Choosing the Right Digital Label Press

With the number of digital label presses rapidly increasing, it’s important for commercial printers to consider their needs before making a decision.

BY HEIDI TOLLIVER-WALKER
New Speeds Tip the Scales

Advanced Labels NW had been looking into digital production for a decade. Until recently, the speeds on digital label presses made the switch seem uneconomical, but as speeds have inched up, the combination of speed and litho quality caused Kevin Davis, the company’s co-founder and chief executive officer, to pull the trigger.

During the first 10 years of business, Advanced Labels NW won 48 awards for its flexo work. Since then, it has focused less on competitions and more on growing the business. Especially in markets such as wine and cosmetics, the company has been using flexo to compete with other high-end processes such as gravure, silk screen and sheet-fed offset.

During recent years, the company has been growing “leaps and bounds,” Davis said, and the increased volume of work has placed significant pressures on the workflow. Quality standards have continued to rise, and the higher volumes flowing through the shop have made it harder to achieve the same results.

“We’ve had to rise to those standards,” Davis said. “We could get there, but the time and effort didn’t make it cost effective. At the resolutions at which we’re printing [175 dpi], flexo requires a lot of maintenance to keep color consistency throughout the production run. With digital, the consistency is rock solid.

The number of digital presses designed for labels is exploding. Presses such as the HP WS6000 have reached speeds of nearly 100 fpm, closing in on high-end flexo speeds. For lower volume needs, benchtop units such as the Primera CX1200 Color Label Press and FX1200 Digital Finishing System tout batch (or optional software for optimizing production of versioning and segmentation) capabilities allowing different label artwork to be printed in the same run with coordinated, automated digital die-cutting.

Others, such as the inkjet Epson SurePress, offer very high-quality output but at lower speeds suited for lower-volume operations. Yet others, such as the Prototype and Production Systems DICE GT Inkjet Press, a rollfed 13” UV press, offer printers the option of additional colors. In this case, the PPS DICE (upgradable to 20”) offers two. Options are all over the map.

How and why does a printer make that final decision? One printer that just made one of these critical weigh-ins is Lynnwood, Wash.-based Advanced Labels NW, which serves the high-end label market. It offers high-resolution printing for food and beverage, wine and spirits, health and beauty, cosmetics, and vitamin labels. The company recently finalized an installation on the HP WS6000 Digital Offset press that went into full production on Aug. 29.

Labels are going digital. From wine and water bottles to vitamins, coffee and candy, we’re seeing an increasing number of labels migrating from flexo to digital production. Selecting the right digital label press is a big decision for any commercial printer; the choice affects production efficiency and applications flexibility for both printer and client.
“With flexo, you have a lot of analog processes that need constant attention. There is registration movement to attend to and the potential for dust specs on the plates. These are just a few of the variables that digital takes out of the equation. You aren’t worrying about whether the ink is drying or whether there is dust on the copy. There is zero registration movement and next to no color movement since the press self-monitors. You print, grab it and go.”

Kevin Davis, Co-Founder and Chief Executive Officer, Advanced Labels NW
Differentiation Based on Die-Cuts

For benchtop solutions such as the Primera CX1200/FX1200, another differentiator is die-cut technology. Richard Newsome, president of Chicago-based Sticky Business, for example, installed the 2400 dpi Primera CX1200/FX1200 system to test in-house, short-run digital label printing.

A key part of the functionality of benchtop solutions is the die-cut technology. It can either be integrated in the machine or, in the case of the Primera CX-FX system, comes as a two-part solution.

The Epson SurePress uses a water-based, pigment ink system and micro piezo inkjet technology to create high-resolution images. Epson aficionados hold that its six-color ink system (cyan, magenta, yellow, black, orange and green) produces a lot of realism. Tape & Label Converters in Los Angeles was so impressed with the quality of the press, in fact, that it added it to its existing production arsenal of rotary die-cut equipment. Tape & Label produces tight tolerance parts for a variety of industries, including aircraft, aerospace, electronics and specialized product manufacturers, and currently prints everything from military to food product labels. The trade-off, however, is speed, since the unit prints at 16 fpm.

North America Digital Production Printing
2009-2014 Compound Annual Growth Rate (CAGR) by Application

As production run length per job continues to decrease, the digital production print eligible share of jobs will grow proportionally. This data chart identifies the compound annual growth rate (CAGR) for various applications. Established applications for digital printing have lower projected growth rates, while those that are not established may have significant potential and high growth rates.

Source: NPES News: "Digital "Tipping Points" for Print Applications?" (September 2010)
Critical Questions to Ask

The range of digital label presses is growing — but beware! Many new players are jumping into this marketplace, and the numbers on the spec sheets may not tell the whole story. Let’s take a look at the status of today’s presses and some of the factors you’ll need to keep in mind as you make a purchase decision.

Today’s label presses range in width from 4.5” up to 20”, and their top rated speeds are up to 98 fpm for four-color process. But some presses can vary their speed based on the number of colors (as high as 190 fpm for single-color and dropping to 76 fpm for five-color on the HP WS6000 press). The productivity of two- and three-color jobs is also defined by utilization of the repeat and the number of colors.

Note, too, that fpm is only one piece of the pie. You also must consider file prep, spectrophotometry, speed of RIP and workflow. Newcomers to the market (especially those hoping to tap into flexo printers wanting to transition to digital) may not have developed the front-end solutions for versioning, personalization and other applications. Therefore, they may not be able to handle them productively. One press may be able to run at 210-plus fpm, but at the end of the shift, how many feet will you actually end up putting through the press? At the end of the shift, you may be down to 120 fpm or 115 fpm. You have look at the whole solution.

