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# Spindrift

...Scavenging The Graphic Arts Industry Since April 2003

News Focus • Opinion  
Reviews • Techno-Babble  
Attitude

Volume 5, Number 3  
5th June, 2007

**Pizzazz** • *noun* informal a combination of vitality and style

– From the Compact Oxford English Dictionary

## Dear Reader,

The last couple of months have been extraordinarily busy, mostly because of the high number of industry events going on. Many of these were privately organised for the direct benefit of people investing in printing and publishing technologies, and by far the higher proportion focused on digital output. This tells us two things: obviously digital printing is come of age and swarming into traditional print territories, from transactional print to signage. But rather less apparent is the new competitor facing organisers of commercial trade fairs: their own customers.

Océ, Canon, HP and Xerox all spent small fortunes this Spring to stage their own highly focused, totally controlled and supremely well-executed events. They pulled them off with considerable pizzazz, even a certain chicness particularly in the case of Canon and HP. All created the type of atmosphere that's simply impossible to create at conventional shows, and the influence of comfort and convenience on potential buyers can never be matched at a commercial trade fair. Conventional shows are painful, vexatious and extremely expensive. Taking away the pain and hassle is highly conducive to a positive, spending mood. For the hosts, not having to pay event organisers their income factor gives them the room to spend much more on their customers.

Commercial exhibition companies will soon find themselves competing with private events for show budgets. They will find they need to do much more to take the pain out of participating in their events. There are plenty of options, from lower prices for exhibitors to deals with travel and accommodation providers, so maybe there's a time coming when we look forward to industry trade fairs with pleasure instead of dread. The success and positive economics of private exhibitions could be just the spur.

Enjoy!

**Laurel, Nesson, Paul and Todd**

## In This Issue

### ***Ghent PDF Workgroup increase activities***

The Ghent Workgroup has gained a well deserved reputation for making sense out of the various PDF/X standards. Paul Lindström takes a look at the work of this group and its various sub-committees, and explains some of the upcoming PDF/X standards.

***see page 11***

### ***Kodak Colorflow Technology***

Despite the advances in colour management, there are still considerable challenges in working with colour. Laurel Brunner looks at how Kodak is meeting these challenges with its Colorflow technology. This is a set of technologies, based on open industry standards, which can be shared across Kodak's products, but to make Colorflow really work Kodak will need to appeal to other vendors to work with it.

***see page 15***

### ***All roads lead from Rome***

Laurel Brunner braved one of the more bizarre hotels on the conference circuit, built in a dingy field so far outside of Rome that none of the taxi drivers had ever heard of it, in order to attend the Xerox Forum. And then she went back to the same venue two weeks later for HP's Graphic Arts Summit.

***see page 20***

## Regular Columns

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# News Focus

**Screen** has launched two inkjet printing systems for industrial printing applications, reinforcing the company's commitment to this market. The two machines are the Truepress Jet650UV, aimed at industrial printing, and the Truepress Jet2500UV, designed for large format output, up to 2500mm. Top speed for the latter is almost 70 square metres per hour and it can print up to seven colours. Like Screen's Truepress Jet520, these new machines use grayscale heads. The Truepress Jet2500UV is due for release at the end of the year.

**HP Indigo** has launched two new presses, the HP Indigo 5500 press and the entry-level HP Indigo press 3500. The company has also introduced its first branded finishing accessory, the HP Indigo UV Coater, and a process colour device for OEMs, the HP mPrinter 1700c. On the large format side, there's a new Designjet T printer series for CAD and technical applications, and the HP Designjet Z6100 printer series for high quality large format output. See our feature story on page 20 for details.

**Highwater Designs** has introduced a new 8-up violet platesetter. The Cobra 8 images up to 16 plates per hour and costs less than €75,000.

**Esko** has acquired Stonecube Ltd, developers of dynamic print visualisation software including Print Devizor, for an undisclosed amount. Esko Visualiser based on Stonecube technology has been released at the same time. This technology combines Esko's design and Stonecube's rendering technologies for better collaboration between brand owners, designers and packaging producers. Esko Visualiser is a new component for Esko Software Suite 7.

**Goss International** has recorded its third consecutive year of sales and earnings growth. Sales in 2006 of its web offset presses, print finishing systems and support services totaled \$1.14bn. Pre-tax earnings were \$61m, and each of the company's worldwide operating entities achieved profitability.

**Presstek Inc.** has reported a fall in first quarter 2007 revenues, compared to the same period last year. Consolidated revenue for Q1 2007 was \$65.2m, compared to \$67.3m for Q1 of 2006. Presstek sold 15 52DI direct imaging presses in the first quarter and according to its chairman, John Dreyer, the financial results were "clouded by unusual events" which included "refinement in freight cost estimates" which we think is American for higher than expected transport costs, as well as incremental audit and legal costs related to the company's delayed filing of important forms to US authorities.

Having filed this 10-K form, Presstek also reported a 25 percent increase in 2006 shipments of its Direct Imaging presses over the previous year and a 72 percent increase in DI equipment revenue over 2005. Presstek shipped 244 DI presses in 2006, and more than 3,000 of its DI presses are now installed worldwide.

**AVT Ltd.**, providers of automatic optical inspection and quality assurance technologies for presses, completed Q1 2007 with sales up 15% at \$7.8m, compared to \$6.8m for Q1 2006. Q1 2007 profitability was up 24.7% at \$1.53m and order bookings for Q1 2007 sharply up at \$10.04m, an increase of 55% over Q1 2006. AVT's order backlog as of 31st March 2007 was \$11.67m.

**Global Graphics** has launched version 1.1 of the Harlequin Host Renderer Software Development Kit (SDK), a collection of components for developers to build printer drivers and rendering tools for raster devices

## Spindrift

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▼ such as screens, printers, platesetters and digital presses. Version 1.1 adds native support for PostScript and PDF processing to the XPS support released in version 1.0.

**Markzware** has filed a lawsuit against Enfocus, alleging infringements of its preflighting technology. The lawsuit alleges that products manufactured and sold by the defendants infringe upon the Markzware U.S. Patent No. 5,963,641 for a 'Device and method for examining, verifying, correcting and approving electronic documents prior to printing, transmission or recording.' The lawsuit names Enfocus Software Inc in California, as well as its Belgian parent company Artwork Systems NV and Artwork Systems Group NV.

**Kodak** has launched Security Solutions, a suite of products and services designed to help protect against the growing problem of counterfeiting and piracy. It includes the Kodak Traceless System, a technology first shown off by Creo some years ago. This uses a combination of proprietary markers and handheld readers to create items with unique material properties that can only be detected using Kodak's reading technologies. These items can be mixed with inks, toners, varnishes and other materials for analog and digital printing, as well as paper pulp, plastics, powders, pigments, liquids and textiles, giving a security tag that is built into the final product and cannot be faked, removed or tampered with.

**Adobe** has launched a PostScript driver for Windows Vista. It is expected to ship to Adobe OEM printing partners in July 2007.

**Agfa Graphics** has announced that the Adobe PDF Print Engine RIP technology will be incorporated into version 4.0 of its ApogeeX workflow, due out in June. This will make it possible for Apogee users to render PDF files natively throughout the workflow. ApogeeX 4.0 will also have enhanced JDF integration capabilities to support other aspects of print production including MIS, presses and finishing equipment.

**Gradual Software** is working with DevZeroG to automate web-based job submission and data distribution to and from Gradual's Switch products. The collaboration has produced a range of Switch sample workflows and scripts that integrate with DevZeroG's web-to-print technology which includes tools for checking and fixing PDF files, collecting XMP metadata from clients and routing jobs for further processing with Powerswitch.

**Xerox** scientists have found a way to expand the palette of colours for highlight colour printers. The blending of primary colours for these printers has been limited by their composition. All of these colours have the same basic properties, but the different characteristics of the chemical elements involved means they tend to vary slightly, so it's been difficult to mix primary colours and get predictable results. However Xerox scientists have found a way to control the behaviour of colours in order to expand the palette to blend a rainbow of custom colours. These colours are initially available on the Xerox Docutech 128, 155 and 180 highlight colour printers, with red, green, blue, cyan, magenta, yellow, black and clear available for mixing, to match over 1,000 colours. The technology is being applied with conventional toner in the Docutech range and is planned for other Xerox toner technologies as well.

**Alwan Color Expertise** and **Perfect Proof** are collaborating to integrate Alwan's preflighting, standardisation and optimisation colour technologies within Perfect Proof's Proofmaster software suite for digital proofing, printing and cutting.

**EFI** has launched Fiery Central, a PDF-based production workflow solution based on its Fiery digital print server technology. Designed to increase job volume, decrease turnaround times and maximize equipment investment, Fiery Central is designed for print service providers in medium to high-volume print-on-demand environments.

