

Océ's Inkjet Evolution

Océ's Mal Baboyian talks about the company's move into inkjet printing

Interview conducted by Noel Ward, Brimstone Hill Associates

There's nothing like a talking at length with an industry exec to understand how a company thinks. And it's especially important when a company is leveraging its legacy to adopt a new technology. Consider high-speed inkjet printing, one of the hottest topics in the industry today. Most major equipment vendors have significant programs for development and marketing inkjet machines that have the versatility and print quality to be compelling replacements for electrophotographic systems and even begin to intrude into the realm of offset presses. Océ has been one of the most aggressive in bringing new inkjet presses to market. It's JetStream family posits a significant shift for the company which is an established player in continuous-feed toner systems. This makes me kind of curious, so I called Mal Baboyian, president of the company's production printing systems division in Boca Raton, Florida to get the story straight from the top. We wound up talking for a long time and in this extensive, multi-part interview, Baboyian explained Océ's vision for the market and shared what the company will have at PRINT 09.



(This interview has also appeared in installments on [Output Links](#) and [The Digital Nirvana](#) but is provided here in its entirety)

NW: Mal, thanks for taking the time to talk with me today. I want to start with inkjet. Océ has a lot of market share in electrophotographic printing, with some very fast machines. Even so, you've been adding inkjet systems over the past year and half. Why add inkjet to the mix?

MB: It's good to talk with you, Noel. Toner-based printing can do a great many things and do them really well and we've been very pleased with the leadership we've shown in that market. However, as the market continues to evolve, our customers are asking for ways to deliver more performance in both speed and color at a reasonable cost. While we intend to continue providing leadership in continuous feed toner based printing, we believe the next evolutionary step in meeting the needs of high-speed, high-volume digital printing will be inkjet. Inkjet allows for much faster printing while reducing the operational cost per page for both color and monochrome printing. Over the past two years, we have expanding our inkjet product line into the broadest in the industry, including offerings from the new Océ JetStream 500/1000 with the industry's smallest foot print up to the JetStream 2800 printing at 426 ft. per minute with a 30" print width. At Print 09, we'll be adding some new and exciting JetStream models to the family, so stay tuned!

NW: I agree that inkjet will be playing an increasing role. What does that mean for Océ as a leader in electrophotographic printing? How do you see the mix of presses in the market changing?

MB: Print providers have always invested in equipment that fits the needs of their customers. At Océ we think of toner and inkjet as complimentary technologies which can be selected based largely on the application and run length. Inkjet is a great fit for longer runs and for capturing offset transfer for applications such as statements, books, newspapers, catalogs and many types of direct mail. Toner, both cut-sheet and continuous-feed, fit some of the same markets at lower print volumes. High speed inkjet for the production print market is still a relatively new technology, and as printers and their customers become accustomed to it, we envision successful shops will use both inkjet and electrophotographic presses to meet their customers' needs. Our intention is to provide ongoing innovation in both markets and capture a leadership share in inkjet as we've done successfully in continuous feed. Inkjet also offers now some new functionality at a very high volume. For example, with inkjet customers can now print applications in a single pass, eliminating preprinted forms and with Océ's integrated MICR, eliminate separate check runs.

NW: The new Jet Stream 1000 and other JetStream models also offer MICR printing capability, making them the only inkjet presses to use MICR ink integrated into the engine. While some analysts say MICR is a dying technology, at least two of your competitors have stated that MICR capability is being developed for their inkjet systems.

Why does this technology remain so important, and how do you see your customers using it?

MB: This is a great question. When we introduced the first JetStream press in 2008 customers were very interested in the speed and color capability but one of the first things they asked was, "Will it print MICR?" So we knew there was demand, but of course conventional wisdom said that MICR inkjet wasn't possible. But our R&D teams were able to develop it as an integrated part of the system, and we've also added a sixth color to the JetStream 1000. So the new JetStream 1000 can now print CMYK, MICR and a spot color, significantly opening up the color gamut print providers can choose from. We were very proud to be recognized by Xplor as the 2009 Innovator of the Year for our MICR solution. In fact, the MICR technology we've incorporated into the JetStream has helped one of our customers, Direct Group, earn CPSA [Check Payment Systems Association] certification, meaning the output meets all recognized security standards. That's a first in the industry.

