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FINISHING SNAPSHOT

Toner-based Finishing

New challenges continue to mount as commercial printers dive deeper into toner-based production and finishing often proves to be the least-considered technological hurdle. Chris Connor, Director of Production Solutions Group & Graphic Communications Industry at Xerox Canada, and Michael Steele, Director of Sales with Sydney Stone, which specializes in the distribution of toner-based finishing equipment, share their perspectives on key issues in toner-based finishing, including: Web-to-print, JDF adoption, verification systems, cracking, coating, and inline versus offline workflow.

Michael Steele, Sydney Stone

What do you see as today’s top technology trends in toner-based finishing?

Michael Steele: We have seen a lot of automation over the last four or five years, which is critical, as well as modularity. So not only do you have a creaser, you have a creaser or a slitter/creaser that attaches to a folding unit. This really helps printers to grow because not everybody can afford a 5-piece, do-everything system out of the get-go.

Where do most printers begin investing in toner-based finishing?

The cutter is the heart of it. Because the sheet size has become larger on some digital-print engines, today they are treated more like a press sheet where you want to gang up as much as you can. When you get into smaller booklets or smaller folded pieces, you want to print those as efficiently as possible, which means ganging them up on a single sheet.

Once the cutter is in place then definitely work is driven to the creaser. Before something is made into a booklet or folded into a final piece, creasing must happen with every sheet that has toner on it.

Are printers asking more about inline or offline technology?

There are still many applications where inline makes sense if you are dealing with a consistent product of a consistent size. The growth of full-colour digital also plays an important part in this. Previously, all of the inline material was black-and-white. When you print full-colour, you have bleeds on the edges so now how do you trim off the tops and bottoms before you fold that piece. It is very complicated to do that inline and it slows down production speed. With offline you can mix media, where you might have a laminated cover go onto a booklet, when the interior is not laminated, or have black-and-white guts go with a colour cover.

How is your company adapting to these trends?

Building up our expertise to ensure we can talk to a customer’s specific requirements, because there are so many options. In the folding market alone, we have over 25 options available. Understanding workflow is something that we take pride in. Also, we need to provide same-day or next-day service because digital jobs can back up quickly.

How has Web-to-print influenced the direction of finishing technology?

From the automation side, we see more templates getting put up on these Websites, which also means there is more need for templates on the finishing side – for slitters, cutters and creasers to cut things out of parent sheets. If they have automation on the front-end, we want to talk to them about automating the backend – and most people don’t.

What finishing technologies are printers looking for with variable-data printing?

Printers want ease of set up and minimal wastage. These are their main requirements. A lot of machines now have the ability to read and identify barcodes. They won’t track that job through the system, but they will ensure that the set is complete. Set integrity is really the most-important thing that barcodes track. Particularly when you get into variable printing, you do not want to damage anything. But it is paper and problems will happen, so you want a machine that knows when to stop.

Some of our Duplo equipment allows you to stack multiple jobs into the delivery and as soon as it reads the barcode it knows what job that is. So you can have five jobs stacked in the delivery, all 1218, and it will stop as soon as it hits a changeover and automatically start running the next job.

Are most traditional printers looking for finishing systems to handle both offset- and toner-based work?

The larger printers will come to us with two requests. Either they will want to make their finishing applicable to both or they will want to create a separate digital-finishing environment – a room within their facility that is completely separate with a smaller cutter, creaser, booklet-maker, and folder, for example.

Some of the products cross over. There are issues with cracking on offset materials due to grain, for example, and high-speed creasers cross over very nicely. Buckle-plate folders also cross over very nicely. Cutters are something that we have to evaluate and guide people to the best options based on volume and requirement. Generally, I would say a lot of digital work is harder to finish than offset material.

Chris Connor, Xerox Canada

What do you see as today’s top technology trends in toner-based finishing?

Chris Connor: The continued interest and requirements for improvements in the flexibility around inline finishing technologies for digital. For example, we have no less than 25 different [finishing] configurations that you can create for the Color Press 800 or 1000 device. We can have a GBC attached punch combined with high-capacity stacker or two high-capacity stackers, combined with a c-fold, z fold, combined with a square-fold booklet maker and trimmer – all connected to a Color Press 800 or 1000.

The value is that job-number-one comes through and instead of buying a 3-hole punch it automatically does that for you inline. [Then] job-two comes through and it is actually a square-fold booklet, Job-number-three comes through and it is a c-fold brochure. Each one of these jobs can be done dynamically, one after the other, with the finishing absolutely completed at the back end of the process, without having to worry about going to an offline finisher.

The second [significant trend] is an absolute requirement for continued improvements in software, whether Web-based software or, probably as equally important, the software on the print controller like Xerox FreeFlow Print Server, as well as software [used] prior to the FreeFlow Print Server – automated workflow software.