EFI has also launched EFI Colorproof XF for Flexo, a proofing and large format production system for packaging applications. It is based on the latest Colorproof XF technology, with features for the packaging industry and output options up to 44ins.

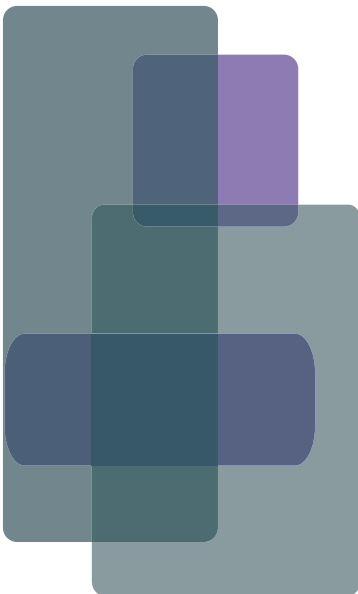
**Meadows Publishing Solutions** (MPS) today announced the release of its Autoprice software for QuarkX-Press 7.0 for the Macintosh. Autoprice links page layout documents to any external database and is used for catalogue applications to streamline price updates and versioning in catalogue pages.

**The World Association of Newspapers** (WAN) has published its latest title *World Digital Media Trends*, which collects the latest digital media data and forecasts into a single publication. The report is a companion to WAN's annual *World Press Trends* publication, and explores global and regional trends in media usage patterns and revenue

▼ generation for digital media in comparison to other media.

According to WAN's provisional data, global newspaper circulation rose nearly 2% in 2006 and the number of newspaper titles increased significantly. Paid-for newspaper circulation went up 1.9% year-on-year to more than 510 million paid-for copies in 2006. The number of new paid-for titles grew to more than 11,000 for the first time in history. These preliminary figures are based on data gathered from more than 200 countries and territories for WAN's annual *World Press Trends* survey to be published shortly.

**The European Union** is inviting students throughout the EU to enter the 2007 *Breaking Stereotypes* photo competition. There is prize money of €9000 on offer and winning entries will be printed on flyers to help spread the message of "For Diversity, Against Discrimination". Any student studying photography, fine art, graphic design and related disciplines can enter. Entries close at the end of June and further details are available on [www.stop-discrimination.info](http://www.stop-discrimination.info).



# Say What?

*(Iffy Writing Award Presented in the Ether for Obfuscation, Confusion, Misinformation or All Out Pretentiousness)*

*We just had to take issue with the annoyingly-named 'ecolope'. No prizes for guessing that it's an environmentally-friendly envelope. Now, we salute any and all eco-friendly initiatives, but it's not exactly rocket science. Even if, as Nigel Harper, managing director of Bespoke Envelopes Direct, tells us the envelopes in question are made with "post-consumer recycled waste paper". We wondered if this was a post modern version of recycled paper.*

*Still, looking on the bright side most of us are likely to be spared the dubious benefits of the ecolope, as its distribution appears to be restricted to Kent in the UK, with Mr Harper trumpeting: "One major environmental advantage that we have over our European competition, is that we can do all of this from our south of England base, without leaving a trail of CO<sub>2</sub> across the European Community." Which would seem to rule out any plans for expansion of the brand to the rest of the UK and Europe?*

# Acrobites

*(Something to get your teeth into)*

## Creo VPS

Originally invented by Scitex, the Virtual Printing Specification is a variable data format based on PostScript. Creo, under the Kodak wing, is now its guardian and responsible for VPS's continued development. VPS is special because it can specify repeated elements, as well as the variable data ones. In other words static data is treated as such, rather than as a repeated variable component. This allows output devices to print closer to rated speed because the static data only has to be downloaded once.

## TFT

Thin Film Transistors are used in LCD flat panel displays. Up to four transistors control each pixel on the screen. TFT is one of three means of sending a signal to the cells

in an LCD. The most common is direct addressing which is used in calculators and digital watches, where one signal controls one element. A multiplexed interface has one signal controlling many elements through a matrix of wires. TFT also sends a separate signal to each pixel, however in an active matrix display each pixel is frequently refreshed so that it can hold a charge and display data in real time, even across a very large area.

# Boomerangs

*(Your feedback fed back)*

**From:** Michael Mittelhaus

**Sent:** 14 May 2007 13:19

**To:** Laurel Brunner [lb@digitaldots.org]

**Subject:** Peter Camps letter regarding JDF

Dear Laurel

I thought that Peter Camps letter regarding JDF was one of the most amazing comments on this topic I've seen for the last two years.

In fact, Peter's describing the current reality, as many production topics and especially transaction areas are (not yet) covered by JDF. And in fact, CIP4 seems to have no intention to try to do so; AdsML is a good example for this. CIP4 has no intention to compete with AdsML but is ready to adapt AdsML files and interface them with JDF-ready production systems.

In another area, book production, the Finnish booksXML projects have shown in a different direction: The proposal is for an adaption of the missing book-describing terms into the next version of JDF and so is the proposal for add-ons to the Print Talk specification; hopefully this will be achieved with the next spec versions, JDF 1.4 and Print Talk 1.3 respectively.

Being active now for the fifth year in active JDF implementations at press shops and just returned from a publishers conference in Berlin (with John Peacock from McMillan participating) my analysis why publishers yet are not ac-

▼  
tively pushing JDF is a different one: First of all, publishers (and press shops) have still a lot to do, to streamline their internal production workflows, so 'external' workflows come second. In this even standardization is not completed amongst publishers, book publisher e.g. are still undecided whether to use ONIX or XBITS for book description.

The other thing is, that even for internal streamlining most companies have great difficulties to understand a workflow beyond the borders of just one department. Thus it is even more difficult to think beyond the borders of their own shop - which I think is one of the real points behind the non-existing adoption rate of JDF by publishers.

And finally, another quite simple point: JDF as yet is mostly focussed on the internal workflow of press shops - so why should a publisher try to 'think JDF'?

I totally agree with Peter's conclusion, it does not need to be JDF everywhere, any kind of XML may be helpful as well - but is there much of an adoption of XML by publishers to organize external workflows ?

*Dear Michael,*

*Thanks for your email. I'm glad you've been amazed by Peter Camps' letter! My understanding is that the AdsML people are focusing on commercial transaction data management, rather than production. As for book production and the Print Talk specification, I think this needs counterpart activities for digital printing in order to be really useful.*

*To answer your question on XML, I think this has to come in order to encourage print on demand, especially in the book business.*

*Thanks for getting in touch.*

*-Laurel.*



*Following our Expandocs on the new Xerox Nuvera 288, Xerox engineers have clarified how the new machine differs from Océ's Gemini technology. This email was forwarded to us by Xerox's extremely efficient PR people.*

**From:** van Kersen, Mathijs

**Sent:** 10 May 2007 13:19

**To:** Corbishley, Robert

**Cc:** Edwards, Jonathan

**Subject:** RE: Spindrift - Vol 5, No.2 - Nuvera 288 DPS

Robert,

The technology difference between the Nuvera 288 and the Océ Gemini technology are indeed quite significant.

As stated in the article the system is a tandem architecture. In essence the Nuvera 288 consists of two fully functional print engines. These engines are controlled by sophisticated software that keeps both engines in constant sync. At full production both engines are used to print the front and the back of a page. That way we reach 288 A4 images per minute. In simplex only one engine is used printing at 144 pages per minute.

The difference lies in the benefit of this system. Since both engines are fully functional it is possible to bypass one of the engines in case of an error or defect called Pass Through Programming. In fact in 60-70% of typical printer failures Pass through Programming can be enabled. When enabled the printer will bypass the engine with the failure, while maintaining full functionality on the other engine, including printing duplex. Since one engine is not printing, the duplex speed will be 144 images per minute. Any other cut sheet system on the market today will be down 100% and need to wait for the engineer to fix the problem. Needless to say this has a huge positive impact on productivity and uptime of the Nuvera Digital Perfecting System.

Specific for the Océ Gemini technology, this system is printing front and back of the page in one pass much like the Nuvera Digital Perfecting System. However, due to its design, when a failure occurs the system needs to shut-

▼  
down completely and need to wait for an engineer. The printer lacks a duplex path like in each of the Nuvera engines making it impossible for the Gemini technology to deliver this functionality.

As it is already clearly stated in the article the second biggest difference is all around the print quality and the look and feel of the printed documents.

Lastly the controller technology used for Nuvera Digital Perfecting System has its benefits. As mentioned in the article it provides parallel processing which is to process more jobs simultaneously. The processing power of the RIP can be doubled by adding a second dual processor board. This process power might be required in environments where pages contain variable images page after page.