I think the fact that some of our competitors are attempting to develop MICR ink actually validates the importance MICR has in the transactional printing market. Because so many of our customers require MICR in their key applications we believe it will be an important requirement for years to come. When you think of all the different types of checks that are printed as well as other transactional documents that require additional security, MICR is still the proven and trusted technology. What makes our solution even more unique and valuable is the ability to integrate MICR into a regular print run, not as an afterthought. Some of our newer customers believe this capability will revolutionize their business model and dramatically change their print cost structures.

NW: What kinds of applications will you be showing on the JetStream 1000 at PRINT 09?

MB: The JetStream 1000 prints everything in a single pass, so much like our VarioStream 7000 and 8000 family of toner-based presses, adding MICR is really just business as usual. At PRINT we'll be running a number of apps using MICR printing and showing how trans-promo statements printed on the JetStream 1000 meet all newly announced regulations and are CPSA compliant. We'll also be running full color books and a newspaper application that shows how inkjet can be a real fit for the changing shape of the newspaper industry.

NW: OK. What's else is new and different about JetStream 1000? I know it's smaller than the other JetStream models.

MB: That's right, Noel, it's much smaller than the rest of the JetStream line but there's a lot going on in the smaller package. The JetStream 1000 offers duplex printing capability in a "one-box" configuration rather than the conventional "twin" configuration used for most inkjet and toner-based continuous feed printers. In fact, the JetStream 1000 has a 30 percent smaller footprint than competitive devices; taking up less floor space. Although the JetStream 1000 is up to 20 percent faster than some of our competitors, its smaller size and lower speed compared to the JetStream1500 and JetStream 2200 fits the needs of print providers with moderate print volumes who still want to provide cost-effective full-color printing for their customers. For example, take a service bureau that has several cut sheet or maybe even a couple of continuous feed black-and-white presses. Many shops like that want to make the shift to color and maybe add some capacity but they don't always have the floor space for some of the larger inkjet systems on the market. The Jet Stream 1000 is smaller than a dual-engine toner-based press and takes up about the same amount of space as a couple of monochrome toner-based cut-sheet presses. But it can print over 1,000 duplex, full-color pages a minute and can produce up to 20 million pages a month. We believe these characteristics make it a great fit for a large segment of the market today, and one that spans many applications.

NW: Two of the inevitable questions I hear regarding inkjet are about quality and whether dye-based or pigment inks are better. Of course quality is both subjective and objective and the type of ink is certainly a part of it. Tell me about Océ's perspective on inkjet quality and how you see it evolving.

MB: Quality has always been in the eye of the beholder. As you know, ink acts very differently on a page than toner. Our DigiDot technology lets us produce very small droplet sizes which provide higher quality images, smoother halftones and excellent color output with less ink and less waste. Being able to vary drop sizes gives customers better control when printing photos and provides better reproduction of fine details. We've been able to do this with dye-based inks too, which helps control costs. In fact, several of our JetStream customers tell us that our dye based ink output has higher quality than many of the pigment ink samples they have seen from other competitive products. And don't forget paper! It's another very important aspect of quality. We're working closely with a number of paper vendors in developing substrates that will meet the cost and quality targets our customers require for a full range of applications.

NW: Mal, most people probably don't think of Océ as having a history in inkjet printing, yet you've introduced several new models of the JetStream family in a bit over a year and a half. But you haven't done this on your own. Tell me about the alliance with Miyakoshi that has led to the JetStream line.