How has Web-to-print influenced the direction of finishing technology?

As the demand for the expansion of Web applications and functionality continues to grow – as does the notion of personalization, which of course is directly linked to a requirement for digital printing – there is an...
increased need for inline finishing capability that can satisfy all of those applications. You have to remember that some of these orders, given the notion of digital, can be as small as 10 or 20 or 50, and can be as high as 2,000 or 2,500—whatever it might be. To manage that entire process and those applications you really do need a combination of the software, the automated workflow, and the print engine capabilities to produce it.

With the larger format sizes of newer toner presses, are more printers ganging up jobs and what finishing challenges does this create?

Our iGen digital press now has a 26-inch kit capability and the 26-inch format can actually have 48-up business cards on one sheet. With the variations of substrates that you can produce, whether heavier stock, vinyl stock, etc., it gets quite interesting in terms of what your capabilities are. Our FreeFlow Process Manger prepress automation software gives you the ability to have decision points when you create the workflow for the B2C business-card application… So you have the Web application and, based on the number of business cards that have come through for that particular order, it might require three 26-inch sheets plus one-third of a fourth 26-inch sheet. Rather than printing that job, it can hold that job and wait for the next order from a completely different client. It can then gang the order together to complete that fourth sheet and use it completely.

Obviously, once you go to a cutter, you need a methodology that ensures you are disconnecting Client-A from Client-B’s order in the fulfillment process, but you are maximizing the utility of the print device from a speed and productivity standpoint.

Are most traditional printers looking for finishing systems to handle both offset- and toner-based work?

In some cases, it makes more sense for them to utilize their offline bindery. An example of that would be a photo-book application. They are interested in implementing digital because of its nature, having the ability to do customization and personalization for applications, but we have not yet reached a level of flexibility and capability from an inline-finishing standpoint to account for the variations of photo-book printing that they currently do enjoy.

How has Xerox addressed the issue of cracking when finishing toner-based work?

This is a conversation that used to happen 12 or 15 years ago and today, with the evolution of the development of the fusing mechanisms in our digital colour presses, and the variations of the substrates, this is absolutely a non-issue. It is sort of like the same conversation around good-enough quality. Well—2,400 x 2,400 [resolution] on our Color Press or 4,800 x 600 on our iGen, the whole conversation around image quality being comparable to offset is now over, and the whole conversation around the cracking of toner is now over.

Do you see more printers automating toner-based finishing through JDF?

When you are talking about digital presses, and some fairly simple inline-finishing capabilities that we have available, there...
Michael Steele  
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there is so much flexibility, Morgana is very close to the application side of things and that is what we pride ourselves on.

What are printers looking for to apply coatings on toner-based jobs?
If they want UV coating then they need a building that can support it. You have to ventilate UV machines. The unit cost of running a job through a UV machine is very low, much less than laminating, but the capital equipment cost is high. On the flipside, laminating is a bit more expensive per unit, but it brings a low equipment cost.

We have been selling a new film called OPP, which is a low-melt, semi-self-adhesive film that works on most toners, whether it is a silicon, wax or whatever – it will stick to anything. That is one of the biggest issues with traditional high-heat laminate: There are all kinds of different toner technologies out there and it is difficult to adhere – and then you have to crease it.

Do you see more printers automating toner-based finishing through JDF?
Our manufactures are compliant, but we haven’t seen a lot of people pursuing it on the finishing side, because of the advances in set up. Most clients rely on the automation and ease of set up found on today’s digital-finishing equipment.

Chris Connor  
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really wasn’t a huge requirement for it. Our experience is that there are a lot fewer companies out there who have actually adopted JDF workflow than what has been hyped in the media and in the marketplace.

We have always had the ability to adopt a JDF workflow. Being digital, it makes it so much easier to adopt industry capabilities such as this. When the market is ready and there is an increase in demand, we will make the investment in incremental steps to support it. We have now done that in selected products, in both our workflow software solutions and our print engine. Our Web-to-finish solution is a good example of that.

What is coming down the pipeline from Xerox when it comes to toner-based finishing?
In Europe, we have had a technology available for the last year, which we recently launched in the U.S., referred to as the XAPS system – Xerox Automated Packaging Solution. It is a combination of four components inline. It includes an iGen4 that has been modified to support higher-quality requirements in the folding-carton packaging market, as well as an improvement in substrate-latitude capability. Then we have an Epic UV coater inline and then two Stora Enso components, one which does the die cutting and one which does the scoring and folding.

This is coming to the market in Canada very soon and we are very excited about it. We think there are huge demand requirements for digital and variable short-run capabilities in that segment of the market. My expectation is that it will be available in the second quarter.