The controller software called FreeFlow DocuSP in fact does more than only processing Postscript, PCL, TIFF or PDF natively. For example using virtual printers, up to 255 print queues can be set up to automate the workflow. Each print queue can be specified with a set of print properties eliminating the need for setting up a job ticket every time for repeating jobs. Also this software enables imposition, print quality adjustments, print job management and printer management. All Xerox mono, high-light colour and full colour production printers can be equipped with FreeFlow DocuSP giving the customer the benefit of a seamless workflow and identical operation for the operator.

Both Nuvera EA 100/120/144 and the Nuvera Digital Perfecting System use the same printing technology and RIP software.

Mathijs van Kersen  
Business Manager Cut Sheet Publishing Systems  
Xerox Europe

## Spindocs

*(Where the spinner gets spun!)*

*We congratulate MAN Roland on its achievements and innovativeness. However ploughing through the press release on its high number of patents, we soon got bogged down in hyperbole. It starts off well enough:*

**“Printing press manufacturer boasts largest number of patent applications. The research and development power of German companies is a motor of the German economy. This fact is outstandingly exemplified by the printing press manufacturer MAN Roland, which published the largest number of patent applications in its branch of industry during the year 2006.”**

*So far so good, but then:*

**“Germany looks back on a long and proud history of inventions. Today, as the ‘country of ideas’ it endeavors to attract investors. And it is the world export champion. In 2006, German enterprises ranked third worldwide in number of patent applications, after the USA and Japan. This international top position of the country gives an indication of the dimension and quality defining the activities of MAN Roland.”**

*And it goes on:*

**“With 202 patent applications published in 2006, MAN Roland catapulted itself to 17th position among the 50 most active patent applicants in Germany, well ahead of competitors in this industry.”**

***Catapulted but apparently still full of bounce, as we’re then told “how important [MAN Roland] is for the technological development of the global printing market.”***

*Finally the release claims:*

**“Research and development work relies on ideas, knowledge of the market and courage. A company must sense trends, research early, have processes patented, and move into the**

▼  
**market when the time is right – precisely when the market is ready for the innovation. In commercial web offset, this was successfully practiced with the product braking in the folder; in sheetfed offset with the InlineFoilier Prindor. For the cold foil transfer process and its many different production possibilities, a large number of patent applications have been published. The reward for sensing right.”**

*This last bit had us more than a little muddled and very much exhausted.*

## Driftwood

*(Useful stuff washin' up on our shores)*

Adobe gives away its CMM for free

No, it's not April, we've passed that. This is true, and it is very welcome news indeed. After many years of nagging, not least from yours truly, Adobe finally decided to make it possible for printers, publishers, designers, photographers – just add to the list – to set up an open colour managed workflow across platforms and individual software.

A key element in colour management is to decide what 'calculator' to use for colour conversion and colour transforms. In Mac OS a common choice is the Apple CMM, or Color Management Module, as the calculator to help ColorSync perform the actual colour conversions. On the Windows platform, Microsoft for a long time used the Linotype-Hell CMM, later updated and improved by Heidelberg, but the new version never reached Windows, or Mac OS for that matter. Other vendors have brought their own CMMs to market, often in conjunction with their own colour management solutions. But most of them placed the CMM where it was supposed to be, in the operating system, available for all software to use when and if needed.

Adobe also produced its own CMM, later called ACE (Adobe Color Engine). But it wasn't placed in the Windows or Mac OS system folders. Instead Adobe embedded it into each and every program that might need it. So, for

example, Photoshop installed its own copy of the ACE, and Illustrator installed another copy. So when these programs were upgraded, the chances are that the ACE too was upgraded to a slightly different version. We all know that Photoshop and Illustrator sometimes create different colour results, even if the exact same pixel values are keyed in. But we don't know for certain if this could be blamed on small differences in the different versions of ACE inside Photoshop and Illustrator.

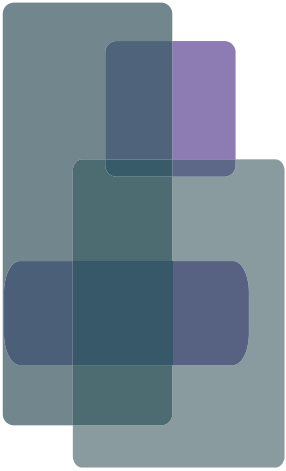
This problem was solved to some extent for Adobe when it introduced the Creative Suite. Now at least all the different programs were upgraded at the same time, so ACE, if there was a change, would be the same in the whole Creative Suite. But this only solved the difficulty of achieving a standardised colour managed workflow inside the Adobe software suite. If a user wanted to use the Adobe CMM (ACE) in some other software on the computer, he or she couldn't. Well, you could always tell all the Creative Suite components to use, for example, another CMM, that was accessible in the OS. But would you? Many users probably thought "I'd better use the Adobe CMM for Adobe software, you never know what happens if I don't".

Unfortunately other vendors followed Adobe's example and placed their CMM inside their own software, rather than in the OS. The idea of a common platform for colour management seemed doomed, or at least crippled. But not all vendors wanted to hide away the CMM. Some, such as Fujifilm, stuck to the idea of an open colour management workflow. Fujifilm has used the 'free' Apple CMM in its colour management solutions, and built in added intelligence inside its applications and into the ICC profile itself. This is because colour quality depends more on well built ICC profiles than what CMM one uses (as long as they aren't faulty).

Still it's desirable to set up a colour workflow where all components use the same CMM. And for users that trust the Adobe CMM to be the best, this is now possible. By downloading the free CMM from the Download area on Adobe's website, this is now possible for both Mac OS and Windows. So we'd like to take this opportunity



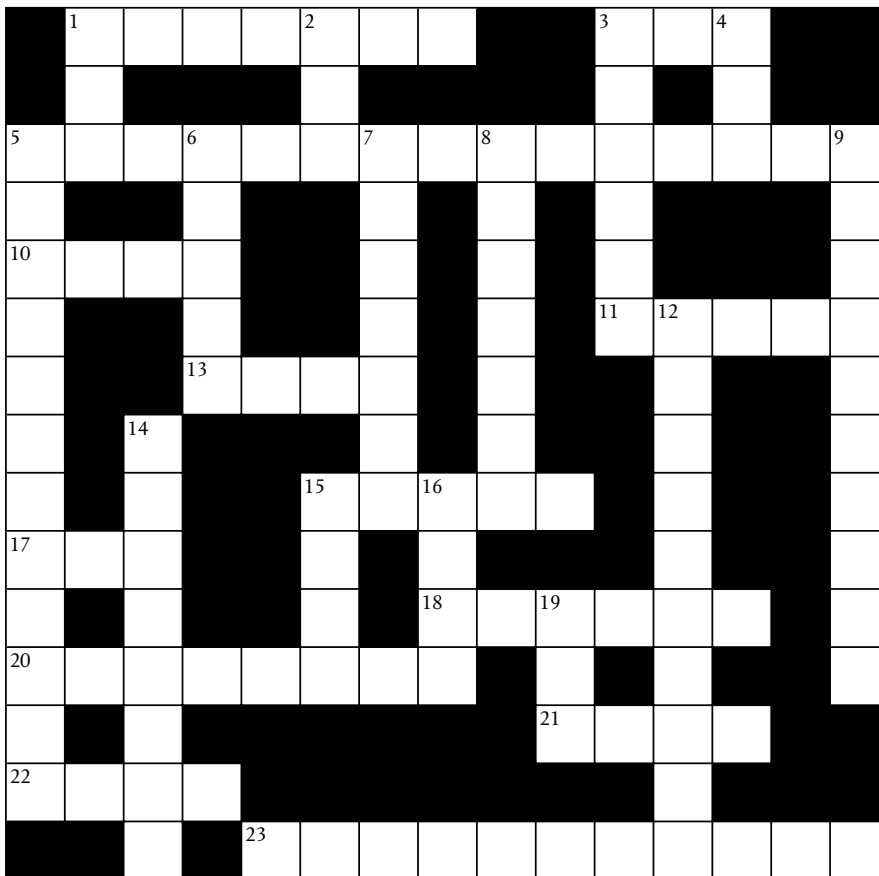
▼  
to say thank you Adobe - it took a while to come to this decision, but now it's done, and you can feel good about it. One more little hurdle is removed from the route to a transparent and unified colour managed workflow.



## Graphic Arts Crossword Puzzle **Number 1**

As if there's not enough in Spindrift to tax your brain! We came up with the idea for a technology crossword during a conversation with Cristina Rossi, our esteemed colleague at Il Poligrafico Italiano. Although figuring out a crossword puzzle in Italian is still a little bit beyond us, we thought you might enjoy trying your hand at an English language version. If you get stuck, go to the [IGAEF](#) website for some hints.

