Kodak Digital Printing Technology at Drupa 2008

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Abstract

This paper describes the major Kodak digital printing announcements at drupa 2008, as well as the positioning of these products in the marketplace.

Kodak digital printing at drupa 2008

At Drupa 2008, Kodak made several significant announcements in digital printing, as well as showing some of the key technologies that would be employed in the new products. Specifically, Kodak unveiled the new continuous inkjet technology known as the Stream concept press that has attributes that will compete with offset lithography in many major print applications.

In addition, Kodak announced the KODAK NEXPRESS S3600 Digital Production Color Press, as well as the KODAK DIGIMASTER EX300 Digital Production System.

Through the theme "Print is Powerful," Kodak spotlighted at drupa the unmatched versatility and effectiveness of print in reaching audiences and achieving results through mass, customized, and cross media campaigns. Kodak's exhibit was organized around solutions by commercial, packaging, publishing and data printing segments.

Kodak displayed its comprehensive portfolio of products and services, including electrophotographic, flexographic, and lithographic options for offset-class output, prepress products that optimize productivity and quality, KODAK Unified Workflow Solutions to enable the highest levels of production and enterprise efficiencies, and business development services that expand customers' revenue potential. The company's solutions also appeared in partner booths across two-thirds of the show's presentation halls, illustrating the breadth of Kodak's impact in the industry.

Inkjet Introductions

As a highlight of the company's drupa display, Kodak featured inkjet systems representing the company's three platforms for production printing – continuous inkjet, drop on demand (DOD) and KODAK Stream Inkjet Technology.

Kodak presented much-anticipated technology demonstrations of KODAK Stream Inkjet Technology, a continuous inkjet system that enables offset-class reliability, productivity, cost and quality with the full benefits of digital printing for high volume commercial and data printing applications. The Stream Concept Press from Kodak showed a process color system with resolution that exceeds 600 dpi at industry leading production speeds. The Stream Concept Printhead from Kodak demonstrated the speed and integration capabilities of the technology, delivering monochrome offset class VDP applications at 300 mpm (1000 fpm).

In addition, the company highlighted its KODAK VERSAMARK VT3000 Printing System, a scaleable, continuous inkjet solution that can be customized for speed, configuration and color based on unique customer needs, as well as the new KODAK VERSAMARK VL2000 Printing System, which prints process color at 600 dpi and is ideal for transactional statements, TransPromo communications, and direct mail solicitations from a "white paper in" configuration. The system was formally launched at drupa and is ideal for transactional and commercial print environments with volumes ranging from 1 million to 5 million impressions per month.

Inkjet Technology and Key Applications

KODAK Stream Inkjet Technology serves as an entrée for continuous inkjet printing into commercial printers that want the benefits of variable data, short run, personalization or versioning on their jobs traditionally produced using offset presses.

Print service providers using full color continuous inkjet technology have formerly been limited to printing on uncoated paper stock with dye water based inks or higher cost inkjet coated substrates. With KODAK Stream Inkjet Technology, both claycoated and uncoated papers can be utilized to meet the needs of commercial printers for applications like catalogs, direct mail and free standing inserts.

Kodak's drupa stand featured two technology demonstrations of KODAK Stream Inkjet Technology. The Stream Concept Press showed a system with resolution that exceeds 600 dpi at fast production speeds. Developed from the ground up as a high volume production system solution, the technology demonstration incorporates Kodak's 10 years of roll fed color inkjet experience coupled with technical expertise in print technology development, workflow, color management, and ink and media interaction.

The Stream Concept Printhead from Kodak was also on display, demonstrating the speed and integration capabilities of the technology. Capable of delivering monochrome offset class VDP applications at up to 1,000 fpm to commercial offset printers, the Stream Concept Printhead from Kodak showed Stream Inkjet Technology's potential for hybrid printing. As the first planned product with this new technology, the 4 inch Stream Concept Printhead from Kodak is designed to produce a deep, rich black at 600 dpi on glossy substrates, and to be easy to operate and service.