MB: Let me answer that in a couple of steps. First, Océ actually has developed a lot of inkjet technology and provided innovation and industry leadership in a number of markets. Our first inkjet products came to market almost 15 years ago. The wide format side of the company has been very successful and has the leading market share in some segments of wide and superwide format printing. Some machines, like the Arizona line of flatbed printers that can also print roll-to-roll, have won awards for innovation and quality. Last year at drupa I'm sure you saw our CrystalPoint solid toner technology which can be jetted onto a wide variety of substrates. At GraphExpo 2008, the Océ Colorwave 600 with Océ CrystalPoint technology won a Must See 'Em award and this product has been recognized once again for PRINT 09 with a Must See 'Em Encore award. Océ R&D developed and we manufacture these products. Of course, these wide format machines address a different market and at lower speeds than a production press, but the underlying knowledge of inkjet technology, chemistry, color, and material science has been very instrumental as we developed the JetStream family.

Second, our relationship with Miyakoshi is very much a strategic alliance that draws on the strength of both companies. Miyakoshi is a well-known offset press manufacturer that was developing an inkjet technology. We've brought our expertise in inkjet, color management, controllers, security, and error recovery systems for high-speed, high-volume digital printing. The win-win is that JetStream is built like a press for heavy duty use, our SRA MP [Massively Parallel] front-end can handle every aspect of the data in full color, and can be easily integrated into any PRISMA-based system as just another print engine.

NW: So Miyakoshi builds the press and Océ does the controller. To what extent has Océ been involved in machine design and engineering?

MB: It depends on the press. With the JetStream 1000, Océ and Miyakoshi worked closely to jointly design the product. So together we drew on our expertise in paper transport systems to create a paper path that would give us the compact design we needed but still achieved our speed and throughput targets. Miyakoshi designed and built the type of frame and overall design needed to make this press a reality. Meanwhile, our software and controller teams made

sure the DFE would be robust enough to handle the high print volume customers will expect on the press. And we've already talked about our innovation with jettable MICR ink.

NW: Talk to me about software and what it takes to operate one of your inkjet systems.

MB: All our JetStream presses run the same PRISMA job management and workflow software as our toner-based presses. Of course with JetStream there are some additional controls for color management, but these are similar to those used on our ColorStream family of continuous feed toner-based presses. While the mechanical processes for running and maintaining the machines vary, the workflow software that manages the jobs through the production process is the same whether it's on a monochrome cut-sheet system like a VarioPrint 6250, a ColorStream 10000 or one of the JetStream family. This makes it easy for customers to cross-train equipment operators and help contain staffing costs. But you know, it goes beyond operating the machines. You have to be profitable. So stay tuned for an exciting announcement we'll be making at PRINT 09 about some new software that will help printers price inkjet applications more profitably.

NW: OK. This is all good, and many printers I talk to see inkjet as having a lot of potential. But the thing that concerns them is being able to fill up a significant portion of the capacity of these machines. How is Océ addressing this and helping customers make the transition into inkjet?

MB: That's a great question, and it really all comes down to applications and the importance of printers understanding their customers. When we first introduce a customer to the JetStream line we learn about all the applications they are running, who their customers are, and look for all the applications that make the most sense to print on a JetStream. For example, we know there are many jobs, especially in direct mail and transactional shops, that require preprinted forms. We've done the math, so we know that simply shifting these forms to inkjet adds a lot of volume to the press and will save the printer's customer a lot of money. But as you know, that can be a difficult conversation for some printers to have with their customer. So we provide the support our customers need when they introduce JetStream to their customers. We can help to explain the technology, answer questions, and show them, based on their current printing costs, how eliminating pre-printed forms can make a substantial difference in their business.

Of course, most printers usually have a few new prospects in mind when they are thinking about acquiring a JetStream. So here again, we can help provide the technical support they need as

they introduce the advantages of inkjet technology to the prospect. In both instances we support our customers with test printing, file preparation, and making sure the quality is where it needs to be to satisfy everyone involved.

This approach is a tremendous benefit for our customers and makes it much easier for them to justify the investment in a JetStream. This is just part of the support we believe is so important to customers and so critical to helping grow this new technology in the market.

We also help customers add volume and value with trans-promo. As you know, this is a bit more complicated than just filling up empty space on statements. We have a full range of services designed to help customers add trans-promo capabilities, such as showing how their customers statements need to change to be effective trans-promo documents. This includes optimizing white space marketing, statement design, database mining and management, incorporating QR codes, and how to comply with new federal regulations. It's important that we share our expertise with customers and it's really satisfying to see them succeed.

