

DIGITAL EVERYTHING? 10001010010

Have you noticed the word digital popping up all over? Digital this, digital that. Digital computers, phones, camcorders, copiers, games, printers, e-books, HDTV, CD & DVD, DTS, www, web, .coms, .nets, .orgs, MP3, Bluetooth wireless networking, GPS, e-mail, PDA, etc, etc. Digital technology is truly impacting on virtually everything. We have to be in the digital stage of the electronic age. When we consider printing, digital technology is impacting in almost every area. It's said that we will see a parade of "direct to" technologies, and we are seeing just that. We're seeing a relentless movement of digital technology into the print industry.

Two such areas that are rushing toward full commercialization are (CTP) computer-to-plate and the digital press. A digital press has been defined as a fast, on demand, color printer.

Currently, we have direct-digital printing and digital offset. In digital offset, the plate (usually metal or polyester) is digitally imaged on press, and printing is accomplished in the traditional offset manner of ink - to plate - to blanket - to substrate. In direct-digital, what we have is a "plate-less" printing process where imaging is done directly to the substrate with no plate involved.

One of the most attractive aspects of digital is the ability to eliminate the traditional prepress process and move art files, computer created by the customer, directly to the printing press without time consuming steps including setup. Quicker job turn-around is the payoff to omitting traditional prepress. Additionally any prepress changes can be implemented quickly and easily. Ingeniously, a last minute color or even a design change can be made almost without penalty. Those of you with computers do it all the time. Think about it. You just open up a page layout program, a particular file, make changes, and zap the file to your printer.

Another great attraction to the digital printing press is its variable data capability. Look what you can do! You can customize the queue of the press input. This stages the press to print the job customizing for customer name, face, message, you name it, the possibilities are endless.

From a marketing viewpoint, this is where we want to go and where we want to be. More variation directed precisely and directly to the targeted consumer. Know your consumer through the infinite information gathering resources that abound today and direct your products to him, personalized to target immediate satisfaction and a sales result.

Proofing with digital printing is as easy as producing the first print. The first print is the proof. If approved, just start the press and print. If not okay, just take a small electronic step back to the computer, make an adjustment or change and move to print right now.

Once up and running other advantages are quickly apparent. Consistency and quality that is predictable are in the forefront. Reality in digital printing is that the job can't move out of register, dot gain is not an issue to be considered, nor is impression pressure. The result is that there should be little, if any, waste to contend with.

Speed is presently a disadvantage of direct digital printing, although speeds will be improved with time. One technology offered by Indigo is said to be limited to about 24 feet per minute, while Xeikon prints at about 48 ft per minute. This may be contrasted to flexo narrow web printing speeds of up to 500 and even 750 feet per minute and sheetfed offset with speeds of 15,000 sheets per hour equating to about 650 feet per minute.

Nevertheless, direct-digital printing is already a force to be reckoned with and speeds will be increased as the digital age roars on. Aside from speed, direct-digital inks are very expensive, however, these too will become more competitive with a maturing technology.

What about coatings and varnishes? The same rules will apply as do now to all forms of printing. Inks will require protection. Abrasion resistance and resistance to other exposures will be sought. Gloss will sell product and matte and satin finishes will attract too. Digital presses will offer the capability to coat for print protection and consumer attraction.

The present limitations of direct-digital printing will presumably restrict the process to niche market penetration for now, but look out, the potential is there for enormous growth. Furthermore, as some point out, Moore's law of computing will apply to direct-digital printing, meaning that data processing power will double and costs will be halved every 18 months.

Some defining digital technology terms:

Bitmap image: An image composed of individual dots or pixels, in a grid-like pattern.

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Color Management System (CMS): A term describing software used to increase color accuracy and consistency between scanners, displays and printers.

Digital Press: A plateless high quality printer that prints directly from digital files.

DPI: "Dot per inch"; measurement that defines the density of display.

EPS (Encapsulated PostScript): A digital data file format used to transport and place data and graphics onto page layout programs.

Halftone: A conversion of a continuous tone image to inter-mixed ink dots in printing.

Ink-jet printer: A printer in which small nozzles spray digital data controlled amounts of cyan, magenta, yellow and black inks.

Mass customization: The use of variable-data capability in digital printing to reach vast audiences with a specific custom message.

One-to-One marketing: A term describing the ability to direct different offers to different customers based on purchase history data.

PDF (Portable Document Format): A PostScript based page & document description language that is designed to be viewed or printed from a supported computer platform to a PostScript printer.

Personalization: A term describing the ability to specify direct mail with individual person name, address and other consumer specifics.

PostScript: Page description language where-in software & printer driver instructions direct a printer to describe the page to be outputted.

PostScript file: A file describing a printed page that is sent to a disk instead of a printer from where it can be downloaded and printed.

Raster Image Processor (RIP): The conversion of image information from virtual objects in PostScript language into

dots for printing. Software or hardware performing this process is called rastering.

Resolution: Describes image output quality in either DPI referring to the number of laser spots/pixels per inch or LPI (lines per inch), which is the number of rows of dots per inch in a printed halftone image.

Spot size: The smallest element marked onto a printed page. (DPI refers to the size of the matrix in which these spots are imaged.)

Variable information printing: A print run where each page may have a different customer specific information database linked to a digital print engine.

Wide format printer: A printer that can print images larger than standard letter or legal size which may range up to billboard size.

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