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Analysis

Label Expo 2009: Color Inkjet Presses Ramp Up as Electrophotographic Competition

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Abstract

Label Expo 2009 (September 23-26 in Brussels, Belgium) was an encouraging event. It was a big and busy show, with stats to indicate that, even in a tough economy, the industry may have turned a corner. It also was show where the HP Indigo and Xeikon, longtime leaders in high-end digital with their color EP systems, were joined by a raft of inkjet competitors and a few of them are quite new. This document provides a brief overview of some of the key trends and product announcements from this year's event.

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Introduction

Label Expo 2009, held September 23rd to 26th in Brussels, was an encouraging tradeshow from a few angles. The attendance of 24,169 visitors and 544 exhibitors from 125 countries was a sign of the label market's vitality, in spite of the economy. The level of attendance was just 2% less than in 2007 (Label Expo occurs biannually in Brussels), but the exhibitor tally was up by 6%. These figures and the positive mood of the whole event were universally seen as good signs, in particular for a recovering economy. Tarsus Group, Label Expo's host, added to that impression by announcing that 80% of the space for the 2011 show was booked by the end of the 2009 show.

As in earlier Label Expos, every type of labeling technology was on display—multi-station flexo presses; camera systems; tabletop thermal printers; all manner of conventional and digital media; foiling, die cutting, and other finishing; and high-end color digital systems. It was because of the high-end color POD label systems from HP Indigo, Xeikon, EFI Jetrion, and others that InfoTrends attended this year's Label Expo, and this category of equipment was loaded with news and encouragement about its future. Digital printing in general had one of Label Expo's six halls at Brussels Expo Center all to itself, while color POD label printing spilled over into at least three of the other halls as vendors of analog systems added digital to their own exhibits.

In contrast to earlier Label Expos, the short run printing of labels is now an established focus for most vendors of printing equipment, whatever technology they are using. Flexo and other analog press manufacturers now tout their systems' features that support short runs, from servo drives to CTP imaging, and a few have (or are developing) color inkjet modules for use in-line. At the same time, the digital systems that have spurred short run printing of labels are now well known, especially HP Indigo and Xeikon. Nevertheless, multiple inkjet competitors have joined the market, and they now range widely in terms of origins and qualifications.

Key Trends

The overarching impression that Label Expo 2009 made on InfoTrends was that inkjet is strongly rising in the label industry. HP Indigo and Xeikon dominate the installed base, and they appear to be continuing to refine, innovate, and grow. At the same time, however, inkjet competitors are popping up all around them. Within that inkjet group, a core of highly qualified companies is now evident, and these companies will cause inkjet color POD presses to become a major competitor to electrophotographic (EP) equipment over the next few years.

Before describing individual booths or products, it will be helpful to describe some of the specific themes from Label Expo 2009.

Color Electrophotographic Printing Still Leads the Digital Label Printing World

In 2009, HP Indigo began shipping the ws6000 version of its press. This version was more costly than the ws4500, but offered double the speed and repeat size. Xeikon's flagship product, the 3300 that was introduced at drupa 2008, is the latest in a long line of label presses from that company—its range of specs and features have made it a compelling alternate to HP Indigo devices. Each of these companies has more than ten years of history in the label converting field, far more than any of the inkjet competitors.

Together, HP Indigo and Xeikon have a global installed base for color POD label presses in hundreds of units, which is well above that of the combined inkjet competitors.

Figure 1: Xeikon's 3300 (Introduced in 2008)



Single-Pass Color Inkjet is Ramping Up

Single-pass color inkjet is ramping up within the industry, and this technology certainly saw lots of activity at Label Expo 2009. While HP Indigo and Xeikon are the electrophotographic leaders, the much younger inkjet field now has a number of participants (see Appendix). Of this list, EFI Jetrion and Impika are the best known (curiously, Impika was not an exhibitor). Including system integrators, however, at least eight other companies had full color label presses for sale at Label Expo that were based on single pass piezoelectric inkjet. Domino and Epson, however, showed only prototypes.

