technology into their operation.

Total Press Sales in the North American Marketplace
2011 vs. 2020 (Projected)



Source: LPC, Inc.

PART 2: THE CHALLENGES OF INTEGRATING DIGITAL PRINT

With the vast opportunities digital technology offers, the challenge remains – how do print providers seamlessly and profitably integrate digital capabilities into an existing environment?

Retrofitting is an alternative to the typical standalone digital press. A retrofit solution is ideal for print providers looking to enhance or streamline their existing production process with inkjet integration.

Challenges of Integrating Digital Print

Users of Digital Printing Equipment

Finding enough business to fill digital press capacity	#1 <i>(most significant)</i>
Press downtime due to service issues	#2
Color matching	#3
Finishing requirements	#4
Printing high opacity whites	#5
Internal process efficiencies	#6
Ink performance/ink integrity	#7
My salesforce doesn't know how to best sell digital	#8
Overall print quality	#9 <i>(least significant)</i>

Non-Digital Users Perceptions

Finding enough business to fill digital press capacity	#1 <i>(most significant)</i>
Color matching	#2
Overall print quality	#3
Internal process efficiencies	#4
Finishing requirements	#5 <i>(tied)</i>
Ink performance/ink integrity	#5 <i>(tied)</i>
Press downtime due to service issues	#6
Printing high opacity whites	#7
My salesforce doesn't know how to best sell digital	#8 <i>(least significant)</i>

Source: LPC, Inc./TLMI North American Digital Label Study

As the research shows, users of digital equipment and non-users are both aware of the possible challenge of filling a digital press' capacity.

Part of the challenge is the significant capital investment required to invest in digital printing equipment. Then after the investment is made, the printer needs to fill the press with jobs to quickly achieve a positive return on their investment.

Print providers can address this challenge by retrofitting an existing asset as opposed to purchasing a standalone system. By adding digital capabilities to

an existing flexo press or web handling system the user maintains the press's current capabilities while building their digital business. The hybrid press can run digital jobs when they are available and be used for non-digital jobs the remainder of the time.

Since the features and benefits of digital printing are significantly different than flexo, sales people will also need to be retrained. They will require very different account management skills with detailed knowledge of digital, flexo and hybrid production.

PART 3: LEVERAGING ANALOG FOR DIGITAL PRODUCTION

Now there is a way for print providers to leverage their current assets while integrating digital inkjet production. This solution is called a retrofit.

Simply put, a retrofit is a digital print engine that is mounted on top of a third-party piece of analog printing or converting equipment. For example, a flexo press can have an inkjet print engine incorporated to offer flexo, digital and hybrid printing on the same press.

Integrating a digital print engine allows print providers to add full color, high-quality digital inkjet printing to their existing flexographic press. With the digital asset's quick setup and job change capabilities, it enables fast job production at a low equipment cost.

This powerful hybrid combination enables greater production flexibility and cost efficiency. Printers can choose the printing method that is right for the job being produced, like long run work produced with flexo or short run variable work printed digitally. This flexibility creates greater profitability on each job run with the hybrid press and prevents downtime due to the lack of a specific job type.

PART 4: ENHANCING AND STREAMLINING PRODUCTION

By integrating a retrofit solution with an analog asset, print providers can add digital inkjet printing capabilities to their business – without the challenges that come from adopting an entire standalone digital press.

Retrofits are much less expensive than standalone digital presses with in-line finishing assets. A retrofit usually costs a third of what a traditional press costs.

The retrofit platform leverages a printer's existing tooling for die cutting and other finishing, as well as using current web handling and decoration assets. This lets the current press operator build on their existing knowledge and workflow, no matter what type of printing is being done.

By using existing assets and operator knowledge, print providers do not need to invest time, money and resources into an entirely new solution. They can produce digital jobs when the application makes sense and is profitable to the business. Then, as demands expand, they can continue to meet customers' digital print requirements.

PART 5: NEW OPPORTUNITIES AND APPLICATIONS

In addition to operational benefits, retrofit solutions also enable print providers to capture new business opportunities and expand application capabilities.

Printers can maximize their relationships with existing clients by offering more capabilities at cost-effective prices, regardless of run length.

Using a retrofit solution, a printer can produce high volume and low volume jobs on the same press, running the low volume with digital and the high volume with flexo. Printers can also effectively produce multiple SKUs or variable data on the same label by printing static content with flexo and the versioning and variable parts with digital. Since

plate changes are not required, jobs can be chained together for greater uptime and throughput.

