Digital Dots

Spindrift

News Focus • Opinion
Reviews • Technology
Interviews • Ranting
Psychotherapy • Fun

Volume 7, Number 1 • 7th April, 2009

...Bamboozling The Graphic Arts Industry Since April 2003

Fortune favours the brave and shuns the cowardly.
– After Virgil

Dear Reader,

This is the first issue of our seventh volume of Spindrift, and it's hard to believe that there is still so much to write about, and that not all of it's grim. Our industry has changed radically since the first issue of Spindrift, when our feature stories explained stochastic screening and proof approvals via the internet. In the news Heidelberg was looking at falling revenues of €4.1 to 4.2 billion, with a net loss of €50 and 70 million, and the industry was undergoing widespread closures and consolidations. No change there then.

After so long, it's time for a Spindrift facelift, so we've made a few design changes. Hopefully they'll make the journal easier to read on screen and in print. There are also a few new editorial twists to make Spindrift more entertaining for readers. They should also give us more scope to keep our technology bias, while covering a broader range of topics for our diverse subscriber base.

We hope you'll like the changes. But more importantly we deeply appreciate appreciate your loyalty and continuing support, especially the great many Charter subscribers who have been with us since the very first issue.

So grateful thanks to our readers old and new and do please let us know what you think of the changes!

As ever,

Laurel, Nessan, Paul and Todd

In This Issue

Taking a more colourful approach

Laurel Brunner visited Océ's Poing facility to see its range of high speed colour printers including the new Jetstream high speed inkjet printers. Océ has established a leading position with its monocrome printers but now sees colour as important to its future growth.

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Keepers of the faith

Nessan Cleary dropped into the Guardian newspaper group's new headquarters in London to see its new image processing system and discovered that increased automation has also led to more creativity as well as greater savings and efficiencies.

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Net-based team working

Given the falling economic outlook, and the rising cost of air travel, a lot of people are now looking at online meeting solutions. Paul Lindström takes a look at Adobe's Acrobat Connect Pro and finds a number of features to recommend it.

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Regular Columns

News Focus

Océ has announced several new additions to its JetStream line-up of colour inkjet production printers, plus a new ColorStream 9000, all of which we've covered in more detail on p10.

Spanish newspaper distributor **Imcodávila** is to produce up to 40 separate newspapers on an Océ JetStream 2200. These are 80-page colour newspapers with each title averaging print runs of 6000 copies. The deal means that Imcodávila, based just outside Madrid, will be the world's first short-run production site for domestic titles in colour. Imcodávila produces titles like La Vanguárdia, Diario de Ávila, Público, 20 minutos and Diario de Salamanca, with national and local distribution.

Meanwhile, Océ has been celebrating the five millionth digitally-printed newspaper to roll off of its presses at the Stroma plant in London. Back in 2001 Stroma became the first site in Océ's Digital Newspaper Network - there are five more now, spanning three continents and printing some of the world's best known newspapers, including the Guardian, Sydney Morning Herald and New York Times. The first paper to roll off the press in London was the Danish daily financial paper Borsen Dagblad, which is still being printed at Stroma. Steve Brown, Managing Director of Stroma, commented: "Newspapers are facing difficult times, but digital opens up new markets and new revenue streams for them."

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Quark has announced its XML editing solution, Quark XML Author 3.0, a plug-in for Microsoft Word, originally developed by In.vision, which Quark acquired last year. Currently it supports Office 2007 and Vista, but Quark is working on a Mac Office version. New features include better support for scientific functions such as maths and chemistry, better integration with the Office toolbar and improved indenting and style capabilities.

Quark has teamed up with IBM to integrate its Quark XML Author with IBM's FileNet content manager to help users create XML content based on the DITA (Darwin Information Typing Architecture) standard.

In addition, Quark is currently offering users of older versions of QuarkXPress 3,4 and 5 the chance to upgrade to version 8 for the same price as more recent versions.

Targetcolour has launched a fully-managed, internet-based process control solution called MyPressXpert, which promises to standardise production across presses providing just-in-time maintenance and certification to ISO 12647 standards. It's a MySQL database-driven application providing exact first-time press calibrations to achieve any standard, and which means that printed results can be accurately matched across presses, plants, plate types, substrates or printing processes. The solution includes an ISO 12647 certificate & PDF report creation tool, so printers can demonstrate to their clients that their presses are printing to standards.

