

Digital Finishing: The Last Mile

A White Paper by:
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Digital Finishing: The Last Mile

Introduction

Both packaging and commercial print have been undergoing major changes – shorter runs; smaller, more customized lots; faster time to market; ongoing cost pressure. These are just a few of the challenges that printers and packaging converters face in a highly competitive and dynamic marketplace. Manufacturers of conventional and digital presses have made great strides in improving the efficiency of the printing process. But for many organizations, finishing is still a bottleneck and a limitation to the creativity of designers.

This white paper discusses the impact of the digital revolution on the bindery and converting. It includes real-world examples of how printers and packaging converters are turning to digital processes to remove the bottlenecks from that “Last Mile” for a more efficient overall workflow that addresses the key market challenges, and for new and exciting capabilities that unleash designer creativity by taking off the handcuffs that have historically constrained them.

Readers will learn from industry experts and their peers, and gain new, actionable ideas that can be implemented in their own businesses as they plan for a profitable future.

Greetings!

And welcome to the brave new world of digital finishing. Our story begins in Cleveland, Ohio, with a company that is more than a century old with a heritage of innovation. American Greetings, generating more than \$2 billion in annual revenues and employing more than 25,000 people, is certainly not resting on its laurels. CEO Zev Weiss and his team spend a great deal of time looking for new technologies and capabilities that can advance the business. Weiss says, “There is a symbiotic relationship between design and production. Design knows what can be produced and works to design within those constraints to ensure that costs are not out of control.”

But for American Greetings and many other companies, finding technologies that can remove those design constraints is central to the ability to innovate. At drupa 2012, the American Greetings team was looking for technologies that could do just that. And digital cutting was high on the list. “We immediately saw the possibilities for our business,” Weiss says. “We saw that we could get tremendous quality – in some ways better quality than traditional die cutting – at very low runs, a very powerful combination.”

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American Greetings chose to install the Highcon Euclid, a digital cutting and creasing solution. Weiss adds, ““We sat down with our design team and showed them how we could do things in ways we couldn’t historically do. It really opens things up and it is very exciting for them. It gives our designers broader capabilities than they ever thought they would have, and they love it.”

American Greetings has run more than a million sheets through the unit, producing both samples and production runs without the need for expensive dies. This has enabled the company to bring to market new concepts for cards and other products that have exquisite lacy patterns and other complex die cuts in order quantities as small as one, through full production runs. In addition to new applications, it has enabled the company to take advantage of the [Long Tail](#) aspect of its business, basically enabling them to never have to remove a design from the market. “It’s also great for testing purposes,” Weiss says. “In a day, we might run as many as 15 to 20 tests of 400 units each. That scope was next to impossible using conventional techniques and has given us a great deal of freedom to try new things with limited risk.”



For complex designs, such as pop-ups, it is an additional advantage to be able to bring production in-house. “For applications like this,” he explains, “you would have had to go to China to get it done. It is both a cost and lead time advantage. We can do short runs. We can do them more cost-effectively. We get a 3X or 4X benefit by bringing this work in house.”

While American Greetings primarily serves a specialized market – greeting cards – its experiences are relevant to printers and packaging converters as well. For example, UK-based Glossop Cartons is building a new business based on its ability to produce short-run customized wedding decorations. Sales Director Jacky Sidebottom-Every explains, “We received a call from a designer that produces unusual card products and wanted to do something unusual for an upcoming wedding. We jumped right in, and the result was fabulous. We were able to produce 250 intricately cut invitations, a series of matching die cut wedding lanterns that would each hold a candle and light the path to the altar, and matching round card baubles to affix to chair backs with a ribbon. This opens up a brand-new business stream for us and is something we don’t think anyone else in the UK can do.”



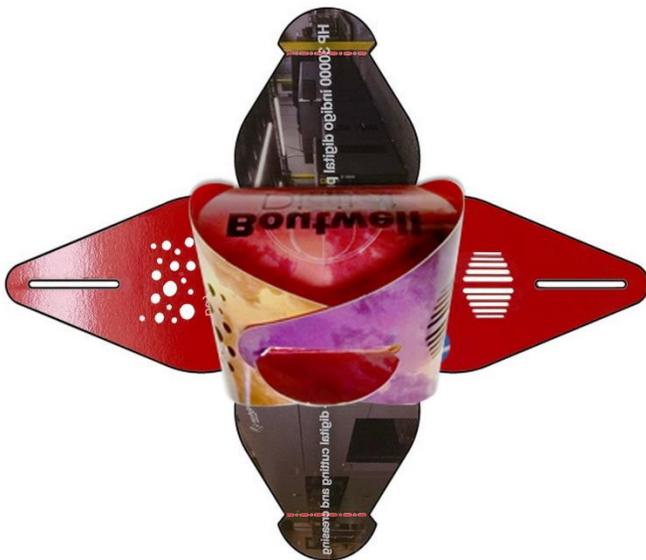
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Speaking of Packaging ...