For those of you that really get lost, answers will be in the next issue of Spindrift.



### Across

- 1 Keep track of what's on screen. (7)
- 3 Economics, school of and London? (3)
- 5 Replaces conventional platesetting. (8, 2, 5)
- 10 Add one more to 84 to get an 85 lpi screen (4)
- 11 A printing surface. (5)
- 13 Take a digital view. (4)
- 15 Punch holes. (5)
- 17 Printing Industries of USA? (3)
- 18 Something good? (3, 3)
- 20 They get used in certain monitors. (8)
- 21 Ancient civilisation and modern technologists? (4)
- 22 The last thing to do before you quit. (4)
- 23 Fast, lordly and makes a good impression. (11)

### Down

- 1 When managers go shopping. (3)
- 2 Thin what Transistor? (3)
- 3 Warms your knees and keeps you mobile. (3, 3)
- 4 Time and an association. (3)
- 5 CMYK, CIElab, RGB the same but different. (6, 6)
- 6 Device for turning a large fortune into a small one. (5)
- 7 A colourant for the next generation digital printer? (2, 5)
- 8 Definitely not blue imaging. (7)
- 9 Full bleed printing. (4, 2, 4)
- 12 Intensity of light a surface emits, plural. (10)
- 14 Technologies that can change at will. (8)
- 15 Not pigmented, but? (4)
- 16 Atoms that lose or gain electric charge. (4)
- 19 Dot gain? (3)

# Ghent PDF Workgroup increase activities

By now it should be beyond any doubt that the Portable Document Format is the format of choice for electronic file delivery in print production workflows. More popular than Postscript/EPS files and safer and less problematic than native files from InDesign or Quark XPress, PDF has revolutionised prepress production. At least it has if we're talking about PDF files specifically created for print production. PDF has features to support a range of non print related activities, including multimedia, electronic forms and low resolution internet publishing. This is why we have special versions of PDF for graphic arts production.

Launched in 1998 the PDF/X-standard is recognised as the most reliable way to ensure that PDF files are printable, assuming the PDF/X file has been preflighted according to settings relevant for the print method used. PDF/X (the X stands for eXchange) has been an official ISO standard since 2001. This means it's more than a *de facto* standard from Adobe, and that it is regularly tested, reviewed and supported by a whole range of organisations and companies within the publishing industry.

There is a formal technical committee within ISO responsible for the testing and verification of the PDF/X-standard, a standard which is based entirely on the regular PDF technology Adobe provides. However there is another group focused on checking that PDF/X-files actually do offer a higher degree of reliability and printability than randomly produced PDF files. The Ghent PDF Workgroup (GWG) was originally a user group set up in Belgium. It was originally an Enfocus initiative, but this vendor of preflight solutions worked in close cooperation with regional print federations to develop the GWG's role and influence.

There was obviously a great need for such a user group, a group that could try to sort out what does and does not work when using PDF files. After its start in 2002, the Ghent PDF Workgroup gained rapid international respect and support. Since 2004 membership in the GWG has no longer been limited just to users, meaning printers and publishers, but also to vendors of equipment and software for publishing.

However, the GWG remains deeply committed to its user members and the voting system within GWG ensures that members representing actual end users have greater voting rights than members representing vendor companies. It's fair to say that the GWG is in an equivalent position to that of the International Color Consortium (ICC) for digital colour management and CIP4 for JDF and process automation within the development of print production standards. Many GWG members are also active members of both the ICC and CIP4.



*Much activity in the GWG is at the moment centred around the two new PDF/X standards, X-4 and X-5. Martin Bailey, Chief Technology Officer at Global Graphics, is chairman of the ISO workgroup that handles PDF/X, and at the same time very active in the GWG.*

Although it wasn't clear to all of us at the time, Adobe really stopped adding features to Postscript after the launch of Postscript 3 in 1998. An indication of the change came when new features showed up in PDF version 1.4 in 2001, such as extended support for transparency, which have never been included in Postscript. The gap between Postscript and PDF grew and in 2006, with the introduction of the Adobe PDF Print Engine RIP architecture, Adobe acknowledged that the future lay with PDF and not PostScript. At the same time Adobe introduced PDF version 1.7, and submitted it to ISO.

For those trying to define what constitutes a printable PDF the gap between Postscript and PDF has become rather messy. Today's PDF/X standard basically supports print features of Postscript 3, more or less equivalent to PDF version 1.3 from 1999. So it's time for PDF/X to conform to current PDF versions.

This is what is about to happen with PDF/X-4 and with PDF/X-5 which is in progress.

As of now there are three different versions of PDF/X, all of which are ISO standards. PDF/X-1 primarily supports a conventional CMYK workflow, even though it also supports spot colours. Then there is PDF/X-2, which hasn't had much breakthrough, and which was defined to support more complex CMYK workflows, including the use of images saved in the DCS 2.0 format. The third version however, PDF/X-3, has come into much wider use and is popular in RGB workflows. PDF/X-3 allows images in both RGB and CIElab to be embedded in the documents, as long as they are tagged with an ICC profile.



Much of the practical work is done in the sub committee groups of GWG. Here Chairman David Zwang, in the foreground to the left, is listening carefully to a suggestion regarding Job Tickets for ad submission.

At the moment both the ISO committee responsible for PDF/X, and the different workgroups with the GWG are evaluating a proposal for two new versions of PDF/X: PDF/X-4 and PDF/X-5. In addition, there is a special version of PDF/X-4 called PDF/X-4p that allows ICC intent profiles (output profiles) to be referenced from outside the PDF file. And then there's PDF/X-5n which supports n-colour ICC profiles for multicolour printing. Does this sound too complicated?

While we all hoped that PDF would simplify print production, and it has done so in many ways, there are still whole ranges of things to consider when supplying electronic documents for high end print production.

▼ The problem will only get more complex as PDF adoption spreads into non-traditional print media applications.

While the PDF/X-format confines the original PDF in order to make it printable, there are still features that are not incorporated in the standard. Such things as minimum or maximum image resolution aren't set, nor is maximum ink coverage for the paper in question, or the minimum type size, or minimum rule weights. These are just a few of the key factors for successful printing. All PDF/X files need to be produced to suit the demands of one print process or another.

This is at the heart of what the GWG is doing, under the umbrella of the PDF/X Plus concept. The group has suggested a range of application specific preflight settings, the use of which ought to ensure that printable PDF/X files can be created for any application. As applications develop, so within the PDF/X Plus concept further versions of PDF/X will be defined.

All of the required preflight settings for PDF/X compliance are available to download from the GWG website, [www.gwg.org](http://www.gwg.org), where you can also find a great deal more information and data. It also has test files and 'how to' documents, all of which help designers, printers and publishers to establish as efficient and safe a workflow as possible. The GWG members are doing impressive work, work that should be better acknowledged by many more in the industry.

In all, there are seven sub-committees in GWG, each with their own main focus. The committees are: Colour Management, Job Tickets, Office Documents, Packaging, Process Control, Specifications and finally Compliancy Testing. Understandably, the committees all overlap to some extent, both amongst themselves and with the work of the ICC and CIP4. Recently the packaging subcommittee released a set of specifications, curiously enough not entirely compliant to PDF/X, but still outlining best practices for that particular and very demanding type of production workflow.

In a recent three day work meeting in Barcelona the committee for Job Tickets presented an outline for metadata needed to assure correct soft proofing of JDF files, across different soft proofing systems. The committee also suggested a simplified Job Ticket for ad delivery, something that's much less ambitious and far less cliquey than, for example, AdsML.

Adobe made a somewhat spectacular announcement during this meeting, an announcement that created more than a slight frisson amongst the audience. Adobe is looking into proposing a standard mechanism for embedding preflight data into PDF files. Dov Isaacs of Adobe said it would be based on XMP, digital signatures and certified documents, in other words exclusively on Adobe technologies. The announcement was spectacular and even weird, since such technology already exists, and the most well known example is probably the Certified PDF technol- ▶



*Adobe is very active in the GWG, and through Dov Isaacs, Principal Scientist, Adobe proposed to add a standardised way to add metadata in PDF/X-files regarding preflight requirements and preflight status. Such metadata is already in use by vendors like, for example, Enfocus, but in a proprietary format.*

ogy, from GWG founders Enfocus. According to Dov Isaacs, Adobe has chosen to do this “because members asked us to”. Could it really be that Adobe doesn’t recognise Certified PDF?