Mark Priest, Technical Director at Targetcolour commented: "MyPressXpert is the world's first press calibration system that links press production directly to actual press experts on the Targetcolour team. Using a browser, your press information can be shared with our engineers in real time from anywhere in the world and any problems sorted out."

The Ghent Workgroup has produced its latest set of tests for determining how PDFs will print in real world environments. The new Ghent Output 3 can be found at http://gwg.org/ghentoutputsuite.phtml This is a set of

individual files used to test design and print production workflow processes beginning with layout and proceeding through proofing and platemaking.

Callas has released version 1.3 of its pdfaPilot, which is a toolbox for creating, testing and validating PDF/A files for long term archiving. It's sold both as a plug-in for Acrobat and as a server edition, and it's also possible to integrate it into other solutions.

XMPie has updated its PersonalEffect and uDirect personalisation software to be compatible with Creative Suite 4. Alan Dixon, Technical Director at UK distributors Positive Focus, says: "There are a number of other changes introduced at the same time, besides the usual minor improvements to functionality, speed and flexibility. The emphasis with XMPie solutions is on usability, making the product a lot easier to set up and operate. We can now send separate email notifications to multiple recipients. For example: a 'RecipientLanded' notification can be sent to Sales; and a 'Thank You' email sent to the recipient who visited your website. Collecting information from self-registration or refer-a-friend previously required considerable manual adaptation, now, in version 4.6, it requires minimal editing and significantly simplifies the acquisition process."

InfoPrint, the joint venture between IBM and Ricoh, has partnered with a number of software companies, including DocPath, Crawford and GMC. Enrico Parodi, Vice President of InfoPrint's Software & Services, explains: "Integrating the latest software products from key partners is pertinent to our strategy of bringing the best solutions to market, to meet current business demand and ensure customers remain competitive."

Markzware has upgraded its PUB2ID plug-in for InDesign CS3 and CS4 which converts native Microsoft Publisher files for use with Adobe InDesign, complete with styles and formatting.

Goss International has launched a new web offset dryer for better cost savings and environmental benefits. The Ecoset dryer is based on Goss's Ecocool technology, with design enhancements that can reduce energy consumption and emissions by 50 percent or more.

Xanté has launched its Ilumina 502 digital production press, essentially a high capacity version of its best-selling colour model. The 502 has a 530-sheet cassette and can handle 12x18ins paper, in weights from 75 to 502 gsm, making it suitable for thick covers. It is capable of printing fibre-enhanced papers such as textured canvas, sleek metallic, cast coated, and magnetic stocks. It can produce full color output at up to 36ppm and monochrome output up to 40ppm.

Xerox has announced a new monochrome printer, the Nuvera 200 EA Perfecting Production System, which is aimed at transpromo and short run book production. It uses the existing Nuvera 288 platform and prints at 200 images per minute with a resolution of 4800 x 600dpi and 156lpi. It can be used in a twin engine set-up for double-sided printing.

Xerox also has a new finishing unit, the GBC eBinder 200 which takes printed pages from any Xerox Nuvera printer and stacks, registers, punches, and inserts a plastic comb to automatically bind at the rated speed of the print engine.

And Xerox has added finishing solutions for some of its other printers. These include an integrated in-line SquareFold trimmer module that creases the cover and performs face trimming for a better look for booklets and manuals for the 700 press and the 4112/4127 series. There's also a GBC AdvancedPunch that offers a range of in-line punching styles to create documents that are ready for professional mechanical binding, and an upgrade to the Freeflow Print Server 7, which delivers enhanced colour and monochrome image quality, an intuitive interface for simple job submission and customisable security features.

Océ has launched a new multifunctional printer, copier and scanner. The VarioLink 6522c is aimed at the mid-volume high end office segment and has a print speed of 65 monochrome and 50 colour pages per minute, and can scan 78 images per minute. There's an optional Fiery colour controller for use in light production environments.

Atlantic Zeisser has released the full family of its Omega inkjet label printers. They use UV curable inks and have a

resolution of 360 or 720 dpi at print widths of 36mm to 210mm and can produce bar codes and font sizes down to 4 points. The latest model is the 72i which has a resolution of 360dpi and a speed of 60m/min. There's an eco-friendly curing device, the Smartcure 72iLED UV which uses less energy than existing systems.