Companies from Adjacent Digital Printing Markets are Joining the Inkjet Field

The mention of Domino in the previous paragraph is noteworthy as the company's heritage is in industrial uses of narrow format and monochrome inkjet for product coding and addressing, which mainly uses continuous inkjet. Full color, single pass label printing, for which it showed a 330 mm piezoelectric prototype, is a new direction for Domino. Meanwhile, Atlantic Zeiser (security printing), Delta Industrial (narrow web systems integration), Durst (wide format printing), and Epson (office printing) are joining the fray with their own devices and proposals.

Xaar Provides the Piezoelectric Heads for Most of Today's Inkjet Label Systems

Although Xaar plc had only a small booth in Hall 9 ("the digital hall"), the company's Xaar 1001 heads, with up to eight levels of grayscaling, were found in the products of ten companies at the show. Nine companies were POD press manufacturers with their own booths: ALS, Atlantic Zeiser, Delta Industrial, Durst, EFI Jetrion, Integration Technology, Omet, Nilpeter, and Stork. In addition to these nine, Eckart (Wesel, Germany), a major maker of metallic inks for the graphic arts industry, was also demonstrating jetting with metallic inks on a JF Machines "Picocolour" label press; JF Machines (Kettering, U.K.), a manufacturer of printing equipment, did not have a stand of its own at the show, but it does offer 70 mm and 140 mm versions of the Picocolour, a CMYK press based on Xaar 1001 heads. All told, Xaar is a critically important digital print technology developer for the label industry.

Figure 2: Xaar's 1001 Printhead***Xaar is not the Only Piezoelectric Head Supplier to the Label Field***

In all fairness, Xaar is not alone as a piezoelectric head supplier to the label field. Epson, which showed its prototype press, uses its own piezo heads. Domino uses the 4.25-inch Kyocera heads in its prototype, and Agfa, a long established inkjet competitor, uses Toshiba TEC heads. While only a handful of companies are true piezoelectric head manufacturers, all the main ones now support full color single pass label printing through one client company or another. The commitments that these companies have collectively made to the label industry are a sign that color POD is an attractive, viable market for piezoelectric—one where printer manufacturers and integrators now have a range of possible head suppliers.

Environmentalism is now a Strategic Emphasis throughout the Label Industry

Label Expo 2009 had “green” products in all its halls (and even a “Green Park” to highlight the offerings of particular vendors). Examples included media suppliers with recycling programs for silicon-ized liners, clear pressure sensitive label stocks that wash off (a key consideration for recycling bottles in Europe), and HP Indigo’s publicity about its recycling of printer parts. For digital in general, the overarching emphasis is on reduced waste in relation to analog systems, which is an accurate and compelling point.

Finishing Companies are often Key Partners to Color POD Press Suppliers

Nearly all the color POD equipment suppliers have partnered with (or are partners/suppliers of) companies that make die cutting and other finishing equipment. Digital vendors are intent on fitting into conventional workflows, and suppliers such as AB Graphics, Karlville Development, and Grafisk Maskin Fabric provide examples of helpers.

Four Major Companies Now Offer Flexo Presses with Inkjet In-Line

Agfa has been partnering with a flexo press manufacturer for several years to offer a big (63 cm print width) hybrid solution. Nilpeter, best known in the label industry for its analog presses, introduced its “Caslon” hybrid at the 2007 Label Expo. At this year’s Label Expo, press manufacturer Omet introduced its own hybrid flexo and inkjet press in partnership with Founder Corporation. Finally, Stork Prints, a printing equipment manufacturer in the Netherlands, introduced its own inkjet module, for integration

with others' converting lines. These hybrid systems collectively, then, are a young but growing part of the color POD label market, accommodating customers who want their digital and analog printing to have a unified workflow and cost center.

Low-End Color Digital is Proving Useful to Label Converters and Others

Wide format printers and desktop devices were not InfoTrends' focus at the show, but they were featured in many different instances. Roland, a top maker of wide inkjet devices, showed its wide inkjet systems for decal, sticker, and label printing. Allen Datagraph (Derry, NH) showed a 20 fpm tabletop unit, based on a desktop inkjet printer from Epson and offering 4 inches of high resolution CMYK print. Such systems are highly useful for proofing and for very short runs. Interestingly, Allen Datagraph has many brand owners for customers (e.g., gourmet food companies). This is rarely the case for high-end color digital systems, which normally are placed only with label converters.