Other vendors such as Kodak and One Vision, also active members of GWG, have similar technologies, so we’re a little puzzled. While the offer from Adobe might be interesting for Adobe code drones, because of course there are good reasons to embed preflight metadata in a PDF file, surely there must be some serious risks of patent infringements? But hopefully Adobe and Enfocus et al can come to some amicable agreement, should there be any patent issues. Even more hopefully Adobe will choose to prioritise developments that benefit the user community rather than pursue self-interest.

Inevitably at meetings of this kind there are the occasional disagreements, spats and hissy fits. The GWG meeting was no different however, progress depends on resolving difficulties that block its path, and this needs a spirit of open debate and argument. It’s refreshing to see it in action and to see such broad commitment to making progress, ably steered by David Zwang, who is diplomacy personified. Helping to resolve difficulties in using PDF in digital workflows for print media is what the Ghent PDF Workgroup is all about. It’s hard work and the members continue to invest many hours to ensure that when using PDF files users can expect safe and efficient workflows. The GWG’s work is well done and it’s work that deserves wider recognition.

– **Paul Lindstrom**



# Kodak Colorflow Technology

**Colour is getting harder, not easier. This is because, apart from colour's inherent complexity, which involves physics, chemistry and biology, we have an industry stampeding towards distribute and print production. The range and colour capability of the devices in colour workflows is increasingly harder to predict, making it even more difficult to achieve the goal of open colour management.**

Colour management technology should provide the equivalent, if not better, levels of colour processing control to those of traditional, proprietary, high end colour systems. These systems are now mostly extinct, but they were designed and built exclusively for colour production. The engineers creating these extremely expensive systems (think €250,000 and up) had absolute control over every aspect of the technology, from the data formats to the operating system. In an age where computers and electronics are used to direct processes in everything from digital cameras to washing machines, the implications of this are hard to comprehend.

## The Problem

It's all about control, or rather the lack of it, because no longer is absolute control possible for colour capable systems. The variables influencing colour production for a specific job, today are totally unpredictable ranging from the obvious, such as the use of different computers and software, to the less obvious such as the colour perception of individuals and the behaviour of particular output devices. Also, despite the efforts of developers to tame the colour management beast, there are still many parts of colour workflows that function in isolation, with indirect communication of colour data to the workflow.

While in some cases there is no alternative, such as digital image capture with a mobile device or digital camera, it should nonetheless be possible to manage the data processing on any networked digital device, including colour data. This is where manufacturers such as Fujifilm, Heidelberg and Kodak sniff opportunity.

Kodak is the first major manufacturer to declare a formal strategy for colour management. As Kodak et al see it, colour accuracy determines colour worth and value, and a job's fitness for purpose. Even if colour accuracy doesn't matter for images circulated on Myspace or Bebo, it matters a lot if those same images end up in a glossy consumer magazine, for example, as part of an advertisement. Consistency is key, monitor to monitor, proof to proof, inkjet device to digital press, digital press to offset.

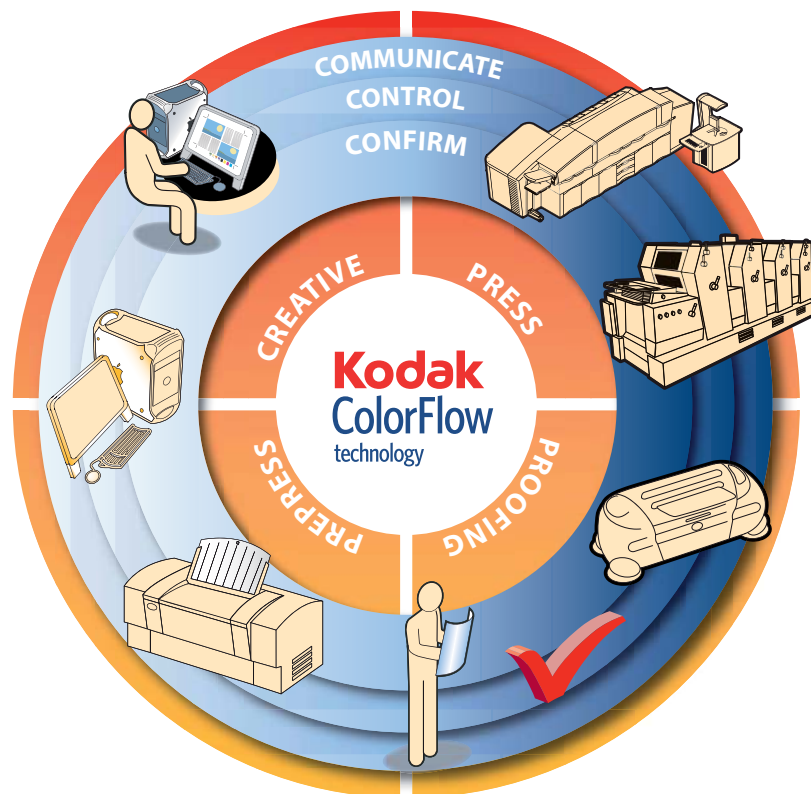
Unfortunately from a colour engineer's perspective, we don't necessarily share the same expectations for results nor do we have the means of fully

**Colour management technology should provide the equivalent, if not better, levels of colour processing control to those of traditional, proprietary, high end colour systems. These systems are now mostly extinct, but they were designed and built exclusively for colour production.**

▼ sharing our expectations, in order to achieve a common result. This was the starting point for the International Color Consortium (ICC) of which Kodak is a founding member. The ICC is doing terrific work in figuring out how to codify subjective values in a digital system, and Kodak is taking the ICC's guiding principals a step further with the Colorflow Technology architecture.

## Colorflow Technology

Last August Kodak announced its Colorflow Technology brand, a set of technologies based on open industry standards and Kodak's colour knowledge. With this technology, Kodak brings all aspects of colour management from origination to delivery into a common architecture. Colorflow Technology incorporates tools so that designers will know what colours will look like in print or anywhere else, as soon as the file creation and production processes begin. Colorflow Technology is designed to allow Kodak products to share colour specification for consistent colour reproduction and accuracy throughout the supply chain for all participants. It uses shared terminology and standards throughout the production chain, supporting everyone including creative, prepress, proofing and press people.



Kodak believes, rightly, that the solution to the colour management problem lies with integrated systems and data processing. This is not dissimilar to the views of Heidelberg or Fujifilm, both of whom have stated their commitments to a systematic colour management approach. The difficulty they all face is that today it's impossible to predict or control everything that will influence colour in a workflow. This is why data processing standards, such as the ICC specification and device profiling, and PDF-X/3 are so important. PDF-X/3 is an important part of Colorflow because it supports data in colour managed colour spaces such as CMYK or CIELab.

According to Kodak, Colorflow combines standards and Kodak colour expertise to provide stable, accurate colour processing throughout the workflow. There are three tenets to its proposition: communicate, control and confirm. Correctly implemented at every stage of colour data processing throughout the workflow, this will ensure a certifiable end result. As Jeff Hayzlett, Chief Marketing Officer, Kodak's Graphic Communications Group puts it "The Kodak Colorflow Technology brand rep- ▶