Atlantic Zeiser has also added an inline camera control system to its Braillejet printer, designed to print braille for labels and packaging. By law, all European pharmaceuticals must use the braille reading system of raised dots for visually impaired people. The Braillejet, developed by the Swiss supplier Gyger, enables Braille letters to be printed with a UV curable high-viscosity ink to achieve immediate fixation of the dots.

EFI has launched two new Vutek superwide inkjet printers. The GS3200 is a 3.2m wide hybrid with dual-resolution capability, giving users a choice of a true 600dpi or 1000 dpi, with selectable 24pl or 12pl drop sizes. It has four colours plus white and prints at 222.9 sqm/hr. The GS5000 has the same dual-resolution capability, prints in eight colours plus white and can reach speeds of 288 sqm/hr.

Mimaki will be launching a new dye sublimation printer at the Sign and Digital UK show at the NEC later this month. The TPC-1000 has been adapted from Mimaki's CJV30 line-up of solvent machines. It has the same integrated cutting feature but with aqueous dye-sub inks, with a choice between standard and a more intense colour inkset. It comes with a PostScript RIP and basic design software as well as a FineCut 7.0 plug-in for CorelDraw and Adobe Illustrator.

Green Shoots

Trivia, snippets and cuttings from the world of green, some of them relevant for printing and publishing, some of them not. The ones that are not could be relevant one of these days but in the meantime, they might get your eyebrows twitching just a little. You might even stretch to the occasional hmmmmmm.

The paper and board recycling rate in Europe reached 64.5% in 2007, and the European Recovered Paper Council (ERPC) confirms that the industry is on track to meet its voluntary target of 66% by 2010.

The Green IT village introduced at last year's CeBit has grown into Green IT World. It filled almost an entire hall at this year's show in Hannover. IPEX and drupa take note!

Rupert Murdoch's commitment for News Corporation to be carbon neutral by 2010 has one more year to be realised. *"When all of News Corp. becomes carbon neutral, it will have the same impact as turning off the electricity in the city of London for five full days,"* Murdoch has said.

It takes 28-70% less energy to produce recycled paper than it does to produce virgin paper and uses less water. Paper recyclers have about fifty different types to deal with.

Tesco, the giant supermarket firm, is trialling a scheme to encourage customers to leave their excess plastic and paper packaging at the checkout where Tesco is promising to recycle it.

Alasdair James, head of energy, waste and recycling at Tesco explained: *"We know our customers expect us to help them recycle easily and we have also committed ourselves to cutting our own waste. This unique pilot helps us do both. Packaging left by customers at the store will tell us a lot about areas we may need to look at again as well as where we have got it right."*

However, it is worth pointing out that in some countries, notably Germany, customers have been encouraged to leave their packaging at the supermarket for several years, which has led to a considerable reduction in the amount of packaging used.

The British public has recycled 33.8 million tonnes of rubbish worth over £1bn since 2003.

Picture This

The Stationers are an ancient guild of booksellers and newspaper makers founded in 1403 and one of the oldest Livery Companies of the City of London. Today the guild's membership of around 400 includes printers and publishers, plus other representatives of the graphic arts. This Plane tree, planted several centuries ago, stands in the courtyard at Stationers' Hall.

The tree is a reminder of two important things, for printers and publishers, and everyone else as well. During the Protestant Reformation, the Stationers were required to seize books that offended the Church and State for pretty much any reason. This got a little out of hand towards the end of the Reformation and throughout the English Civil war. This tree sprung up in the ashes of countless book bonfires and has grown there ever since.

Besides oppression by the state and ecclesiastical authorities the Stationers had other reasons for burning books. The Guild had a monopoly on book production and once a member had entered ownership of a title or copy in the Stationers' Register no one else could publish it. This is the origin of the rules of copyright, first entered into law in 1710. This tree's roots and nurture may also entwine in the dust and demise of books and plays deemed in breach of copyright.

News Analysis

Agfa has signed an agreement to distribute Canon's range of Imagepress digital colour printers in the UK. The idea is that Agfa will target the kind of traditional print companies that it is already selling its plates and prepress equipment too, while Canon concentrates on emerging digital printers. The deal covers the full range of Canon's colour printers including the C6000VP, C7000VP and the recently launched C1+, but not the monochrome models.