Label Expo 2009 Exhibitors

This section provides an overview of some of the companies that exhibited during Label Expo 2009. This is not meant to be an exhaustive list, but a compilation of announcements that InfoTrends found particularly illuminating.

Agfa-Dotrix N.V.

Agfa-Dotrix N.V. (Gent, Belgium) shared a stand with Edale (Fareham, Hampshire, U.K.), a maker of narrow flexo presses and transports as well as Agfa's recently announced partner for the Agfa :Dotrix Modular single pass UV-inkjet press. The :Dotrix Modular, which has the company's 63 cm wide SPICE unit (Single Pass Inkjet Color Engine, based on Toshiba TEC piezoelectric), was the label industry's pioneer hybrid of inkjet and analog printing with the first units shipped several years ago. Because of its modular construction, traditional UV flexo printing stations that can serve as coating and varnishing alleys can be added to the roll-to-roll basic configuration. Slitting and die cutting as well as sheeter installations can also be integrated to complete the system.

Agfa has continually improved its :Dotrix Modular system. At Label Expo 2009, the company announced the development and availability of an "Express Print Mode" enhancement to the system's controller. Express Print Mode increases productivity from the existing 1,440 linear meter to 1,920 linear meters per hour with a web width of 65 cm, a 35% increase. Agfa Graphics' industrial inkjet press is built on grayscale inkjet technology. According to Agfa, the Express Print Mode influences the ink drop volume of these grayscale inkjet heads without affecting the print resolution at an apparent resolution of 1,000 dpi, netting an effective production capacity of 1,209 m² printed area per hour. The Express Mode is available now as an option to new presses and as an upgrade kit to installed presses.

Figure 3: Agfa's :Dotrix Modular Single-Pass UV Inkjet Press

Regarding consumables, the Dotrix Modular uses 6-color, UV-curable inkjet inks. The orange and violet color stations extend the current CMYK color gamut, matching 90% of the Pantone color spectrum.

Agfa also highlighted an in-line die cutter, announced at Print '09 in Chicago, that the company has developed with Edale specifically for the :Dotrix as an optional module. Another 2009 introduction for the :Dotrix Modular has been hexachrome versions of the system's UV curing inks, which it says match 90% of Pantone colors at a Delta E of 3.0.

For more information, visit www.graphics.agfa.com.

ALS Engineering GmbH

ALS Engineering GmbH (Leopoldshöhe, Germany) introduced the "ecojet," an inkjet printing and in-line laser die cutting system that works in conjunction with the company's roll-to-roll and roll-to-sheet transport lines. ALS Engineering is a young company (2005) that develops systems for factory automation, laser cutting, and screen printing—the ecojet is its first digital printing system. The new printer is based on Xaar 1001 piezoelectric printheads stitched to provide webs of various widths. The standard unit has a 320 mm/12.5 inch web, but ALS says wider versions can be configured to 630 mm. Inks are UV-curing CMYK. Because the ecojet is modular, extra print stations can be added for other colors (including white) or for coating.

For more information, visit www.als-engineering.de.

Atlantic Zeiser

Atlantic Zeiser (Emmingen, Germany) entered the color POD label printing market with its Gamma 70 color print engine at Label Expo. This device is based on Xaar 1001 heads. Atlantic Zeiser is a full service integrator that is able to configure standalone systems, components for integration into web or sheetfed systems, or complete systems, as needed. This new engine adds to the company's possible role in the prime label converting industry.

The GAMMA 70 is a full color engine that includes a UV printer, UV inks, and UV drying capability. Basic specs include 360 dpi resolution, eight levels of grayscale, 70.5 mm (2.78 inch) print width, and a maximum speed of 24 meters per minute. The GAMMA 70 is available in two models:

- **GAMMA 70S:** The standard model for wet-on-wet printing in the pattern application process
- **GAMMA 70P:** The premium model for pinning and wet-on-wet for sharp texts, barcodes, pictures, as well as fine details and logotypes

The GAMMA 70 Series can be installed on a complete web system as a standalone system, leveraged as a part of an OEM integration package on a wide range of label machinery, or integrated by end-users into existing analog web label systems. The Gamma 70 was exhibited on a Prati Saturn web system, the first time the product has been shown on a web-to-web system. It was also shown with Atlantic Zeiser's "SmartCure" LED UV curing modules. LED UV curing was also seen elsewhere in the UV inkjet exhibits—always cited for its environmental advantages.

