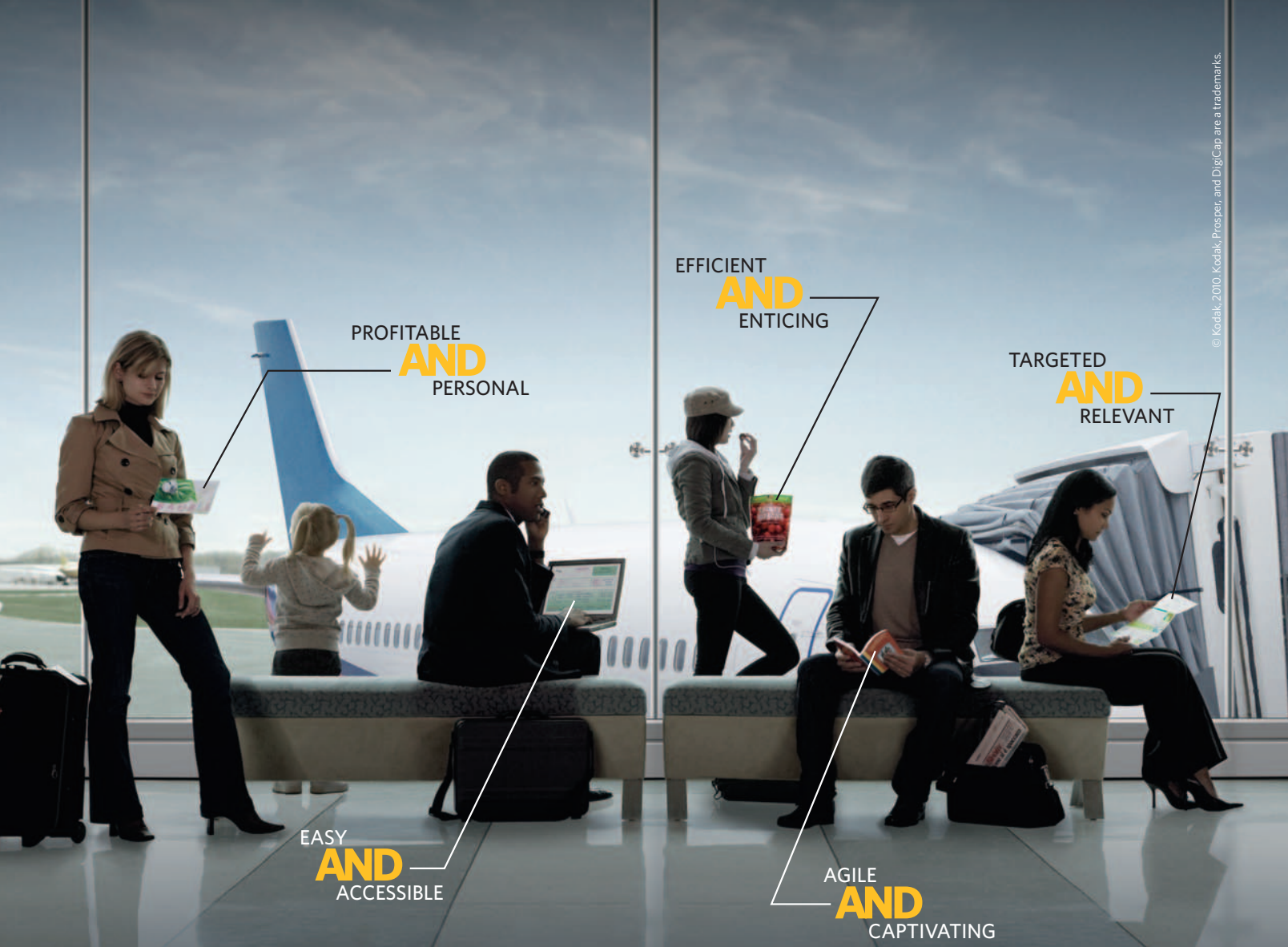
Innovative Excellence

2010 InterTech Awards



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THE PERFECT CONNECTION TAKES MORE THAN TECHNOLOGY. IT TAKES A PARTNER.

