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Xerox Demonstrates Innovative Production Inkjet Technology, Precisely Controlling Two Billion Ink Drops Every Second

Patented ink technology delivers vivid image quality on low cost, plain papers



BIRMINGHAM, U.K. – Xerox Corporation (NYSE: XRX) will highlight the power of “supercharged” continuous feed production at [IPEX 2010](#), this year’s largest print industry trade show, with a preview of its high speed production inkjet technology.

Driving the inkjet device are 56 durable piezo-electric, drop-on-demand print heads with more than 49,000 nozzles jetting nearly two billion ink drops per second. Each drop hits the paper with precise pixel placement as the printer produces more than 2,000 color images per minute. This technology is designed to produce high impact color on low cost papers with close-loop controls to deliver exceptional reliability and performance needed in production printing environments.

“Xerox has long been recognized as a leader in toner-based technologies for [graphic communications](#), and now it is investing in applying its significant cache of inkjet technologies and intellectual property to meet the needs of production users,” said Jim Hamilton, group director, InfoTrends’ Production Hardware Consulting Services.

Vivid image quality on low cost papers

The technology can produce up to 500 feet, or 152.4 meters, per minute – on lighter weight papers, saving print providers money and conserving an estimated 2,000 trees per year.

Xerox production inkjet technology delivers vivid image quality on low cost, untreated papers without any special coatings or bonding agents. This is enabled by high-speed, ground-breaking capabilities that include a sensor to precisely control every inkjet nozzle on the fly, automatically compensating for any jets that misfire.

“This digital production technology is a marvel of research and engineering, and an example of how our unique differentiated ink technology can address the needs of production customers,” said [Sophie Vandebroek](#), Xerox’s chief technology officer and president of the [Xerox Innovation Group](#).

Innovations inside

The technology features innovations based on more than 2,000 patents developed by researchers and scientists inside Xerox labs in Wilsonville, Ore., Toronto and Webster, N.Y. The innovations include:

- **Robust print head design** – A proven technology, Xerox has manufactured more than one million print heads to date. The stainless steel print head is about the size of two decks of cards yet contains 880 microscopic nozzles – each half the width of a human hair. The print head design allows for a modular approach to achieve full-width printing – up to a maximum of 20.5". The 56 print heads are stitched together to achieve high speed, four color, 600 dpi prints.
- **New Image On Web Array (IOWA) sensor** – At the core of Xerox’s unique technology is the sensor that scans the billions of droplets per second to ensure they appear exactly where they need to be. An intelligent scan bar registers each print head and automatically adjusts alignment when necessary. Unlike competitive inkjet systems that slow production by requiring operator maintenance, the IOWA sensor can detect when a page is missing the appropriate amount of color, and autocorrects to maintain color uniformity without interrupting the print job.
- **Production inks** – The technology uses a patented, granulated, resin-based formulation that does not soak through the paper, ensuring crisp image quality on low cost, untreated and uncoated plain papers. Aqueous or water-based inks often suffer from bleed-through and dull color issues, which usually require more expensive and specially-treated papers. The formulation of the ink also enables document de-inking, difficult to achieve with other inks. Xerox’s production inkjet technology is the only one without applying costly pre-coating materials to the paper to receive the highest de-inkability rating - “Good” - from INGEDE, a group of leading European paper manufacturers representing the International Association of the Deinking Industry.

The Xerox production inkjet technology demonstration will take place in the Xerox stand at IPEX 2010, Hall 7, May 18-25 in Birmingham, U.K.

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