For more information, visit www.atlanticzeiser.com.

CSAT

CSAT (Eggenstein, Germany) introduced its ITS 600 family of single-pass CMYK label printers. These devices are available as standalone systems for in-line or off-line use, and are based on Kyocera printheads. The ITS 600 series includes six models, with printing widths ranging from 100 mm to 200 mm. There are two CMYK models:

- The ITS 600-1 (100 mm print width, 50 meters per minute, 600 dpi physical resolution, 1,800 dpi optical resolution)
- The ITS 600-2 (200 mm print width, same speed and resolution as ITS 600-1)

The company reports that a hexachrome version of the ITS 600 is possible. CSAT has long had a supplier role in the packaging industry (mainly in monochrome EP printing). The year 2009 brings the company's first use of inkjet technology, with a focus on the label industry.

For more information, visit www.csat.de.

Delta Industrial

Delta Industrial (Minneapolis, MN, U.S.) highlighted its narrow web converting system "The Edge" at Label Expo, with sixteen Xaar 1001 heads integrated for 10.8 inches of CMYK printing at 360 dpi and 90 feet per minute. Delta has previously shown the system at Label Expo Americas (2008) and has already placed units with label converters. The system can be configured as needed with a range of in-line converting stations (e.g., rotary/laser die cutting, slitting, laminating, island placement, and folding). Applications range from full color printing of blank stock to variable printing of pre-printed label stocks. Delta claims that a common application of the system is to add value, in particular variable printing, to labels that have been printed on other presses.

For more information, visit www.deltaind.com.

Domino Printing Sciences

Domino Printing Sciences (Cambridge, U.K.) showed a prototype full color digital label press based on piezoelectric heads from Kyocera. According to Domino, the printer will launch in spring 2010, with

basic specs to include a print width up to 13 inches, 50 meters per minute speed using four drop sizes, and a nominal resolution of 1,200 dpi. A speed of 75 meters per minute will be possible by using three drop sizes. Other features will include a fully-automatic head cleaning system and an ink control system that ensures rapid set-up and maximum uptime.

The 13-inch model will be the first commercially-available product. Future versions are expected to include 4.25-inch and 8.7-inch CMYK models, as well as single color options. Splicing, web cleaning, web tension control, and web guidance are all standard features of the reel-to-reel press, and there will be a choice of UV curing or near infrared drying units for UV-curable or aqueous inks. At its launch in 2010, the press will be configured to include unwind, splicing, web cleaning and tension control, corona pre-treatment, the printing module, a curing station, and rewind. While Domino's entry in the color POD label field is still prospective, the company is an experienced marketer and supplier of inkjet technology to manufacturing companies and could be quite competitive in the adjacent label converting market.

For more information, visit www.domino-printing.com.

Durst

Durst (Brixen, Italy) demonstrated a complete label press solution—the company's new Tau 150 Label Printing Press, a UV inkjet printer based on Xaar 1001 heads, plus Durst Canada's Rotoworx 330 off-line finishing system. The Tau 150 prints up to 5.5 inches wide on webs from 10 cm to 16.5 cm (4.0 inches to 6.5 inches), at speeds up to 48 meters per minute (157 feet per minute). The system features a total of five colors (CMYK + white). The white is notable as it is an important supply item for printing onto clear and colored substrates, and (so far) only Durst and EFI Jetrion appear to have it as an inkjet ink option. The resolution is 720 x 360, with eight levels of grayscale, and an optical resolution of over 1,000 dpi. The Tau 150 comes with RIP software that automates data workflow and an electronic job ticket contains all relevant data to drive the system. Any incoming files are ripped, has color management applied, and the ready-to-print files are sent to the press' queue manager (jobs can be rearranged in the printing queue for priority purposes).