Here are some questions to ask when looking for hidden places lack of productivity can creep in:

- How long does it take to switch substrates? Is the substrate change time dependent on the thickness?
- Does the press offer automatic color calibration? How long does it take to come up to benchline color?
- What level of consistency does the press actually offer job to job? (For example, some inkjet presses, especially those with older inkjet heads, can struggle with consistency.)
- Do you have the ability to add ink while the press is running? Or do you have to stop production?
- What is the make-ready time? How many linear feet of make-ready are you going to go through in a shift to get the salable labels out the door?
- How does this change for various types of substrates (particularly specialty substrates like metalized and holographic rolls)?
- What is the support at the back end?

Just because you get the press inexpensively (or at little or no cost) doesn’t mean you’re getting a deal. If the training and support is lacking, the press can actually create a drain on staff time and company resources that can make it unprofitable.

In the case of the FX1200 finishing system, instead of flexible or hard-tooled dies, we use carbon steel blades to cut virtually any size and any shape,” said Mark Strobel, vice president of sales and marketing for Primera, writing on Labels & Labeling (Jan. 6, 2011). “Since there are no dies, there are no die costs and no waits. A job that is submitted in the morning can easily be delivered in the afternoon, regardless of the shape.”

Primera’s QuadraCut technology utilizes up to four blades across the web, which Strobel says delivers throughput up to four times faster than single-knife systems.

For higher volumes, however, printers will be looking at commercial production volume commercial systems such as the Xeikon 3000/3500 series or the HP WS6000.

Is Coating a Drawback?

One of the traditional kickbacks on HP equipment is the need to purchase coated paper or coat the paper on-site. The Epson SurePress, for example, makes a marketing point of touting its ability to print on standard paper and film label stock — no coating necessary. (It will handle up to 0.012” in thickness and rolls from 3.15” to 13” wide.)

“For us, the speed and quality overrode the other issues, such as having to buy the coated stock or coat your own in-house,” said Davis of Advanced Labels NW. “The financial advantages to make-ready time — HP to flexo digital — were so huge that paying a few more cents for coated material becomes nothing. We weighed those out.”

At first, Advanced Labels NW looked at doing its own coating, but, for now, it is purchasing pretreated stock. Even so, it has produced print trials on material that it treated in-house and they ran just fine.

For printers who do choose to coat in-house, the process is handled offline either on an existing flexo or finishing press. While film first will require corona treating the film, Davis says corona treating is a good practice anyway, whether printing on HP presses or not, since it promotes good ink adhesion.
“We’ve been running shampoo and health care personal care products for years,” he said. “We prime those materials now. We always will.”

And what about printing of metallics? While this can be an issue in commercial printing, the issue nearly disappears in labels because of the widespread use of metallic-based substrates. Printers can also bring in metallic inks at the finishing stage.

**Marketing Solutions**

Regardless of the type of press a printer invests in, it is strongly recommended that any transition to digital is managed carefully with the client and includes significant education on the marketing benefits of the technology, including branding and variable imaging.

“Digital gives clients the opportunity to continually rebrand and keep products fresh throughout their product lifecycles,” Davis said. “That is important for them to know. Lots of companies buy labels in bulk to reduce their per-unit price. Now they have substantial product packaging in inventory, and if they want to change their artwork, they have to throw this inventory away or use it up and delay rebranding.”

Despite the benefits of digital, the switch is not automatic. “At the end of the day, what it comes down to is that digital is just a tool — just like flexo is a tool — and based on the packaging brought to us, it’s up to us to guide the client in the direction that’s best for them,” Davis said. But there are also major productivity and profitability benefits for the company itself. “We are hearing — and what we are seeing and what other business owners with this equipment are telling us — is that the previous HP presses were purchased for short print runs,” said Davis. “But that phrase [short run] just doesn’t apply to the new HP 6000 press. These machines are almost running at 100 fpm. Our flexo averages 120 fpm, so the crossover point for production efficiency has increased in favor of digital. If I’m running 120 fpm on flexo and 98 fpm on digital, for 15 minutes versus two hours or one and a half hours make-ready, I’ve already made up the time.”

Davis adds that, with digital, there is 3-5 percent waste (likely not to exceed 8 percent). With flexo, there is 15 percent to 20 percent waste. “Combine that with make-ready time savings, and the digital is so much more cost-effective with the exception of longer runs beyond 100,000 quantities,” he said.

Before Advanced Label NW’s new press went into production in August, the company aggressively spread the word to its clients. Those efforts quickly reaped dividends.

“We had one client call us up, send us a picture of a label produced by another printer, and we could see just from the picture that it didn’t look very good,” Davis said. “They sent us a PDF, and within an hour, we had it printed on our digital press. The next day, we had it in their hands. We weren’t even dialed in on the press yet. We were still in training. We just showed them. ‘Here. Like it? Great! Want it? Great! How fast?’ ”

After speaking with another one of its good clients about the new press, one of the company’s distributors landed a large drugstore account the very next day. “It was a slam dunk,” Davis said. “It was a seasonal product for Halloween, but it has opportunity to do the same thing for Christmas, Easter, Thanksgiving or whatever the occasion. They can come up with all these different designs and don’t have to worry about plate costs, quality or brand colors. Everything is going to be perfect. They’ll have everything in their hands by the end of next week. We can basically print a job before you can print a ticket.”

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