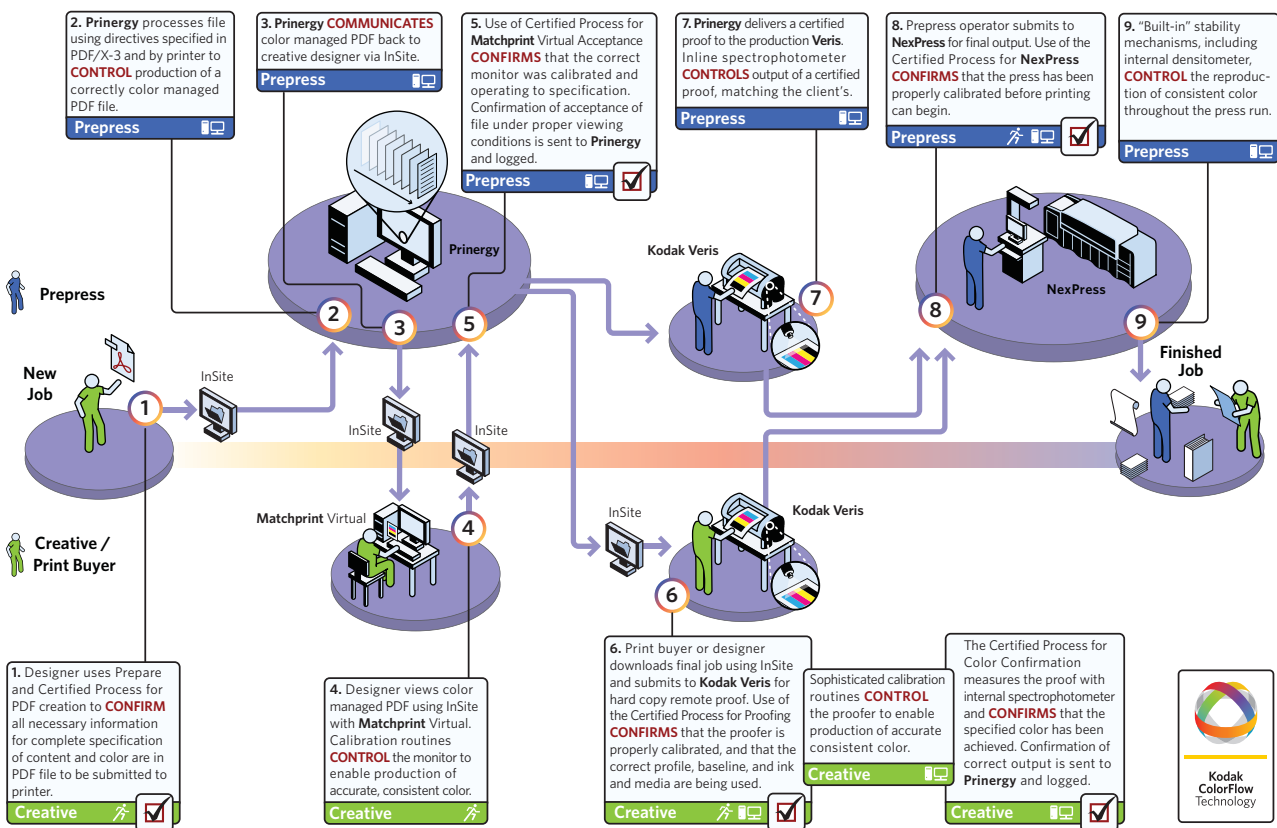
resents a set of technology solutions, colour expertise, and operational guidelines to help streamline and simplify the process of specifying and reproducing colour.”

## Communicate

Colorflow is about connecting devices using open industry standards and common user interface attributes, in order to make life easier for operators. Colour management systems are notoriously complicated to use, because they have to take into account so many possible applications and

### An example of a ColorFlow enabled workflow

Denotes human action    Denotes software action    Certified Process



## Kodak

production environments, which can make for extremely complex user interfaces. Kodak claim that making things simpler makes device set-up and user interaction with colour technologies faster and easier, even in mixed environments. Colorflow exchanges colour parameters using an automated data handshake, to make sure that processes fall within tolerance. The purpose of the automated process is to reduce errors and time spent communicating colour.

## Control

Improved control saves time, improves reliability and ensures consistent colour across devices over time. This has considerable value for printers, ▶

print buyers and their customers. Many digital devices can be calibrated, but colour accuracy demands tight tolerances on all components, which the Colorflow architecture provides.

## Confirm

Kodak confirms Colorflow file accuracy via a certification process. A certified file is one where at least one of the processes involved in producing it have been performed according to specification, so it's not necessarily a guarantee of quality. It's a sort of inversion of the preflight idea, so that file and device set-up and processing parameters are established at the point of file creation. Certified processes are those wherein the processing has been fixed to provide customers with processes they can trust, working in a sort of expert management mode. The Colorflow Certified mark shows a customer that the printer has processes under control.

Much of what Kodak is describing could be achieved with good working methods, combining device calibration and characterisation, and tight preflight management, particularly for mixed technology environments. Print-to-print variability won't go away, however, investing some sort of lowest common denominator colour management will allow for consistency in basic processing, and give printers an excellent foundation for future developments. This alone is a good enough reason for companies to consider Colorflow, or at least to take a more proactive stance with their existing colour management technologies and practices.

## How Far Has Kodak Come?

Kodak announced Colorflow more as a statement of intent than as a completed system. Nonetheless substantial progress has been made, with a number of products already enabled with Colorflow technology. For example, the Veris digital proofer includes a probe that calculates the ink placement details such as droplet size and velocity, and has an inbuilt spectrophotometer. These technologies now operate within the Colorflow architecture so that each proofing engine is constantly monitored to ensure that it is within a specified tolerance.

The same applies for the Insite Matchprint Virtual soft proofing technology, which includes calibration tools, and for the Nexpress engines in the future. These technologies make it possible for Colorflow to confirm and certify processes within the workflow. Other Colorflow compatible products include Kodak Prepare software, the Prinergy workflow system and Matchprint inkjet proofers.

Colorflow will gradually be integrated into Kodak's existing products and other new products are under development. It will take several years before every Kodak product includes Colorflow intelligence, however the Kodak Approval digital imaging system and Kodak Pressproof software are among the products planned for the Colorflow portfolio in 2007.

**Kodak announced Colorflow more as a statement of intent than as a completed system. Nonetheless substantial progress has been made, with a number of products already enabled with Colorflow technology.**

## ▼ It Might Just Work

A colour management system must be able to guarantee consistent results and depends utterly on stable devices functioning within a uniform, standards-driven environment. Colorflow works within such a framework to ensure that the various components within it produce deliverables within tolerance and correctly manufactured. It's an ambitious vision, but Kodak has considerable credentials to do what it says it wants to do.

The company's Graphic Communications Group is based on five established industry names: Creo, Nexpress, KPG, Encad and Versamark, which together give it unmatched market breadth, colour experience and knowledge. As Kodak sees it, Kodak "is the only company with focus, resources, and expertise to deliver" such a system.

However the problem is that to be part of a Colorflow workflow products have to meet certain criteria, and if they don't the whole thing is at risk of becoming a nonsense. The success of this vision depends on the support for Colorflow from other companies, so it's a little reminiscent of the Networked Graphic Production concept set up by Creo before it became part of Kodak. Among other things, NGP sought to encourage other companies to interface with Creo technologies, using Creo specified JDF interfaces. No statement has been made thus far to define Colorflow enabled JDF interfaces.

Kodak recognises that it needs to support hybrid workflows, along with the fact that companies rarely want to be tied into a single technology provider. Non-Kodak technologies are therefore supported within the Colorflow architecture as long as they fulfil Kodak's criteria. These are largely ICC-based so this part shouldn't pose too much of a problem, but the difficulty comes with terminology and user interfaces. There are different vocabulary preferences even within a common language such as English, which will need to be accommodated. Nor will it be easy for Kodak to convince competitors to follow Colorflow's lead for user interface design and behaviour, since user interfaces are key technology differentiators. Nonetheless, Colorflow is a highly laudable intent, one for which Kodak has demonstrated serious commitment. We look forward to monitoring its progress in the run up to drupa.

– Laurel Brunner



# All Roads Lead from Rome

In the last few weeks two major, private industry events occurred at the same hotel in Rome. HP's Graphic Arts Summit (with some 500 people of whom three quarters were customers) and Xerox's Forum (1200 people including 900 customers) even followed largely similar three day schedules for analysts and journalists. At both, new technologies were launched under minutely controlled and very well catered circumstances. What HP and Xerox had to say and how they said it, gave us some interesting insights into the directions these mighty gladiators are taking.

Maybe you can't see it in their eyes, but you can definitely see it in the product names. HP Designjet and Xerox Docutech remind us that HP and Xerox have very different ancestries, ancestries which have kept them more apart than together over the last few years. As the undisputed technology leaders of the digital printing industry, the markets HP and Xerox share and the strategies they have pursued have never really brought them into bloody conflict. But how long can that continue?

HP has developed an enviable position in large format inkjet printing with its Designjet series, and in high quality digital printing with the Indigo line of digital presses. Xerox has an almost unassailable position in document production with a comprehensive line of digital printers for corporate applications, plus high end colour printers and the iGen3 for graphic arts applications. The two companies have largely different technologies, market strategies and products, however there is increasing commonality in their ambitions and the tactics they are using to realise their goals.

## Vital Statistics

HP Inc has revenues of \$94.1bn and is at number 11 in the Fortune Magazine list of top 500 US companies. The Imaging & Printing Group contributes \$27.2bn to turnover. Xerox, number 142 in Fortune's list, has global revenues of \$15.9bn, and has for several years had an intensely focused graphic arts organisation, supporting printers and publishers moving into the digital space. HP set up a dedicated graphic arts organisation 18 months ago and in Rome reaffirmed its commitment to accelerating the digital conversion. Xerox has invested a tremendous amount of money in developing markets for high end production colour digital printing, and to bring colour to office applications. HP has steadily established itself in a wide range of high quality wide format print applications including proofing and posters, and in commercial printing with its Indigo line of digital presses. The two are starting to extend their reaches.

