Expand Your Production Opportunities

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Created: May 1, 2013

Many companies offer various cutting and routing devices, but which type of technology is the best for your business? Which offers the best and quickest ROI? Which fits best within an existing workflow?

Print service providers can choose from a number of cutting and routing devices these days. But the very breadth of that selection presents challenges as well as opportunities for PSPs. It's not just a matter of selecting a cutting device, but choosing one that meets the unique needs of your company.

For example, how do you determine which type of technology best fits your business? How can you get a handle on which offers the best and quickest return on investment? How do you know which will work best in your workflow?

The experts are agreed that PSPs really needs to take a "big picture" view of their businesses, their needs and their future before investing in a cutting and routing device. In the pages that follow, we let those experts explain the various considerations that should go into that big-picture perspective.

The Opportunities

Are there opportunities to build your business by adding cutting and routing equipment? Absolutely, says Beatrice Drury, the Denver-based Western territory sales manager and director of marketing and communications, with Franklin, WI-based Zund America, the US office of the Swiss manufacturer internationally known for producing cutting and routing systems.

"A lot of times, PSPs purchase digital printing equipment, which gives them the opportunity to print directly on to a multitude of substrates, all of which have to be finished," she says. "They have print capabilities, but don't have the cutting capabilities to match. So they resort to manual cutting, which is horrendously inefficient. Repeatability and accuracy are huge concerns; the cut pieces all come out a little different, which is problematic since customers want them all equally perfect. Then there's the time involved in manual cutting and the constant potential for errors and waste. Between all that – the labor, a very inefficient and error-prone manual process and the waste involved – there is plenty of rationale for investing in digital cutting and routing equipment."

The challenge many PSPs face is to ensure their business models begin creating value before and after printing, says Bill Hartman, vice president of business development, digital finishing with Gent, Belgium-based Esko.

“We define a value creation chain as design to print to cut,” he says. “If you’re putting ink on a substrate and cutting out a rectangle, that’s a very commoditized business. Many PSPs are ending up with a pile of output that needs to be cut. They can cut it by hand, farm it out to other business with the equipment or invest in the equipment themselves.

“As your volume grows over time, you’re going to get to the point where you will want to invest in that equipment.”

With the right cutting and trimming equipment, wide format-shops can potentially save thousands of dollars over the lifetime of the business, gaining a return on the initial investment as soon as year one, says Jen Kester, marketing manager of Montgomeryville, PA-based Foster Keencut. Those efficiencies are based on reduced time and labor, eliminated do-overs, decreased overtime expenses, and prevention of workplace injury and compensation claims.

One provider that has put a great deal of thought into the choice of its many cutting devices is Buhler, KS-based Gregory Inc., a wholesale graphics facility. President and partner David Wierengo reports his company has made a substantial investment in offering customers a depth and breadth to cutting.

“We use roll cutters, computer cut flatbeds, thermal die cutting, steel rule die cutting, digital routing, slitters and custom designed striping presses,” he says. “Every job is evaluated as to the best piece of equipment to provide our customer the best choice cutting solution. Volume of pieces, expectation for future repeatability, precision of cut, material selection, intricacy of design are all components that are considered when selecting a cutting option.

“These considerations are balanced with production efficiency, cost and customer specifications. We have learned no piece of cutting equipment or type of cutting device provides a universal solution. Every cutter has its own personality, its strengths and its inherent weaknesses.”

Determining the Right Technology

According to Kester, PSPs must answer all the following questions to find the right technology for their businesses. First, what type of media or substrates do you cut? Second, how many jobs do you complete daily, weekly, and annually? Next, how important is accuracy to your jobs, what are your physical space constraints, and what is your quality-price comfort points?

“Manual cutters offer a variety of options to fit any budget, while providing a safe and accurate cutting solution,” she states. “Whether using a manual cutter as a backup solution or a primary cutter, it’s an essential piece of equipment.”

Werner Waden, president of Colex Imaging Inc. of Paramus, NJ, which features a full line of finishing products for wide-format printers, agrees that analyzing the type of media you use is essential, and adds that you also have to decide whether you'll be cutting straight lines or making contour cuts.

X/Y cutters like Fotoba roll cutters, distributed by Colex in North America, are less expensive than contour cutters, and 5 to 10 times faster than flatbed cutters. "So if you have a lot of flexible work, and if you can cut it on an X/Y cutter and gain the benefit of the faster speed," Waden says. "We are seeing more and more people buying contour cutters to cut straight lines, and that's not being economical. If your work is straight lines on flexible media, go for an X/Y cutter. You can cut a 150-foot roll in less than 10 minutes."

If the shop prints on rigid material, and makes contour cuts, the choice is a contour cutter. "There's no good generic name for this type of machine; we've started to call it a flatbed cutter for contour cuts of rigid material," he says.

"With the Colex Flatbed cutter, we offer a lot of versatility. You can cut adhesive-backed vinyl without cutting the paper, and can cut an aluminum that is 1/16 of an inch, in one pass. Colex offers this extreme versatility."

For her part, Drury says that after deciding how much they can afford to spend, the first question to be asked is whether PSPs have the capability to print on a wide range of substrates. If so, the best fit is a multi-function machine that allows them to cut all these different materials and do so accurately and efficiently.