The Rotoworx 330 is a standalone, modular converting and finishing solution with unwind, semi-rotary die cut, lamination, matrix rewind, and two label rewind modules. It has a maximum web width of 13 inches and comes in two standard versions: the Rotoworx 330 (up to 25 meters per minute) and the 330 HS (up to 50 meters per minute). The web transport of the Rotoworx 330 and 330HS feature Durst's patented ISO Tensioning technology, for which Durst claims high registration accuracy (+/- 180 microns) and a repeat size from 203 mm (8 inches) to 406 mm (16 inches). The unit's die station is semi-rotary with sensing technology to electronically re-register to incoming pre-printed material, again enhancing accuracy. The semi-rotary die cutting and lamination stations are standard with the 330 and 330HS, and a UV coating module is optional for each. Durst aims to sell the Rotoworx 330 products with the Tau 150, but notes that they are available for use with other systems. Durst is new to the label converting market but it has a long heritage in inkjet printing and in finishing equipment for narrow web use.

For more information, visit www.durst.it.com.

EFI Jetrion

EFI Jetrion (Ypsilanti, MI, U.S.) displayed the Jetrion 4000 UV inkjet system, which it introduced last year, and a new, wider version called the Jetrion 4830. Both machines feature EFI's workflow, RIP technology, inks, and use Xaar 1001 piezoelectric heads. The Jetrion 4000 prints in CMYK up to 30.5 meters (100 ft) per minute at more than 1,000 dpi with grayscaling, and has a print width up to 13.9 cm (5.5 in) wide. The system also features Jetrion's UV4000 ink set and is integrated with EFI's Fiery XF RIP and XFlow software.

Figure 4: The EFI Jetrion 4000 UV Inkjet System



The Jetrion 4830 UV has a wider web width and greater linear speed than the Jetrion 4000. The Jetrion 4830 has a maximum print width of 8.3 inches (21 cm) wide, allowing 2-up 4-inch (10 cm) labels. Its maximum print speed is 120 feet per minute (36.6 meters per minute), which increases productivity significantly. The Jetrion 4830 introduction also included a related and important supplies announcement—the availability of white ink. White ink has been a limitation for digital inkjet in the label field because it is important for printing on clear and colored substrates, but until this year, white inkjet ink not been commercially available for label converting.

A final note on EFI Jetrion is that the company received the “Label Industry Award for New Innovation” at a major dinner event that began Label Expo. The award was for the Jetrion 4000UV, which has only been in the market for about a year, but has achieved placements in all regions and is a top inkjet alternative to color electrophotographic label presses.

For more information, visit www.efi.com/jetrion.

Epson

Epson (Japan) displayed the prototype of the printer that it will launch in 2010. The model on display was big (1,450 mm x 3,800 mm) and finished-looking. Published specs include:

- 720 x 720 dpi resolution on paper
- 1,440 x 720 dpi resolution on film
- 330-mm/13.3-inch web width
- 5 meters per minute print speed at 720 x 720 dpi on paper
- Substrate thickness from 4 mils to 12.6 mils

The printer uses Epson's own piezoelectric inkjet heads. Inks are in six colors (CMYK + green and orange) and use a "water-based resin" chemistry, an approach that Epson says will allow printing on a wide range of media, from matte to gloss paper as well as biaxially-orientated polypropylene (BOPP) and polyethylene terephthalate (PET).

Epson also shared its booth with Grafisk Maskinen (Birkerød, Denmark), a maker of finishing equipment and converting lines, and with Allen Datagraph (Derry, NH), which offers a tabletop CMYK label printer based on an Epson office print technology. Regarding Grafisk Maskinen, there is no official partnership, but Epson intends to offer a total solution when its color POD press is ready next year to include finishing.

Overall, the Epson booth indicated that Epson has made a true commitment to the label converting industry. Epson occupied a large space at the show, probably its biggest ever at a Label Expo. The stand was full of products from Epson or its partners. One last note is that while Epson is still only a prospective competitor in color POD label printing, it could become a big one. In particular, the company is unique in the field because it has its own piezoelectric head technology and manufacturing—from which it has built a leading role in office and wide format printing.

For more information, visit www.epson-europe.com.

HP Indigo

At its large stand in Hall 6, HP Indigo (Maastricht, the Netherlands) displayed the ws4500 (its most widely installed system) and the ws6000 (a much higher capacity system that began shipping in May of this year and has already achieved more than 50 total placements). HP estimates that the ws6000 is competitive with analog systems for print runs up to 4,000 linear meters (13,000 linear feet) because the ws4500 is estimated to produce up to 2,000 linear meters against standard analog. The HP Indigo press ws4500 and the ws6000 can be used for labels, flexible packaging, and shrink sleeve applications. In addition, the HP Indigo ws6000 Digital Press can be used for folding carton printing.