Glossop is not alone in taking advantage of these new capabilities. The company was the first in the world to install a Highcon Euclid in the summer of 2013 and by mid-2015, 10% of the company's converting work was being run through the system, a percentage that Every-Sidebottom says will continue to grow.

Boutwell Owens in Massachusetts has had a similar experience. Talk about a company that is not new to packaging innovation! The first packaging job the company undertook was the [Victrola](#) needle package around the turn of the century – that's last century, not this one! Its current CEO, Ward McLaughlin, says, "We have always stayed on the bleeding edge and embraced technology. But the real difference between us and others is our people. Any of the manufacturers from whom we purchase equipment will tell you our people are outstanding, understand what their futures are, and are dedicated to pushing the limits with a goal of bringing better value to customers."

And for McLaughlin, digital finishing was a way to push those limits. "When you have a structural designer that been told for so many years that you can't do certain things, today it is all feasible and the handcuffs are off. The world is open; we are no longer restricted by tooling and cost. The bottom line is that we can do things that everyone has always been told you couldn't do."



The fancy candy box promotional piece pictured here is an example of the flexibility the company has experienced.

Boutwell Owens has also found new business opportunities with digital finishing. The company is now marketing specialized packaging for golf balls. McLaughlin says, "We can do small quantities of customized packaging for use at golf events and by individual country clubs that allows them to have unique give-aways or to generate revenues by

selling commemorative items. This is business we never would have had without the Euclid." The company has also found a good market in pharmaceuticals, especially when the product is being shipped to countries with small populations or the companies wish to test products with intricate packaging. We

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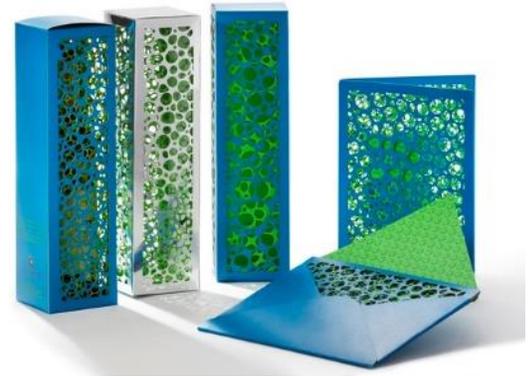
see companies taking advantage of this for both over-the-counter and ethical products as an affordable way to try out new things or accommodate shorter runs.”

Both Glossop and Boutwell Owens have found that the average lot size for digital is around 2,000 sheets, although McLaughlin says, “We have done runs well in excess of 10,000 when the cuts are too intricate for conventional processes or items are personalized.”

Every-Sidebottom adds, “We produced a run of 32,000 cartons for a chocolates carton set consisting of outer sleeve, inner tray and lid as a favor to another carton company. It included very intricate cuts of a flowering trellis leaf pattern. It was a gorgeous piece. We also did a flowering trellis leaf carton for a launch of chocolates in Australia for Christmas 2013, again, a very intricate package. The inner tray was produced in very bold Pantone colors that you could see through the leaf pattern, making for a very striking visual experience that denotes a luxury product.”

One advantage of the digital process is the ability to cut very intricate designs that simply were not possible before. These can be changed from sheet to sheet and really make packages stand out on the shelf. Lasse Svärd of Gafs Kartong AB, a Swedish packaging converter founded in 1947, shared an award-winning design that could not have been produced using conventional dies.

Svärd adds, “We can basically produce jobs five minutes after we have the okay from the customer, even something as complex as the piece pictured above. And because dies are not required, we can sell to smaller companies that don’t need high volumes, and we can handle campaigns that have a shorter life cycle that require a faster turnaround time.”



Enhancing Commercial Print

For commercial printers, entering the packaging market can be tricky. But that does not mean that they lack opportunities for digital cutting and creasing. Many commercial print applications, from presentation folders to books and brochures, can benefit from digital cutting. It is a way to cost-effectively add value and market differentiation, taking print out of the commodity zone and increasing margins. It also means that printers with digital presses now have the ability to establish a completely digital workflow which is a necessity considering the fact that run lengths continue to decline, the number of smaller jobs is increasing, and delivery times grow ever shorter.