The KODAK VERSAMARK VT3000 Printing System is based on Kodak's traditional continuous inkjet platform. The VT3000 System is ideal for transactional and TransPromo applications and printed a transactional job live on Kodak's stand. Capable of maximum speeds of 500 feet per minute that yield up to 2,040 pages per minute, the system can produce monochrome, spot and process color printing all on the same platform.

The new KODAK VERSAMARK VL2000 Printing System utilizes piezo electric DOD print technology. It employs roll to roll operation at 600 dpi x 600 dpi and a maximum speed of 250 feet per minute at up to 18.67 inches in width, and eliminates the redundant process of printing full color shells for transactional applications.

Unified Workflow and Connectivity Solutions

Kodak introduced significant enhancements to its Unified Workflow solutions, which help users manage sales and business office services, production planning and manufacturing, color coordination and control, and data management. Major workflow announcements included: introduction of Version 5.0 of the industry-leading KODAK PRINERGY Workflow System; new KODAK COLORFLOW Software, which provides color consistency across devices with a single software; as well as new KODAK software and web to print solutions that improve communications and collaboration and speed time-to-market from job creation through final output.

COLORFLOW Software delivers Color Relationship Management that unifies all the color elements, such as ICC profiles, curves and spot color recipes, managing the relationship between them and the device print conditions. Tight integration with the workflow and between devices enables automatic updates when production variables occur or a print condition is redefined. Color control can be automated through the PRINERGY System's job process templates, a process that can be further enhanced by the sophistication of database rules based automation.

COLORFLOW Software will be fully integrated with KODAK PRINERGY Workflow System Version 5.1 and enables efficient setup of complex color workflows with an intuitive user interface that leads users through the necessary steps to ensure accurate color production. COLORFLOW Software supports open standards and has been designed to simplify the tasks of busy prepress professionals.

Able to accurately manage color on everything from displays and proofers to platesetters and presses, COLORFLOW Software takes the guesswork out of color. Users can be confident that the color specified at the beginning of the job is the color that will appear on the final product. COLORFLOW Software enables users to capitalize on one integrated solution that is part of a complete workflow, without having to pull the pieces together themselves.

Flexographic Highlights

For the fast-growing packaging industry, Kodak introduced the KODAK FLEXCEL NX Digital Flexographic System, a new way of making flexo printing plates for higher levels of print quality, productivity, and stability. In a technology shift for packaging producers and marketers, the FLEXCEL NX System provides offset class, gravure quality on a wide variety of printing substrates, including paper, flexible film, foil, label stock and folding cartons.

Electrophotographic Highlights

Within its portfolio of electrophotographic solutions, Kodak launched the KODAK NEXPRESS S3600 Digital Production Color Press, the fastest in its S-Series, with dramatically increased productivity at speeds up to 120 A4 4 or 5 color pages per minute. The new KODAK NEXPRESS S3600 Digital Production Color Press offers 7,200 sheets/hour (A4) allowing print providers to achieve a higher level of productivity to produce more jobs per hour. Bringing a new level of modularity to the digital production color market, the S3600, as well as the presses in the S-Series, offers flexible front end options, input and output accessories, unique imaging application capabilities and onsite upgradeability.

These offerings enable print providers to increase their top line and deliver new applications that yield higher margins to increase their bottom line.

Modular features of the NEXPRESS S-Class Presses include input feeder options with capacity up to 11,000 sheets, collation capability of up to five different media, and both cut sheet and roll fed paper on the same press. Output options support multiple high capacity deliveries, as well as an inline or near line booklet makers. Along with the KODAK NEXPRESS Fifth Imaging Unit Solution, a near line KODAK NEXPRESS Glossing Unit can add a high gloss finish for surface protection and varnished look.

As part of Kodak's commitment to enabling print providers to leverage their press investment and achieve a higher return on investment, NEXPRESS S-Series Presses can be upgraded onsite to increase output speed, add color imaging units and input/output options.