Other parts of the HP Indigo exhibit were prepress solutions from EskoArtwork, finishing systems from AB Graphic International, and HP's Business Development services. HP Indigo launched its "Smart Planner for Labels," a comprehensive estimator and business planning utility that illustrates the wide range of jobs suitable for digital production. Available free of charge to HP Indigo customers through an online portal, this job estimator tool calculates the crossover point in terms of cost between conventional and digital jobs, and also models the business impact of adding digital capacity to an existing business. The planner is an upgrade to the former HP Indigo Label Job estimator.

Two final focus points at the HP stand were media options and finishing solutions. In media, the range of supplies certified for use with HP Indigo label and packaging is expanding. So far, this includes more than 500 off-the-shelf substrates for labels, flexible packaging, shrink sleeves, and folding cartons, including specialty media that is not available for competing digital presses. More than 130 of these substrates are certified for the HP Indigo ws6000 Digital Press.

HP Indigo has preferred media partners who develop and certify media solutions to HP Indigo customers and work with HP in marketing activities to expand the label and packaging digital print market. At the show, HP Indigo announced that preferred partner agreements with label and packaging media suppliers UPM Raflatac, Avery Dennison Fasson Roll Materials, and Innovia Films have now been expanded to

include North America. In addition, HP is announcing new preferred media partner agreements with Wausau Coated Products for North America and MANTER for Europe.

In regards to finishing equipment, partner AB Graphic International (ABG) was part of the exhibit and demonstrating a new entry-level product, the digicon lite, operating along with an HP Indigo press ws4500. HP and ABG are selling the HP Indigo press ws4500 and the ABG digicon lite together as a special bundled package for converters looking to make their first step into digital production. For the HP Indigo ws6000, HP's stand displayed in-line connections to ABG digicon solutions, including a digicon varnishing unit, a digicon dual die-cutting unit, and an automatic turret rewinder. For flexible packaging applications, ABG also showed a laminator that can be used in-line or off-line as a module with ABG digicon units.

For more information, visit www.hp.com/go/indigo.

Nilpeter A/S

Nilpeter A/S (Slagelse, Denmark) showcased its Caslon single pass CMYK inkjet module, which uses UV curable inks and is based on Xaar 1001 heads. First shown in 2007, the Caslon system consists of four print bars, each with its own stitched heads (two print widths are available, so five heads are used to achieve a 330 mm/13 inch print width, or six heads can print 410 mm/16 inches). The Caslon is designed to run in-line with one or more UV flexo units, as well as foiling, varnishing, and other embellishments, and it was accordingly displayed with multiple stations at the show. Print speed ranges from 12.6 meters per minute at highest resolution (720 x 360 dpi, eight levels of grayscale) to 50.7 meters per minute at the lowest resolution (180 x 360 dpi, 8 levels of grayscale).

For more information, visit www.nilpeter.com.

Omet Srl

Omet Srl (Lecco, Italy) unveiled the X-Jet Module, which is based on Xaar 1001 heads and is designed for modular use with many configurations. The maximum print width is 420 mm or 16 inches, print speed is up to 25 meters per minute, and resolution is 360 x 360 dpi with eight levels of grayscale. Print media ranges from coated and uncoated paper to film and folding carton board. Omet partnered with Founder (Beijing, China), a print technology developer, to develop the X-Jet module, and demonstrated a multi-station line at the show. Omet is a longtime exhibitor at Label Expo and a respected supplier of analog equipment. The X-Jet, which was fully under wraps until the show began, is the company's first inkjet offering.

For more information, visit www.omet.it.