With more variability between the run lengths of flexo and digital jobs, speed and flexibility is a key benefit for the print provider.

Average Run Sizes for Digital and Conventional Applications
Per end-use category, in Linear Feet

Food	2,515	24,071
Beverage	1,721	53,017
Pharmaceuticals	2,194	19,295
Health & Beauty / Cosmetics	3,328	22,250
Industrial Chemicals	3,350	34,518
Household Chemicals	2,331	31,600
Automotive	750	12,188
Consumer Durables / Electronics	1,883	12,563
Retail	2,321	34,964
Average Run Size - All Sectors	2,267	27,163

Source: LPC, Inc./Tlmi North American Digital Label Study

PART 6: INK AND PRINTHEAD FLEXIBILITY

Retrofitting also creates new opportunities for a wider range of applications by offering ink and printhead flexibility, which allows converters to jet the right fluid for every job.

Retrofit solutions are offered with either water-based or UV inkjet printing technology. Both technologies offer unique benefits to the printer and their applications. Water-based inkjet is ideal for labels used in food packaging or for producing flexo-quality replication. UV inkjet is best suited for labels that require enhanced durability, like those used in industrial environments.

Water-based and UV inkjet print engines are available with multiple printhead options. This allows the print

provider to tailor their solution for the price point and application needs of their business and customers.

Once the inkjet technology and printhead are chosen, the printer can select the ink with the properties needed for their individual applications. Print providers can even use multiple ink sets on the same system if jobs require customized ink solutions.



PART 7: TOTAL PRODUCTION VALUE - CASE STUDY

G2 I.D. Source experiences faster turnaround times, improved quality and a quick ROI through its retrofit press acquisition.

Founded in 2008, G2 I.D. Source (G2) built its brand on forward-thinking, next generation technology and printing. The company focuses on customer needs by being a full-service solutions provider.

G2 distributes to a broad range of markets with its label design and print production. Its digital production primarily focuses on the pharmaceutical, industrial and food service industries. One of its key services is accurately prototyping labels or packaging for design changes or new products.

The installation of the Colordyne 3600 Series AQ – Retrofit was G2's final piece of the puzzle in developing a complete range of high-tech printing services and delivering a superior level of customer service.

Building Short Run Business

Without digital printing capabilities, G2 was turning away most short run business consisting of 2,000 to 3,000 labels or less. Between art and plate costs, it was not profitable for the company to print short run quantities. G2 would run some of the prototypes and very short runs on the 1600 Series C, but as each label's demand grew, production had to be moved to flexo, where the appearance changed, and plates needed to be purchased.

"We have customers that started with us as prototypes of 1,000 labels, and as their business grows, we've grown with them," says Melisa Mehiel, sales manager, G2. "We knew we needed to be able to meet this demand from our customers to continue to provide them the solutions they need."

G2 recognized the rising industry demand for prototypes and short runs and knew that, in order to continue its mission of next generation printing,

it needed to find a way to bring profitable short-run printing in-house. G2 resolved to find a digital press that is quick, affordable and produces consistently high-quality labels.

Finding a Partner for Success

G2 views every customer as a partner, and when looking for a new digital solution, it evaluated companies on the same level. Plus, having two digital benchtops – one of which was a Colordyne 1600 Series C which it had been using for five years – prior to looking for a new press, G2 wasn't new to the digital space.

As Terry Cochran, VP at G2, says, "There's a lot of nice options in the market for a million plus, and then needing to expand our facility, but we found this option [the 3600 Series AQ – Retrofit] more economical. And just as important, we feel Colordyne has partnered with us and they want us to be successful. Their responsiveness and high level of customer service makes this happen."

The Colordyne 3600 Series AQ – Retrofit requires no additional space on G2's work floor because it is mounted on top of an existing flexo press without losing or altering the existing press' functionality. Additionally, no new air, power, exhaust or dryers need to be installed for the retrofit, and G2 can use all of the flexo's current finishing and decorating options in one single pass.

Proactive with Customer Needs

The increase in production speed has allowed G2 to become more proactive with its customers' labeling needs, and ultimately reduced the number of fire drills it was experiencing.