Lawrence Roberts, managing director of Agfa UK, says that it's a very neat fit for Agfa's customers: "We've got roughly 700 printers on our books that we deal with on a regular basis and a percentage of them will want some sort of digital engine and now we have one to offer them." He continues: "Canon will do all the install and servicing so we are just acting as a dealer." However, Agfa will get a percentage of the click charge which covers the consumables.

Agfa has been an early adopter of digital technology, selling the Chromapress, an early Xeikon OEM, back in the 90s. But Agfa got out of Chromapress and later invested a significant chunk of money into the Dotrix inkjet press, but has yet to see any great number of sales. So this is an important agreement for Agfa. As Roberts explains: "It takes us into digital printing without us having to invest another huge chunk of money."

Trevor Dodsworth, product marketing manager for Canon UK, says: "We see it as a mutually beneficial alliance. Agfa have a presence in the commercial market space that we don't currently have and it's a great opportunity for us to

Agfa will now be selling Canon'scolour printers, including this Imagepress C7000VP.

get more involved in areas where they've been successful with workflow." Agfa's Apogee prepress workflow has already been enhanced to drive the Canon Imagepress within a hybrid workflow.

For the moment this arrangement is only in the UK, but both companies say that it could easily be rolled out into other European countries.

Last month Kodak agreed a distribution deal for Ricoh to sell its S-class Nexpress digital printers in Europe, Switzerland and Norway. Ricoh already distributes Kodak's black and white so it's a sensible extension. However, it does not include Kodak's M-class Nexpress printers which are rebadged Canon Imagepresses. Nonetheless this latest arrangement now leaves three vendors, Canon, Agfa and Kodak, selling the same Imagepress models, which is bound to give Xerox a run for its money.

Heroes & Zeros

Heroes

Tim Berners-Lee has probably got an award of some sort for his work that led to the World Wide Web, but it's so utterly incredible that he's worth recognising again.

This year marks the twentieth anniversary of Berners-Lee's big idea. In 1989 he published Information Management: A Proposal at the CERN particle physics laboratory near Geneva in Switzerland. Sir Tim proposed a way of keeping track of the information relating to the Large Hadron Collider project. His overview begins: *"Many of the discussions of the future at CERN and the LHC era end with the question – 'Yes, but how will we ever keep track of such a large project?' This proposal provides an answer to such questions. Firstly, it discusses the problem of information access at CERN. Then, it introduces the idea of linked information systems, and compares them with less flexible ways of finding information."*

The LHC itself hasn't been entirely trouble-free, having had to be temporarily shut down for repairs shortly after opening last September, but the Web has never looked back.

Zeroes

Facebook hasn't yet managed to monetize its assets but this statement in its terms and conditions might be a step towards it:

"By posting user content to any part of the site, you automatically grant, and you represent and warrant that you have the right to grant, to the Company an irrevocable, perpetual, non-exclusive, transferable, fully paid, worldwide license (with the right to sub-license) to use, copy, publicly perform, publicly display, reformat, translate, excerpt (in whole or in part) and distribute such user content for any purpose on or in connection with the site or the promotion thereof, to prepare derivative works of, or incorporate into other works, such user content, and to grant and authorize sub-licenses of the foregoing."

It's worth noting that this extract comes from Facebook's current terms and conditions. Facebook faced a storm of criticism back in February over changes to its terms and promised to give more rights to users, though it clearly has a long way to go.

Be careful what you share!

An Interview

A pioneer with high IQ on colour

Paul Lindstrom talks with Ed Granger, founder and CEO of IQ Colour

There are many people that have contributed to how we manage colour reproduction in the publishing workflows of today. Perhaps less known by the broader audience, Ed Granger, formerly of Kodak, and of LightSource and X-Rite, now at IQ Colour, and also a long serving professor at RIT, is better known by industry colour experts.

One of the more tangible footprints in the history of applied colour science was the first affordable spectrophotometer, the Colortron, designed by Granger and produced in the mid-nineties by LightSource. Another more subtle influence was Granger's suggestion of the separation algorithms for the Hexachrome 6-colour separation software, HexWrench, designed by Oya Demirly at Studio Soft for Pantone in the late nineties.