Kodak is proud to be an INTERTECH Technology Award-winning partner. When innovative thinking and next-generation technology come together great things happen. Like our KODAK PROSPER S10 Imprinting System and the KODAK DIGICAP NX Screening — breakthroughs in imaging and materials science recognized at the 2010 INTERTECH Technology Awards. An incredible source of pride for us, and undeniable proof that our customers get more than effective solutions, they gain a partner that keeps them at the forefront of the business.

It's time for you **AND** Kodak

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KODAK DIGICAP NX Screening

♦Eastman Kodak Company♦Rochester, NY♦www.graphics.kodak.com

The innovative software driven solution that is KODAK DIGICAP NX Screening uses the high resolution, 1:1 reproduction capabilities of the KODAK FLEXCEL NX Digital Flexographic System to image a superfine micro pattern across the entire imaged areas of the plate. Pattern elements are only 5 by 10 microns in size and are distributed in an even pattern across all plate elements. While tiny, the pattern results in a big a step forward in ink transfer efficiency. (See Figure 1.)

"This technology will allow flexo printers to be truly competitive on a quality level with gravure and go after the high end packaging market," commented one of the judges. Flexography is a versatile and cost effective printing process used in the packaging industry on a wide variety of substrates. This tool will facilitate the conversion of designs from gravure production to flexography and provide the opportunity for wide web flexo converter to gain new business.

Implementation is simple for the operator. Any FLEXCEL NX System (a previous InterTech recipient) can be upgraded to include DIGICAP NX Screening and prior to imaging the operator simply uses the KODAK Tiff Front End application to choose whether to have DIGICAP NX Screening applied or not applied. Powerful software routines apply algorithms to the 1-bit TIFF file and generate the unique regular pattern that is applied to all image areas of the plate with the exception of the very finest highlight dots. Despite the complexity of the calculations, the application of DIGICAP NX Screening does NOT negatively impact platemaking efficiency and the repeatability and fineness of the print. One printer noted, "Our pressman find fewer variations on press and have a very high comfort level with plate performance and ink transfer when using these plates." And another printer stated, "We have been able to achieve very high line screen for flexographic printing, while at the same time preserving all the important details in highlight and shadow."

The texturization pattern creates a surface characteristic that is significantly more conducive to efficient ink transfer and many have compared it to the principle that anilox rollers employ to deliver ink efficiently to the plate itself. One judge stated, "This technology will provide a more predictable and controllable process with good transfer of ink to the substrate." Another noted, "This is now a problem that has been solved." In addition to improvement in the smoothness of ink laydown, density increases have been measured on the prints produced with KODAK FLEXCEL NX Digital Flexographic Plates with DIGICAP NX Screening applied. The judges were very impressed with the samples that were provided with the InterTech entry packet.

DIGICAP NX Screening is breakthrough technology that increases ink density with no increase in ink usage and FLEXCEL NX System users are using it to great effect to take their flexo printing to the next level, win business from gravure, and enjoy production efficiencies in printing that are keeping them competitive. Noted John Fisher, Production Director at Ultimate Packaging, "This is probably the biggest technology advancement I have seen in the market in the last ten years. Our customers are telling us how much more vibrant and clean their jobs look, and the efficiency gained from improved color reproduction is making our facility more productive."

A favorable return on investment with the DIGICAP NX Screening for the FLEXCEL NX System occurs for several reasons.

First, it is a tool to facilitate conversion of designs from gravure production to flexography. The lower production costs and shorter turnaround times associated with flexography make the transition extremely compelling for brand owners and print buyers. This provides significant opportunity for the wide web flexo converter to gain new business and for consumer product companies to reduce their production costs.