"We treat people as partners by working as a tool for them," says Mehiel. "Knowing our customers' products and SKUs, in combination with the ability to run jobs more quickly, has allowed us to become proactive with our customers' needs, not reactive. This prevents a lot of the fire drills we use to have, and our customers appreciate that. It helps us grow business and keeps our current clients coming back."

G2 is continually looking ahead for changes in labeling regulations. G2 prepares clients to update labels and packaging in accordance with new laws, including FDA regulations and ensures labels are compliant prior to printing. With this knowledge and skillset, G2 offers customers reassurance that labels are produced correctly, and can make recommendations to clients well in advance of new regulation start dates.

Combining its proactive approach and the capabilities of digital printing, G2 is able to make more efficient label changes for customers, without the high costs of plates.

"We often have one product with multiple countries of origin, which means we rarely set up and run one copy of a label," says Cochran. "With flexo printing we would have needed a new plate for each country to meet their guidelines. Digital allows us to chain these jobs back-to-back for faster production, while easily and affordably printing variable data barcodes, and even color coding every country."

Faster Turnaround Times

When G2 relied solely on flexo production and digital benchtops, it was not always able to meet the customer response times it desired.

With the retrofit installed, the company now offers

quicker turn-around times for its digital production. These speeds mean G2 can more effectively meet the needs of customers who run their inventories in a just-in-time fashion.

"We are a solutions provider and a customer service driven business," says owner of G2, Dave Frederick. "Most manufacturers need faster turnaround times, often due to the nature of the products, and are demanding higher quality labels. This is the future of label production and the retrofit allows us to meet these demands."

Additionally, G2 no longer needs to make the choice between telling a top customer it cannot run a job or taking a financial hit. "With the Colordyne machine's fast throughput, we can just look like rock stars."

Improved Print Quality Throughout Sales Cycle

G2 frequently used its digital benchtops for proofing jobs before production on the flexo machine. This led to quality and consistency variations throughout the production cycle. The digital proofs clients received as a test did not match the final prints they received from flexo production. These variations in print quality often led to customer changes and additional freight costs.

"We now use the Colordyne press for both proofing and final printing because we know it will look the same way every time we run the job," says Jason Hill, Art Director, G2. "We've even run label changes with customers on the floor. They can't believe how quickly we can print high-quality labels."

G2 prides itself on producing the highest quality labels possible for its clients and is experiencing improved photo-quality printing with the Colordyne machine.

"This is something that truly makes us unique," says Hill. "We have the ability to offer fast proofs, fast turnaround times and high-quality labels – all with one press."

Quick ROI - Evaluating Total Production Costs

Since the installation of the Colordyne 3600 Series AQ – Retrofit, G2 added 20 new digital accounts to its business in four months. In addition to these new accounts, G2 has also successfully transferred two flexo accounts to the digital press.

“We took two good flexo accounts to the Colordyne machine and they have been home runs,” says Frederick. “This is because the retrofit is state-of-the-art, offering better quality and reducing costs from wasted inventory.”

G2 measured the total production costs to realize that even with higher ink costs, it would quickly see an ROI with the 3600 Series AQ – Retrofit.

“We aren’t making increased profits on the product itself due to the cost of ink, but we have lowered labor costs and significantly reduced the amount of waste we produce,” says Frederick. “This has allowed

us to move jobs to the Colordyne machine without changing the price to our customers. Now we can increase profits by opening up more time on the machine and running more jobs per day.”

Terry says, “As we reach maximum capacity, the speed of the retrofit will become even more important. We will be able to chain jobs to match die cutting equipment and experience the full profitability of the retrofit. We can’t do this with a machine running 50 feet-per-minute, we needed a machine like the retrofit running 275 feet-per-minute or faster.”

“G2 I.D. Source has embraced the biggest benefits offered by the Colordyne 3600 Series AQ – Retrofit – reducing labor costs and increasing the volume of labels produced per day,” said Taylor Buckthorpe, director of sales, Colordyne Technologies. “This forward-thinking model is allowing G2 to see a quick return on its digital investment and, more importantly, improve the quality of service it provides to its customers.”

CONCLUSION

To capture opportunities in the new era of label production, printers know they need to integrate inkjet.

The high capital cost of standalone digital equipment combined with the workflow and operational changes required for successful digital integration is often beyond many print providers’ cost and time capabilities.

Retrofitting a flexo press with a color inkjet solution provides printers an affordable, flexible way to take advantage of inkjet printing opportunities, including better serving their customers’ needs today – and the ability to grow into the future.