NW: I wrote an article back in the winter about a Gartner study directed by Peter Basiliere which indicated that toner and inkjet presses were being seen as equal to or better than offset presses for some applications. Are you seeing evidence of this through any of your customers and the types of jobs they are running on their Océ presses?

MB: Customers tell us that their clients are becoming much less likely to differentiate between offset and digital and this trend is only going to continue. It's encouraging to see the market moving in this direction. I think we're reaching a tipping point that opens up a lot of opportunities for vendors like Océ that are ready with the right solutions. A lot of this comes down to what will satisfy customer needs. The Gartner study looked at transactional and trans-promo applications and especially ones where replacement of pre-printed forms was an important element. This is one place where there are few reasons for any print provider to still rely on offset printed shells. The economics of digital print—especially inkjet—make shifting to a plain paper model a smart move, particularly in a tight economy. We're seeing both inkjet and toner customers increasingly make the shift and all see the reduction in waste, warehousing and obsolescence making a difference in their businesses. Looking forward, we believe inkjet and high-end toner based production presses will take an increasing share of the offset market.

For example, with quality no longer a concern, one of the key markets for inkjet is in publishing, especially books. Océ has been very successful in book production applications with both our continuous-feed electrophotographic presses and VarioPrint 6000 simultaneous duplex cut sheet systems. We see this success expanding even further with inkjet. The difference is that inkjet can dramatically increase the practical, economic run lengths for publishers and help them make some very important and profitable changes in their business models.

NW: Océ used to show only its high speed production presses at shows like PRINT or Graph Expo, but at recent shows you often have one or two wide format machines on hand. Why the shift?

MB: Océ has one of the broadest product lines in the industry covering the office, wide format, display graphics, and production printing. But even customers in these segments weren't always aware of our other offerings and capabilities and didn't necessarily think of Océ when they needed a different type of equipment. Having a wider range of equipment at shows strengthens our brand by showing the full scope of our offerings and helps position Océ as a leader in more segments of the printing market. We also share some technologies across the different divisions of the company and are always looking for ways to leverage what we know. As I mentioned, our inkjet experience in wide format aided us in developing the JetStream family. Many of our customers had no knowledge of Océ's breadth of solutions in the office, production printing and wide format segments. And many of them have needs in more than one segment .

NW: Last question, Mal. What else will Océ have at PRINT 09?

MB: The theme for this year's show is "The Power of Color. The Speed of Business." We think this sums up what the market is looking for and we'll be showing both color and speed in a number of ways. There's a lot to see and some of it relates to inkjet technology. As you know, there's a lot of information out there and many of the claims make it hard for print providers to get a handle on the real costs of inkjet compared to electrophotographic or offset printing. This causes a lot of confusion in the market. We want to make it easy for print providers to make the change to inkjet when it's the right move for their businesses, so as I mentioned, we'll be introducing some new tools that help accurately calculate the cost of inkjet printing and show how it can work for a customer.

Then there's the ColorStream 10050, the five-color version of the ColorStream 10000. As you probably know, we're placing two of these systems at Jeppesen, the company that produces the

charting and navigation tools pilots and airlines use. Being able to add the fifth color was critical to Jeppesen and why they chose this press.

As in the past, we'll be producing an issue of the Chicago version of *Where* magazine, this time on the new CS665 Pro, but this one will contain examples of how QR codes can be used drive more value from a print publication. Watch what happens when you take a picture of a QR code with your smartphone. We'll be doing some other things with QR codes too, so come see how this new technology works.

We'll also have some fascinating new printable substrates you can use to build things, like furniture and trade show booths, for example. We'll be showing these in conjunction with our Arizona 350 XT wide format system. Sustainability has always been important to Océ and this is a new way to foster sustainability in display graphics. There'll also be some announcements in the cut-sheet area that we think will cause some excitement. All I can say for now is, Think Speed of Business!