Second, it is a tool to improve the quality and efficiency of current flexographic production. The power of DIGICAP NX Screening is such

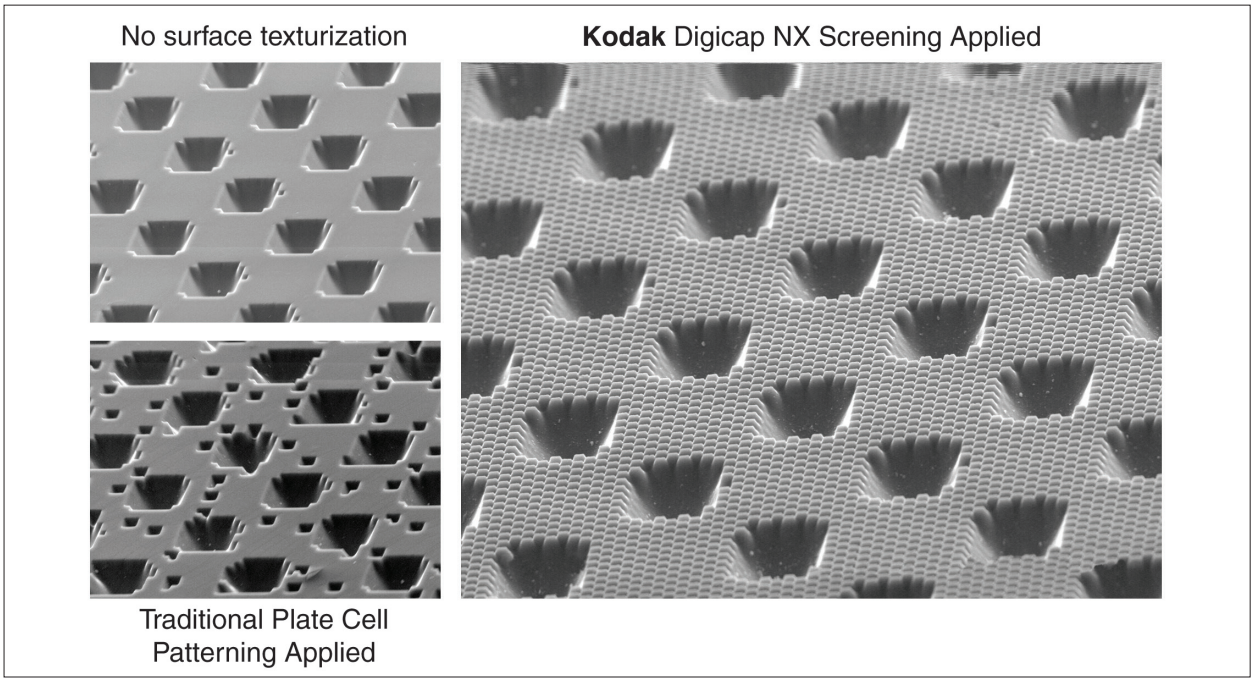

Figure 1. KODAK DIGICAP NX Screening.

that users are reporting benefits with no increased ink usage. And while this might seem counterintuitive it is indeed what happens in practice. The secret lies in the smoothness of the ink coverage and the absence of voids (the main factor that reduces measured ink density)—the result is no increase in ink laydown but print densities that read considerably higher.

In addition to the stability of ink laydown and increased color gamut that results from increasing ink density throughout the full tonal range allows flexographic printers to do more with four color process printing and reduce the number of special colors used. Fewer colors means fewer plates, reduced ink costs, faster set up times and greater press efficiency. Wide web flexo printers using the DIGICAP NX Screening technology for the FLEXCEL NX System are regularly enabling designs to be printed with fewer colors, typically reducing from seven or eight colors down to four or five.

The Center for Technology and Research

ISO 2846 Ink Verification: The Center for Technology and Research at Printing Industries of America offers ISO 2846 ink conformance testing. This testing determines whether ink meets specifications for color and transparency. In fact, our staff played an instrumental role in developing this ISO standard. Why should a printer be concerned with ISO 2846? First, printers purchasing inks meeting the standard can be confident that they will perform predictably and consistently. Also, ISO 12647 and G7® quality practices require ISO 2846-compliant ink sets. All types of lithographic, flexographic, and gravure inks can be evaluated for ISO 2846 conformance. Manufacturers submitting inks determined to be verified receive special perks like a logo, certificate, and inclusion in our online directory. This is the number one location worldwide to identify ISO 2846 conforming inks.