Stork Prints

Stork Prints (Boxmeer, the Netherlands) introduced its new narrow-web DSI 4330L (Digital System Integration) digital label printer. Based on Xaar 1001 heads, the DSI integrates with printing presses from various label printing press manufacturers. In addition to CMYK colors, the new printer offers in-line varnishing and die-cutting. The DSI press has a web width of 13 in (330 mm) and runs at speeds up to 35 m/min. Native print resolution is 360 dpi, with an apparent resolution of 1,000 dpi, and tonal values down to 1% can be achieved. Stork says the single pass inkjet printing module prints all the main paper and film

label substrates. The UV curing is initiated by LED lamps. Stork already has a first commercial customer for the press—Kolibri Labels in Holland.

For more information, visit www.storkprints.com.

Xaar plc

Xaar plc (Cambridge, U.K.) had only a small booth at the show, but its influence was considerable at Label Expo since eight companies exhibiting there were showing single pass inkjet presses around the 70.5 mm wide Xaar 1001 printhead. Introduced in 2007, the 1001 has a total of 1,000 nozzles (360 per inch). The printhead supports a wide range of droplet sizes (from 6 to 42 picoliters), and a wide range of viscosity (up to 50 centipoises), allowing flexibility in ink formulation and colorant use. Other keys to the success of the 1001 printhead include the recirculation of ink in the back of the nozzles, its “side shooter” design, and its grayscale capability (up to eight levels) based on XaarDOT (Dot Optimization Technology). The Xaar 1001 has successes in industrial use, with ceramic tile manufacturing being the best example.

For more information, visit www.xaar.com.

Xeikon

Xeikon (Lier, Belgium) had live demonstrations of its Xeikon 3300 at the show. The 3300 is the only 1,200 dpi resolution (four bits per spot). Other specs include: top speed of 19.2 meters per minute; print width of 322 mm (media width 330mm); monthly duty cycle of 750,000 linear meters; and five-colors (CMYK plus a choice of spot color, security toner for anti-counterfeiting, or an opaque white for the “no label” look for use on transparent material or colored substrates). The 3300 has full rotary printing technology, so converters can count on predictable print volume. Meanwhile, the 3300 also allows labels with variable repeat lengths and any size format to be printed in the same run, allowing better use of media.

At Label Expo, Xeikon showed a new extension to its digital offerings, outfitted with a large capacity unwinder, which is capable of handling larger substrate rolls. A final part of Xeikon’s emphasis at the show was the environmental friendliness of the 3300: the printer’s flexible imposition cuts waste, even compared to other digital printers—its toners are dry and the system has no volatile organic compound (VOC) emissions. Xeikon’s booth was especially busy at Label Expo, and the company was one of the main presenters at Label Expo’s seminars.

For more information, visit www.xeikon.com.

Conclusion

Label Expo 2009 gave more evidence that the collected digital vendors (electrophotographic and inkjet) have been continually increasing the run lengths at which their systems compete with analog presses. For instance, HP Indigo claims that its ws6000 is competitive with analog for runs up to 4,000 linear meters, overlapping with 80% of converters' jobs. Other inkjet vendors like Jetrion and Durst make similar claims for their own products. Regardless of the practical implications, all the signals point to rising digital capability, and a continued shift in label converting to color digital equipment.

This material is prepared specifically for clients of InfoTrends, Inc. The opinions expressed represent our interpretation and analysis of information generally available to the public or released by responsible individuals in the subject companies. We believe that the sources of information on which our material is based are reliable and we have applied our best professional judgment to the data obtained.

Appendix A: Color POD Press Suppliers at Label Expo 2009

Vendor	Technology	Notes
Agfa	Inkjet	Longtime maker of :Dotrix Modular, for use in line with analog press
ALS	Inkjet	Factory automation developer
Atlantic Zeiser	Inkjet	Veteran digital OEM for monochrome security print
CSAT	Inkjet	Veteran digital OEM for monochrome package imprinting
Delta Industrial	Inkjet	Factory automation developer
Domino	Inkjet	Top CIJ coding, addressing OEM
Durst	Inkjet	Top wide format IJ OEM, finishing equipment OEM
EFI Jetrion	Inkjet	Established color POD label press OEM
Epson	Inkjet	Major OEM for office, wide format print, proprietary piezo tech
HP Indigo	EP	Established color POD label press OEM
Nilpeter	Inkjet	Major analog press OEM
Omet	Inkjet	Major analog press OEM
Stork Prints	Inkjet	Established wide format IJ, screen printing OEM
Xeikon	EP	Established color POD label press OEM