## Colour Me Maxi

Xerox is accelerating its colour activities in the document sector because it sees colour page growth of 48% and overall market growth of 50%. ▶



*Alon Bar Shany, vice president and general manager of HP Indigo.*

Based on Xerox research growth in colour pages from 2004 to 2009, rose 650% from 20.6 to 79.6bn, mostly driven by pages from monochrome applications. Although monochrome still dominates, the cost of printing colour has fallen dramatically and colour pages are coming from all markets and technologies from the office, offset, inkjet and laser printing. The emergence of light production systems is also driving colour uptake, and, according to market analysts Gartner, colour will enjoy 250% growth over the next five years.

## Going Large

Xerox's position in wide format colour printing (8% market share) is negligible compared to HP's which has over 15,000 DesignJets installed in Europe alone. According to Xerox, the worldwide large format market is worth \$10.3bn and the graphics sector is the largest growing market. Currently Xerox rebadges Mutoh engines and bundles them with RIPs from Xerox, EFI and Caldera. However the company is increasing its wide format R&D spend, especially for replacement products and new software.

HP on the other hand has a rather more muscular position in wide format, with those 15,000 Designjet printers in the EMEA region alone. The recently announced Designjet Z6100 further strengthens this position. It offers extremely good print quality and HP claims it's the fastest printer in its class and price bracket. It prints at over 100m<sup>2</sup> per hour using HP Viverra pigment inks to replicate 78% of Pantone colours, with over 200 years indoor fade resistance. The print heads have 1200 npi (nozzles per inch) and there are over 16,000 nozzles in the printer with a four or six picolitre drop size, depending on the colour. There is an onboard X-Rite spectrophotometer, and the software toolkit includes CMYK+ technology and HP's new Dreamcolor.

The T Series of wide format printers designed for engineering and technical applications also uses Dreamcolor and may be extended with a MFP version.

By quite wonderful coincidence, the vice president and general manager of HP's large format division is called Enrique Lores. His strategy is to extend the range of applications and customer types to include technical, creative, and print service providers (PSPs). The introduction of the T series for technical customers and the Z Series for professional service providers, are all about extending HP's market reach, with improved output quality to give customers more flexibility to support different applications. Besides competitors Canon and Epson, Mr Lores is watching what Fuji does in light of recent acquisitions. He added that: "We may see consolidation going forward in large format printing."

The Z6100 is an eight colour system with a scaleable print head, the double swathe technology introduced last year for the Designjet 4000, and embedded colour management technology. The HP Optical Media Advance Scanner is a small digital camera that measures paper fibres, to



*The wonderfully-named Enrique Lores, vice president and general manager of HP's large format division.*

adjust the printer's behaviour for speed and quality improvements. It is based on over ten years of work and will be added to the rest of the HP portfolio. The Z6100 is comparable to Canon's iPF8000/9000, its closest competitor. HP claim the Z6100 is up to three times faster than this engine, and that it has twice the ink permanence. HP claim it has better colour accuracy and consistency because of the embedded spectrophotometer and Pantone Swatch Book, and that it produces 2.7 times less wasted ink.

Epson's much slower 9800 lags far behind, however Epson is expected to introduce a new wide format device shortly and this could change the competitive landscape. There are four models in the Z6100 series (1067mm and 1524mm carriage widths, each with a Postscript and non-Postscript version) and prices start at €9500 and go up to €19,200. HP expects over 50% of unit volume to come from the T and Z series this year.

HP has tested this product extensively with customers. Peter Moger from the Art Group in the UK is using the Z6100 to help move into fine art printing on demand, especially in the museum sector. The company has placed interactive touch screen kiosks for people to order prints and have them delivered by post. Jobs are gathered electronically then distributed across 25 local devices in London and 12 in America for output and delivery. With the Designjet 5500 Art Group had problems with colour consistency across all devices, but with the Z6100 consistency is much better. The Art Group produces 500 to 1000 prints per day in formats from 30x40cm to 90x120cm and has seen a 70% growth in its digital print business. The Z6100 is expected to pay for itself within three to five months.

## Two Tone

HP is rather less strong in the monochrome and light production markets. It is here that Xerox really shines. In Rome the company introduced the impressive Nuvera 288 (see last issue) plus additional monochrome and highlight colour machines. An interesting thing about these announcements is that Xerox has eliminated the separate copier/printer configuration, positioning systems across the production space.

Since 2004 Xerox has installed 11,000 monochrome machines. Based on conversion of monochrome to colour and offset to digital across markets, by 2010 Xerox expects to have a 12% market share in the colour market,



*Steve Nigro senior vice president and general manager of HP's graphics and imaging business.*

but doesn't really define it. Rather more interesting is the migration of applications to digital output, and this is where both HP and Xerox are focusing attention. As one Xerox spokesperson expressed it: "Hopefully the conditions are now created that people will go to digital".

Digital applications are making the biggest contribution to page volume growth and Xerox estimates there are 120bn annual pages for transaction print, and 68bn for direct mail, which is adding around seven billion new pages annually, the most of any applications. Personalised collaterals account for 23bn pages growing at 22% per year. The number of book pages is also growing and Xerox has plans to capture this market with its high speed monochrome devices and dedicated iGen3s.

### Colour, Colour Everywhere?

Sadly Xerox was unable to say anything at all at this event about the alleged new colour machine, a missed opportunity which must have been very disappointing. According to rumour this might possibly be a 450ppm continuous feed device based on cold flash fusion technology, originally developed by Fujitsu, which Xerox acquired in 2002 specifically for it. Cold flash fusion improves output quality in continuous feed printers because it uses a different toner, one that doesn't interfere with the paper. This machine could strengthen Xerox's position in continuous feed applications. The new printer was, we believe, developed by Fuji Xerox which has apparently sort of launched the single engine, twin developer machine privately in Japan. No one at Xerox was able to break their NDAs, but Fuji Xerox will hopefully loosen their information embargo in Japan, with possible availability of the press at the end of the year.

Xerox was able to release the new Docucolor 242 (40 ppm colour, 55ppm mono) and 252 (50 ppm colour and 65 ppm mono) which replace the 240 and 250 machines, and are priced equivalently. Xerox has upgraded the Immediate Belt Transfer and introduced a new fuser for more speed, and added finishing options. The new 260 is a 60 colour page per minute (75ppm mono) device with finishing for light production applications. These machines are all available in June.

Xerox's position in the light production market gives it a powerful advantage over HP. There are many thousands of Docutech and Docucolor machines installed around the world, and Xerox's introductions underline its commitment to continue bringing these customers into the digital colour printing space.

HP's latest colour developments are very impressive. The Indigo 5500 (from €400,000) and 3500 (from €300,000) were rightly given glorious prominence in Rome. According to Alon Bar-Shany, the Indigo 5000 has been the basis of HP's success since 2005 when it was introduced. In Europe, the UK and Germany are the most mature markets and seeing the fastest page volume growth, with solid growth in Eastern Europe. There

**Digital applications are making the biggest contribution to page volume growth and Xerox estimates there are 120bn annual pages for transaction print, and 68bn for direct mail, which is adding around seven billion new pages annually, the most of any applications.**

are now 4000 Indigos worldwide and HP expects the 5000/5500 to generate 70% of HP Indigo's sales for the rest of the year.

Bar-Shany said that Indigo leads all production digital printing markets with 42% market share in Western Europe and North America, and 45% in Asia. He also said HP is "moving from a focus on products and presses, and into applications".

The new Indigo Press 5500 is HP's flagship digital press. It prints up to seven colours and runs at up to 68 pages per minute (ppm) in four colour mode or 272 ppm in monochrome. It has over 50 engineering changes for better quality, productivity and flexibility. Quality is improved with new high definition imaging technology for improved screens and highlights, and output up to 1200 dpi using resolution enhancement technology. New light cyan and light magenta inks have been added to reduce contrast and print granularity.

Productivity has been upped with a new paper feeder with four drawers for greater flexibility and versatility, and support for larger media up to 330mm x 483mm. Improved utilisation of the press saves downtime, with 273ppm fed from each drawer of 80 to 350 gsm coated and 60 to 320 gsm uncoated sheets. HP has also reduced the time it takes to replace special inks, with replacement now automatic instead of taking one hour: cleaning is now integral to the press with six colours printing while a special colour unit is cleaned and changed. The duty cycle is over 1.5 million colour or over 5 million monochrome pages monthly.

This press is also more environmentally friendly than the 5000 with oil recycling after the oil and water separation. There is optional heating in the press, so that it doesn't go completely cold when not running. This means it is always ready to print, even if left overnight. Substrate adaptive process parameters, a second transfer pressure that's controlled and optimised according to the substrate, expand the paper gamut and specifications for uncoated stock from 65-300 to 60 to 320 gsm. And so it goes on, until you get to fifty. The point is that these engineering enhancements make the 5500 suitable for an expanded range of applications, because they support a wider media gamut.