For more information about the Center for Technology and Research visit www.printing.org/ISO2846 or call 800-910-4283 ext. 770.

KODAK PROSPER S10 Imprinting Systems

♦Eastman Kodak Company♦Rochester, NY♦800-944-6171♦www.graphics.kodak.com

With the use of innovative head technology, KODAK PROSPER S10 Imprinting System is able to offer an unprecedented combination of image quality, high productivity with consistent reliability and economical cost of operation. The ability to integrate this technology into a variety of web offset presses and web finishing equipment allows commercial printers to leverage their existing assets, grow new markets and gain higher value for direct marketing jobs. Noted a direct marketing printer, "We are able to deliver offset level, variable-data printing to help our customers differentiate their marketing campaigns." (See Figure 1.)

The KODAK Prosper S10 Imprinting System now features:

Offset Class Quality. Offering 600×600 dpi resolution on a variety of commodity, matte, and gloss coated offset stocks, this technology allows for offset class imprinting in-line for higher value jobs not deemed acceptable in the past for continuous inkjet technology. One of the judges noted, "The S10 allows the web offset printer to go variable in-line at press speeds which makes the printer very competitive."

Unparalleled in-line speed. At 1000 fpm the PROSPER S10 Imprinting System is the fastest inline imprinting system at high resolution 600×600 dpi. With the Stream Inkjet Technology employed in the S10, there is no image degradation with faster speeds. "Managing the interaction between the paper and ink drying at these high speeds and this resolution is a huge advancement," noted one customer. That means 600×600 dpi resolution can be obtained at 50 fpm and 1000 fpm. One printer noted, "One of the things we really like about the S10 is that it is easy to move from press to press as needed, which gives us a great deal of flexibility."

Flexible integration. The ability to mount in-line to a variety of web offset presses and in-line finishing equipment arrangements allows a commercial printer to leverage the value of their existing press investments, while being able to offer variable-data printing in their direct marketing printing campaigns at a cost cheaper than roll fed laser. The PROSPER S10 Imprinting System allows for supply chain savings due to a one step versus two or more step printing process. Noted another printer, "By adding digital printing technology in-line with our web devices we are able to maximize the use of our existing equipment."

Darrin Wilen, president, Wilen Direct of Farmingdale, New York, discussed the KODAK PROSPER S10 solution's flexibility and the advantages when using variable data or versioning on printed pieces stating, "The S10 has delivered the speed and quality we demand, keeping up easily with our existing offset presses. We really liked the flexibility to move the S10 from press to press. Without a doubt, we've seen a dramatic increase in effectiveness of print through the S10's personalization capability. We are producing direct mail up to 40 percent faster and at a quarter of the price than our other digital print solutions."

Micro-Milled Pigment Inks. KODAK PROSPER S10 Imprinting Systems utilize Kodak's Stream Inkjet Technology, which allows for the first time, the use of Kodak's proprietary micro-milled pigment inks. The proprietary particle size of these micro-milled pigment inks offer high runnability and jetting module life. It also allows for printing on gloss coated commercial offset paper stocks with waterfastness, permanence, and print durability.

Figure 1. KODAK PROSPER S10 Imprinting System.

Continued commitment to modularity and scalability. The KODAK PROSPER S10 Imprinting System connects to the existing KODAK VERSAMARK CS410 controller and is able to run other KODAK VERSAMARK D- Series imprinting heads from the same controller inline.