In addition to the S3600 Press, Kodak also introduced the KODAK NEXPRESS Intelligent Dimensional Coating Solution and the KODAK NEXPRESS Dimensional Clear Dry Ink, which allow for a raised printing effect that mirrors thermography printing.

Printed materials from NEXPRESS Presses already had market leading image quality that visually stands out from others. With the introduction of the new KODAK NEXPRESS Intelligent Dimensional Coating Solution and the KODAK NEXPRESS Dimensional Clear Dry Ink, now they stand out even further with look and feel. Intelligent Dimensional Coating and Dimensional Clear Dry Ink combine to create a raised printing effect that enables tactile effects so that images can have a dimensional feel that mimics the surface of the items in the image. For example, customers can print an image of an orange that feels like an orange or wood grain that feels like wood grain. For added versatility, users can identify specific areas of the image that are to be raised and specify variable heights.

In conjunction with the KODAK NEXPRESS Fifth Imaging Unit, this unique ink can be used on any of the wide range of substrates that the NEXPRESS Presses support, and create raised text or graphics on business cards, greeting cards, invitations, educational degrees, or direct mail and collateral.

Using this distinctive capability, the KODAK NEXPRESS Intelligent Dimensional Coating Solution helps print providers create a competitive advantage by offering a unique capability that extends digital color printing into new application areas, which enables them to differentiate themselves and take advantage of the opportunity to sell higher value print.

In black and white, Kodak previewed the KODAK DIGIMASTER EX300 Digital Production System, the fastest cut-sheet electrophotographic printer in the market, printing at a rate of 18,000 images per hour (A4). A speed upgrade module that enables the onsite upgrade of current DIGIMASTER Systems to the higher speed of 300 ppm was also announced.

The DIGIMASTER Series, including the EX300, also features expanded finishing capability with the choice of the Watkiss SpineMaster and PowerSquare 200 Booklet Maker. These devices produce professional looking booklets ranging in size from 88 pages to 200 pages and enable print providers to produce booklets with square backs and print the document's title or other information on the spine. The Watkiss PowerSquare 200

BookletMaker was featured on the DIGIMASTER Systems located in the Watkiss and Ricoh booths.

Digital Printing Plates

Kodak unveiled the next level of digital plates for high performance printing with the new KODAK ELECTRA XD Thermal Plate, exhibiting impressive prepress and on press stability for excellent resolution, run length, and color control throughout the full press run.

Summary and Update

Together, these product introductions and extensions to existing platforms further enable flexibility as customers seek to more fully exploit the benefits of digital printing. Kodak's portfolio is designed to extend from creation to effective consumption of printed products. In May 2009, the technology behind Stream was formally branded under the name of PROSPER, with the availability of the KODAK PROSPER S10 Imprinting System. Also in May 2009, Kodak announced the KODAK NEXPRESS SE Series of Digital Production Color Presses, updating the S-Series product lines with enhancements in dry ink stations, inks and other improvements.

Products listed in uppercase in this abstract are trademarks of Eastman Kodak Company.

Author Biography

Len Christopher is a Future Products Manager at Eastman Kodak Company's Digital Printing Solutions business unit.. Len is a graduate of Cal Poly, San Luis Obispo, with a degree in Graphic Communications and dual concentrations in Management and Packaging, he started his career with TRW, working on various electronic publishing and printing projects. In 1985 he joined Eastman Kodak as an Application Engineer. For the next 14 years, he held various positions from technical to sales to marketing, all focusing on the electronic publishing and printing industry. In 1999, he became the Director of Worldwide Market Planning for the Black & White Business Unit of NexPress Solutions LLC, a joint venture of Heidelberg Digital L.L.C. and Eastman Kodak Company. In 2001, he was named Vice President of Workflow Solutions for Heidelberg Digital L.L.C. In 2004 he rejoined Kodak in the digital printing solutions strategic product group.