“Digital presses have changed the print manufacturing paradigm,” said Jay Mandarino, President of Toronto-based C.J. Graphics, Inc., the first company since 2006 to win 6 Benny Premier Print Awards

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from the Printing Industries of America and the only company in Canada to do so. “But the bindery has still been a bottleneck. By introducing digital cutting and creasing, not only are you able to speed throughput and reduce costs with the elimination of physical dies, but it opens the door to many new applications that we couldn’t produce before, including compelling and unique direct mail, point of sale and promotional materials.” C.J. Graphics’ fully-loaded Highcon Euclid, the first in Canada, is being installed as of this writing, and he and his customers are excited about it. “We have a client that recently tested a design in an internal contest,” he says, and they came up with six different options. They believed they could not possibly produce samples of all of them, but once I explained our new capabilities, they were thrilled. They can create 100 of each design and use those prototypes to make a final decision.”

Mandarino also points out that the 40” sheet size is a real benefit. “Now we don’t have to cut down sheets from our 40” presses, with the extra work and opportunity for error that implies. We can run full-size sheets through the machine.”

C.J. Graphics also publishes a bi-monthly magazine, *Design Edge*, that is sent to 11,000 designers across Canada. “This is the perfect vehicle for getting the word out to designers,” he says. “We believe that designers and agencies will be inspired when they see what they can do.” These capabilities are particularly relevant for direct mail in Canada. Mandarino explains, “We now have very strict email laws. You can no longer blast out emails without the recipient’s permission, and that has caused a resurgence in direct mail. Plus, our market research reflects that people like to touch and feel, so the kind of tactile enhancements we can produce with the Euclid deliver marketing materials, including direct mail, that make a significant impact. The beautiful and unique pieces we will be able to create are sure to be read, not tossed, because they will be quite different and will really stand out.” Mandarino plans a die-cut cover for the next edition of *Design Edge* along with an article about the new capabilities to begin getting the word out.

Commercial printers, especially those with digital presses, can also partner with packaging converters who cannot produce shorter runs or are looking for a more cost-effective way to do package prototyping. This opens up a new business area in an aspect of the market that is experiencing growth, and will do so for the foreseeable future. In this case, the packaging converter has the customer relationship, and the commercial printer print, including die cutting and creasing, handing the finished sheets off to the converter for final assembly. In this model, the commercial printer invests in the digital finishing solution to be used in his own business, and is able to capture additional trade volume from packaging converters (and other commercial printers) without the need to make all of the investments required for a full-fledged entry into the packaging market.

Everyone benefits from faster turn times and more flexibility, including the ability to bring work in house that was previously outsourced, often saving days in the production cycle.

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Paper Art

As designers become more aware of these types of digital finishing capabilities, they are wholeheartedly embracing the opportunity. German paper designer Peter Dahmen is a great example of this in action. Peter studied Communication Design at the University of Applied Sciences and Arts in Dortmund, Germany. Since then, he has been a freelance designer, passionately creating three-dimensional folding objects out of paper and cardboard. And he has created many designs that take advantage of the capabilities of the Euclid.

One example is this stunning pop-up wedding invitation, sure to make the bride and groom's special day even more special. In another creative approach, Dahmen designed a car key box (shown on the next page) that can add drama to the purchase of a new car. These are just two of many new ideas in terms of paper art.

Paper is, after all, a pretty basic element of the printing and packaging industry. Dahman demonstrates that it can be used differently. We all use paper. We print on it. We use specialized finishing techniques to dress it up. We cut it and crease it and fold it and glue it to make unique products based on customer concepts and designs. But there is likely much more than can be done. By combining our knowledge of available technologies with the creativity of customers, designers and artists, we can do some amazing things that will ensure that paper is here to stay as a core element of communication, whether it is on a product package, a point-of-sale display, an art exhibit, a greeting card, or any manner of other ways it can be used to get a message across.



Removing the Handcuffs

American humorist Will Rogers said, "Even if you are on the right track, you'll get run over if you just sit there." Finding innovative ways to remove the design handcuffs and make it possible to do things we have never done before is a great means of moving on down the track and avoiding getting run over by a marketplace that is evolving faster than ever before. Our customers are looking for innovative solutions

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that can set them apart – on the shelf, in the customer’s mailbox, at a social gathering or anywhere else messages are being communicated on paper. By adding digital cutting and creasing to the finishing portfolio, commercial printers and packaging converters can expand their range of offerings, set themselves apart, increase margins and deliver even more value to their customers.



This pop-up car key box was designed by Peter Dahmen and produced on the Highcon Euclid.

This white paper was sponsored by Highcon. For more information about digital cutting and creasing and other digital finishing innovations, visit www.Highcon.net.