The Center for Technology and Research

Digital Production Assessments: Digital Production Assessments (DPA) provide a basis for recommendations and a road map for focusing on improving productivity, raising quality, shrinking waste, and trimming downtime in operations. It is a comprehensive evaluation of digital printing operations conducted by our experienced consultants and staff. The scope of a DPA is to determine the current state of production operations, effectiveness of methods and procedures, equipment conditions, process performance, and quality output.The DPA process follows a defined and unbiased methodology to reveal the true current state of a digital production operation, including:

- Identifying and defining issues and requirements
- Examining and confirming current business goals, production and process capabilities, procedures, and issues through measure of key processes, personal observations, and examination of workflow and process performance
- Analyzing assessment findings, comparing them to industry benchmarks, best practices, and manufacturer specifications
- Utilizing troubleshooting methodology to discover root causes of technical and operational problems
- Customizing improvements and solutions to integrate into current processes and workflow and improve a company's overall efficiency and profitability
- Recommending courses of action for process improvements, implementing controls, and establishing effective standards

For more information about the Center for Technology and Research visit www.printing.org/dpa or call 800-910-4283 ext. 770.

Award Candidates

KODAK NEXPRESS SE Digital Production Color Platform

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With the introduction of the KODAK NEXPRESS SE Series of Digital Production Color Presses Kodak is delivering ground-breaking productivity, quality, and reliability to help print providers grow their top and bottom lines. From compatibility with the latest PDF standards to seamless integration when implementing variable-data printing (VDP) capabilities, the KODAK NEXPRESS Front End improves file processing significantly. The SE Platform now features:

Closed-loop calibration system. Five minutes is all it takes to analyze output and feed critical data back to the system for closed-loop color calibration to optimize quality with minimal downtime. The unique Intelligent Calibration System (ICS) automates the process of checking and maintaining print uniformity.

Enhanced dry inks and developers. Newly reformulated Enhanced Dry Ink and Developers provide vibrant colors and consistent spot color matching, smooth flat fields and gradients, and the unique ability to match the ink gloss level to the substrate being printed for consistently high-image quality with reduced print waste, optimizing running costs.

Unsurpassed Productivity. The SE3600 Digital Color Production Press is the only sheetfed press to offer unconstrained 3,600 A3 oversized sheets per hour (120 ppm performance). The SE Platform offers the first front-end in the market with the Adobe PDF Print Engine 2 for higher productivity and seamless integration. The ICS extends the life of parts, which increases uptime. Award winning technology enables the presses to print four and five colors on more than 600 substrates at rated speed.

Expansion of application possibilities: Kodak continues to expand the number of possible applications with the addition of Red Fluorescing Dry Ink. This innovative dry ink is nearly invisible when printed, but when illuminated by an inexpensive ultraviolet light, the print becomes visible. It's ideal for providing counterfeiting security for ticketing and packaging, printing nearly invisible 2-D bar codes, and tracking personalized job streams.

Continued commitment to modularity and scalability. The SE Press technology is backward compatible, enabling owners to benefit from the latest advancements without the need to replace their press.

Kodak ColorFlow Software

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KODAK COLORFLOW Software improves color performance and stability on press while reducing the time and costs of color management—adding the economies of ink optimization.

The software improves color performance in the great majority of circumstances, for the majority of printers, trade shops, and publishers. It provides comprehensive and easy-to-use color tools, and integrates with KODAK PRINERGY Workflows, (for conventional and digital presses) for automated color management and improved consistency with little or no operator intervention.

COLORFLOW Software is based on a color engine developed with Kodak's color expertise. It unifies color curves, ICC profiles and Device Link profiles in a single application, it aligns color across various input and output devices, and it applies unique gray-balance color control algorithms for a balanced color match in less time.

It can be integrated with KODAK PRINERGY Workflow, so that its color curves and Smart CMM technology can be applied automatically within an automated workflow. The system can intelligently guide operators to appropriate device choices. For example, if an operator wishes to run a proof of a print job that uses an extended color set, the system will only present a selection of proofers that are capable of matching the extended colors.

COLORFLOW Software presents a new, economical solution to the complex challenges of color management. It helps graphics arts professionals achieve a new level of consistency across devices and through changing combinations of inks, print stocks, and international standards. In addition, it provides ink savings and flexibility with ink optimization options.