We tested the HexWrench software at that point, and found that the separations were so cleverly built that it was possible to print them using AM screening, at a time

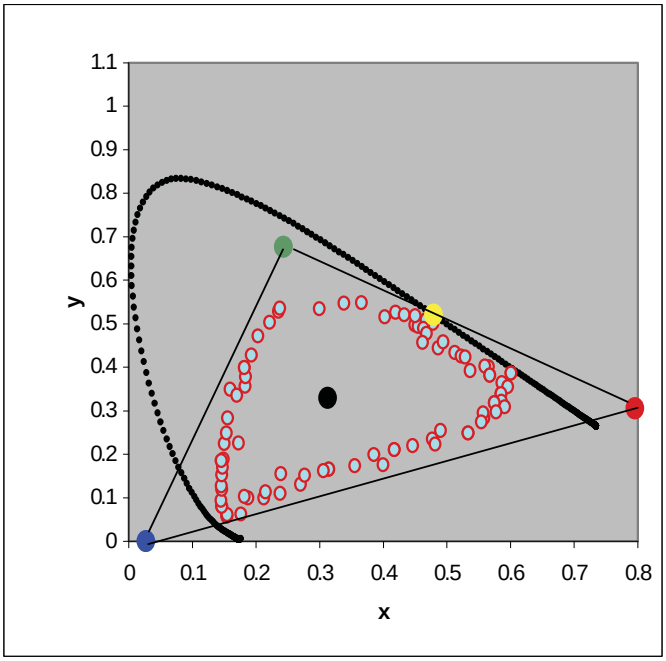
when it was thought necessary to use FM screening for HiFi-colour printing (multi-colour separations). Since then Granger has further enhanced the underlying algorithms for even better and more tolerant separations for 4-colour or multi-colour printing.

You would think that as a pioneer of colour technology, Ed Granger would have provided a slightly higher quality image of himself. Shame on you Ed!

Granger has for a long time advocated moving away from using CIELab as the preferred device independent colour system for applications within graphic arts production. The main reasons are that CIELab is non-uniform, and that it introduces unnecessarily complicated formulas for colour transforms. At a time when many printers and prepress operators are about to get to grips with using ICC profiles and measuring colour using a spectrophotometer that deliver CIElab values, Granger's suggestion is a hard one to accept. But when talking to him, it's difficult not to be convinced that he's on to something important, and the practical work conducted at IQ Colour adds to this impression.

While it's somewhat difficult for a layman to follow some of the reasoning of a professor in colour science, Granger gives some examples that many printers probably recognise from their daily work: "Take a look how CIELab and the different formulas for colour deviation, Delta E, describe a colour difference for yellow". He continues: "Using CIELab the colour difference between 0% yellow and 100% is claimed to be 100 ΔE, as it is for black. But we all know that yellow is perceived as a very light colour, and 100% yellow is not perceived by the human eye to be as dark as 100% black. We need a uniform reference colour space that takes into account the perceived lightness of colours, and I suggest a uniform reference RGB."

Granger has written many papers and articles on this topic, and suggests finding an RGB colour space that is close to the colours of the real world. Some colour spaces include theoretical colours that can be defined by numbers, but not reproduced by any known imaging device of today, or in a near future.



The primaries of IQ RGB are chosen so that all real world colours are included, but with very few artificial colour values, non-existent in the real world.

Another problem Granger wants to get away from is the old use of a certain gamma for monitors. Most of us accept a gamma of 1.8 or possibly 2.2 (depending whether you are a Mac or PC/Windows user) but Granger dismisses both as products of the past. Those gamma values have some relevance for CRT monitors, but today's monitors all have different optimum gamma correction, if they use gamma correction at all. Changing to a uniform RGB colour space with an ideal and linear gamma reproduction (meaning gamma 1.0) should solve some of the problems related to gamma.

"Take the plasma monitors for example", Dr. Granger suggests, "they have a native gamma of 0.45, and need a transfer function of 4.4 to be forced to a set gamma of 2.2, valid only for CRT monitors. And LCD monitors have a sinusoidal native "gamma" which is now being warped to look like the old CRT. It's time we leave the old technology, and replace it with methods relevant for the new technology. RAW Camera RGB for example, is linear, and we are losing bit depth by staying with the old standard".