The 5500 is in beta at ten customer sites. Jon Bailey of ProCo UK is definitely a fan: "We're into lean manufacturing and getting more out of it [the 5500] for our customers". He estimates an ROI on this machine within three months, possibly because HP gave him a great deal, but also because he can sell more print. He told us that "quality is key [to our busi-



HP's executives line up. Left to right: Santiago Morero Escude, vice president and general manager, Graphic Arts, EMEA, HP; Enrique Lores, vice president and general manager, Inkjet Commercial Division, HP; Stephen Nigro, senior vice president and general manager, Graphics and Imaging Business, HP; Brian Cruz, director of marketing, SPS, HP; Alon Bar-Shany, vice president and general manager, Indigo Division, HP; Johan Lammens, HP.



ness] and we've picked up a contract worth £200,000 on the basis of the quality".

Indigo 5000 users will be able to get the 5500 software package upgrade in Q4 to support LC/LM, and fast ink replacement in Q4 '07. By early next year the optical substrate adaptive process for off the shelf uncoated media, will be available but the new feeder and wider paper support are not backwards compatible.

The Indigo 3500 is an entry level machine positioned against 'copier level devices'. It offers up to seven colour printing at 68 ppm and 136 ppm mono. This is a lower cost Indigo, sold with a flexible consumables and servicing programme.

HP also introduced a HP-branded UV Coater for its sheet fed Indigo presses and introduced a photo specific package. This includes the 5500 press and coater, an HP Production Manager 1.1 front end and HP's Photo Enhancement Server with support for up to 16 RIPs. The Photo Enhancement Server is a multiprocessing, automated photo application that combines all HP's experience in digital image capture and enhancement. It can control single dots for better colour consistency, 2400 x 2400 dpi screen addressability for smooth tones, solid linework and dot gain compensation. The software supports multiple job resolutions: 800 dpi or 1200 dpi.

Naturally Xerox will not let the iGen3 be outdone, with continuous improvements in quality and speed over time. Application-specific iGen3 models are coming including one for photo-book applications and an iGen3 optimised for book publishing. There may also be presses based on combined technologies, such as an iGen3 plus the new cold fusion technology. Such a hybrid machine is, according to Val Govaerts, vice president of production for Xerox Europe, "an absolute possibility in the future", and there may also be machines that users can configure according to their application requirements.

## Up Front & Personal

Both HP and Xerox are expanding their DFE portfolios for system compatibility between digital and offset. Xerox for example offers five DFEs variously from EFI, Creo and Xerox to suit all environments, and of course variable data output requirements. This will pose a further challenge to conventional press manufacturers who have already reacted to the digital threat. Heidelberg's Anicolor and MAN Roland's new direct drive initiative, for example, are direct responses to digital press forays into their static print markets, and this comes as no surprise to Xerox or HP. However despite makereadies of less than 10 sheets, being up to colour in a matter of minutes and high speed plate changes, offset printing



*Armando Zaglo de Lima, President of Xerox Europe. Rome is a "symbol of innovation", a place evoking "the power of partnerships to ensure innovation for business growth". Forum participants included Xerox Premier Partners, channel and vendor partners, nonXerox customers plus assorted trade press and industry analysts. The diverse mix of participants "increases the knowledge sharing to other experiences ... to grow digital printing technology and the business associated with it".*

presses can never compete with digital printing for printing variable data direct from the RIP.

According to Alon Bar-Shany, 30% of Indigo pages have variable content and HP is expecting around 20% revenue growth in variable data according to Steve Nigro. Market gazers Infotrends, believe the variable data print market will grow 36.5% per year to 2009 because traditional mass marketing is becoming less effective and companies are looking to deliver integrated brand communications via web, email, print and direct mail.

For static print the goal of hybrid workflows is the identical look and feel between digital and offset. For this reason both HP and Xerox are working with workflow partners to achieve this. HP has increased its cooperation with Creo and also released a new version of the DFE for the 3500 and 5500. There is a series of four scaleable front ends for the 5500 and two for 3500.

### Journeyman

HP and Xerox have taken different routes to reach their leadership positions, however both have spent tremendous sums funding their journeys and those of the markets. In contrast with Canon for example, which had 2006 revenues of nearly \$35bn, Xerox's investment into digital printing has been huge. Investment has brought the company a solid market position, one from which Xerox is well placed to compete with HP. According to Santiago Morera, vice president of HP's graphic arts business, the Rome event's purpose was to demonstrate HP's commitment to the graphic arts and intention to drive its digital transformation. HP now has a focused graphic arts organisation to accelerate the digital conversion and make a sustained attack on the Xerox position.

The battleground for both HP and Xerox is applications development. However, unlike HP, Xerox has a proactive and well funded development programme for its customers. This will prove to be a considerable asset.

### Partners

There are now nearly 600 members in the Xerox Premier Partner Network worldwide, and members have to fulfil strict quality and volume criteria. The concept was originally to develop dialogue, share ideas and build co-operations within the community and according to Val Gov-aerts, the man behind the PPN idea, "I'm very pleased with the huge number of Premier Partners sharing ideas. They know that if they do this, they can only benefit". There are several interesting PPN cooperative projects underway such as Myphotofun, a hosted ASP which involves 17 partners and 31 iGen3s, and Lulu with four partners producing over 400,000 books annually. These initiatives and others, are being extended to provide services in Europe, the US and Asia.

PPN accreditation provides important quality assurance for print buyers, and the network is Xerox's preferred choice for print and document out-

**HP and Xerox have taken different routes to reach their leadership positions, however both have spent tremendous sums funding their journeys and the market's.**

▼ sourcing from Xerox Graphic Services which offers outsourced data and document management to corporate accounts. According to Govaerts the relationship between XGS and the PPN “is going extremely well” with an increasing number of strategic partnerships with XGS and “overflow being fed to the graphic arts market”. For XGS Peter Romaine, director and service line general manager, said that “third party suppliers are critical to XGS ... we need you [the Premier Partners] to deal with us in order to provide services to our customers”. XGS contributes 20% to Xerox’s global revenues and accounts for 30% of the company’s employees.

After the Xerox analysts’ meeting last year we were extremely concerned about the conflict inherent in the work of XGS and Xerox’s production printing business (see volume 4, number 3). Xerox Europe has since taken active steps to turn the potential for conflict into a means of benefiting customers on both sides of the business. In Rome XGS presented its plans to support production business models and the PPN, as well as its own customers. Xerox Europe has undertaken to resolve any competitive situations that will inevitably arise between XGS acting on behalf of its corporate accounts, and Xerox PPN customers.

Facilitating dialogue and co-operation between the divisions will require some deft diplomacy and organisational structure, however Val Govaerts is one of the few people in this industry with the brains and imagination to put this in place. He is also behind the new Public Sector Network Initiative which was created from links within the PPN. Facilitated by an advisory board, the PSNI comprises top European government ministries and encourages business development between governments, public sector organisations and the PPN.

According to Val Govaerts the PSNI was set up because there previously had been no means of supporting these organisations, and it follows the same principles as the PPN with Xerox sponsorship and a dedicated advisory board, with single representatives from major European governments. A PPN Board is working with ministries and public sector organisations (including aid agencies) to take the initiative forward. The PSNI has a European basis but can include any international organisation which wants to participate.



*Laurel Brunner addressing the Xerox forum. Xerox invited a select number of journalists to share ideas about where the digital printing industry is heading.*

▼ Partnering not so central to the HP philosophy as it is with Xerox, and HP lags far, far behind Xerox in initiatives such as the PPN and PSNI. HP tends to rely on its PSPs to initiate moves into new markets. HP is following Xerox's lead with its European PSP Network, which now has 200 members. Membership is open to any customer with an Indigo 5000 or 3850 and printing over 500,000 page impressions per month. However, it is dependent on HP's invitation. HP plans to extend the programme and to strengthen its Capture programme.

The HP Graphic Arts Capture programme sounds a little scary but essentially it's a rudimentary version of Xerox's PPN, with marketing tools, ROI and job estimating models, premium account management and customer affiliation programmes. Steve Nigro, HP's senior vice president of IPG's Graphics and Imaging Business said that HP no longer does inplant and facilities management for corporates and focuses wholly on GA support: "We want to provide the infrastructure and the capabilities to make our customers successful and to avoid competing with our customers". It's all part of HP's four pronged growth strategy: work out which pages to tackle, increase addressable run lengths, leverage digital capabilities in different markets, such as photo books, and target specific sectors.

This is pretty much what Xerox has been doing for many years, and it has taken more than a little investment into training the right people to develop open and fertile communications with graphic arts markets. It's all about matching technology to market requirements, but success cannot be assumed, not for Xerox nor for HP.

– **Laurel Brunner**



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