"All our machines are capable of handling the full gamut of commonly used POP materials," she says. "Our G3 line generally involves the larger Zund machines. They are somewhat more robust and heavy duty – the true workhorses in the Zund lineup. They can handle up to two-inch materials – full of dense, rigid materials, including thicker acrylics. Our S3 line includes mostly smaller-format machines. They're built for speed, and though they are available with a routing option, they are usually configured for somewhat lighter-duty materials."

The Best, Earliest ROI

When evaluating the return on investment likely to be garnered from cutting and routing equipment, it's critical to step back and take in the big picture, Hartman says. PSPs must focus on their entire business, where it's going and evaluate the capital investment within that larger context.

For instance, once you have your own finishing system you can enormously broaden the variety of substrates on which you print, he says.

With the right system, you'll also be able to cut not just squares and rectangles, but contoured shapes as well. You can start providing dimensional signs that command 6 to 10 times the prices of flat two-dimensional signs.

PSPs don't necessarily reap the greatest and earliest ROI on inexpensive cutting and routing equipment. Cheaper machines are often the ones with reduced capabilities, Drury says. "You can buy very inexpensive cutters for cutting pressure-sensitive vinyl and other thinner materials," she adds. "But this type of equipment generally cannot process more rigid materials or any routing. On the other end of the spectrum, you can fine low-cost CNC routers, but they feature more traditional technology, e.g. with conventional motor and rack-and-pinion drive systems and less sophisticated registration systems.

"This type of equipment tends to be much slower. Accuracy is almost always an issue, resulting in not getting the quality you need particularly with thinner materials."

Within the category of multi-functional cutting systems, there are less expensive machines as well. Though manufacturers claim they are multi-functional, buyers may find them cumbersome to operate with inefficiencies in setup, vision registration, and workflow integration, Drury reports.

Another important issue is how versatile and modular the machines are, she adds. PSPs often know what their needs are today, and are often able to guess their short-term needs. But long-term, it is difficult to foresee changes in their business and the demands of their customers. That's a great reason to purchase a modular machine. Doing so can help you control initial costs, because you can buy only what you need now, and then add components to the machine as your needs expand.

"And of course, by that time, the machine has gone a long way toward paying for itself," Drury adds, which makes it that much easier to devote funds to further expanding your capabilities."

Once modularity is addressed, it's helpful to size up how easily tools can be added. Look for as open a system as possible, Drury advises.

You want a modular system that can accommodate as wide a variety of tools as possible, as opposed to machines that lock you into set toolheads configurations that limit your ability to easily and cost-effectively add more tools.

Waden asserts that with lower entry prices, a full return on investment is much faster. A lot hinges on how much work the shop is able to turn out per hour, per day, and per shift, he says. If a shop has printers costing $150,000 to $350,000, they can be matched well with a Colex cutter, he says.

"But if you have a printer that costs three-quarters of a million or more, you may require a higher-capacity cutter," he observes.

Matching Machine with Workflow

Determining the best equipment for your workflow requires you to get a handle on the volume you have now and anticipate having, Hartman says. That volume will justify investing in finishing equipment of a specified price point.

The prices various machines command are based on factors like speed, accuracy and the level of flexibility in changeover from one tool to another, according to Hartman. “The other aspect is acceleration,” he says.

“On a cutting table, you may have a graphic with a lot of contours, and acceleration allows you to speed up coming out of the contour. The more you have to turn a corner, the more important it is to have acceleration.”

Drury believes matching devices to workflow requires PSPs to seek as open a system as available, one that can accept any kind of file coming from their RIP. “There are other things that are critical to making your production as efficient as possible,” she says.

Kester advises examining the shop’s physical space constraints, accuracy requirements, production volume and frequently-used substrates. “With a variety of options to choose from, manual cutters are an essential piece of equipment to have whether as a backup solution or as the primary cutter,” she says.

How Much Time Should You Invest?

Manufacturers of cutting and routing equipment tend to throw out speed, acceleration, and other technical “specifications,” Drury says. But these types of specifications are frequently measured in different ways from one machine to another, and they certainly aren’t indicative of how productive the machine will be. That’s because other factors, including the ones mentioned above, come into play. From how easily the machine can be set up to how quickly and reliably it will read register marks to how readily you can switch between tooling on the devices, there are a great number of factors that enter into productivity.

Drury believes it shouldn’t require a huge investment in time to select cutting and routing equipment. But you should ask for an in-depth demo, and “really put the machine to the test with a representative sampling of your own jobs. This will make machine comparisons a great deal more relevant. You already know how long it takes to get the job (or jobs) done with your existing methods, Drury reports. Now you can figure out how much time you will save with any given machine. “It’s not just a matter of comparing specs. In the end, you need to compare how long it takes to get from the design to the finished project. What are the steps involved and how much time does it take to get through them? And how do the finished products compare in terms of accuracy and cut quality? This is the only way to get much time does it take to get through them? And how do the finished products compare in terms of accuracy and cut quality? This is the only way to get a true indication of the productivity and quality of the machine.”

Ultimately, anyone making the investment in cutting and routing devices is well advised to keep top of mind the full design-print-cut workflow.

Says Hartman: “I’d want the vendor of the cutting table helping me envision the future of the whole design-print-cut value chain.”