A classical GATF test image separated with a conventional SNAP-compliant ICC-profile through Adobe Photoshop (top) and the same image separated with IQ Colour (bottom). More pure colours, better image details and contrast are what IQ Colour normally expects from their separations. (Note: The difference in characteristics may not show very well here, but there are good examples on the IQ Colour website to examine in detail).

The suggested uniform colour space is (not surprisingly) named IQ RGB, but is, to quite an extent, built on a previous suggested colour space called ATD, first developed by another colour scientist, Sherman L Guth. In ATD the A (achromatic) axis is roughly the same as L (Luminance) in CIELab, and at first glance T (tripanopes) similar to the red-green axis of the a-values in CIELab. The D-values (deuteranopes) are similar to the b-values in Lab (blue-yellow opponent colours). But the choice of primary colours in ATD and IQ RGB are chosen to be more in-line with real world colours, and with D65 (6500 K) as the ideal reference white. Combining the use of IQ RGB with the concept of darkening the primary colours, a uniform and fairly straightforward colour transform is possible between devices.

To prove the practical use of this colour model, IQ Colour offers a suite of software components called IQ Colour. In real life tests IQ Colour produces colour separations that typically use about 30% less total ink while at the same time producing more pure colours, better image details and better contrast than many ICC-based colour converters such as, for example, Adobe Photoshop. Granger has also found that the separations are more tolerant to density changes during the print run, and less prone to effects relating to metamerism (colour changes in appearance when using different light sources to evaluate the prints).

When all of these things are considered, the IQ technology sounds almost too good to be true. Can the people behind IQ Colour convince the print community (and even more importantly – the colour science community) that there are strong reasons to consider the suggestions brought forth by Granger? It's never easy to convince others when you think outside the box, and if we hadn't followed Granger's work for so many years, we at Digital Dots would probably have been very sceptical. But seeing the practical results with our own eyes, and agreeing with the colour theory (as far as we are able to follow it as laymen), we suggest anyone interested in advances in applied colour management should read and evaluate Granger's statements, and try out the IQ Colour software for themselves. It's not black magic, it just seems like it is!

Taking a more colourful approach

Despite the current economic gloom that has engulfed the world, Anton Schaaf, CTO and board member of Océ, recently told a gathering in Poing, Germany: "Recession or not, technology is the engine of innovation and value creation". And Océ has actions to back up these words, having just introduced a series of new printers.

The new colour engines extend the Jetstream inkjet family and introduce a new model to the toner-based ColorStream series. According to Sebastian Landesberger, executive vice president Océ production printing, "there is no one fit technology and that's why we have both technologies to fulfil all requirements in the printing sector".

Colour has become very important to Océ and its future growth. The company has a leading position in monochrome print, having over the last 30 years become the number one in monochrome continuous feed printing with a 63% market share. Since 2007, when Océ had a 5% share of the cut sheet duplex market, the Varioprint series which supports spot colour has captured around 23% of its target market.

Océ's growth in colour has been quite astonishing since entering the market two years ago and the company aims to capture 60% of the colour market in the next few years. Anton Schaaf says: "We anticipate colour revenue to continue to grow and represent a sizeable percentage of our total revenue in the next five years." These new machines underscore the company's commitment and should be a heads-up for the competition. According to Schaaf: "Our company offers the widest digital colour portfolio in the marketplace … colour revenue increased to 28% of total corporate revenue in 2008."

There are two new Jetstreams, the 75 metre per minute (m/m) Jetstream 500 (simplex) and 1000 (duplex), and the Jetstream 2800, which Océ claims is the world's fastest printer right now, printing 130 m/m and rated for 60-70 million copies per month. The 500/1000 is the first system in the industry with full width duplex in a single cabinet.

The 500 prints 505 A4 pages per minute with the 1000 producing 1,010ppm, and the Jetstream 2800 cranks out 2632ppm. All models support monochrome and colour output and are field upgradeable to CMYK plus a fifth colour including MICR inks. They print 600x600 dpi, with either water-based dye inks or the recently announced pigmented inks. Available later this year these inks print more brilliant and brighter colours for books and newspaper printing

Océ now has an enviable range of colour web engines. According to Crit Driessen, vice president of marketing and strategy for Océ these additions give Océ "the broadest inkjet-based portfolio in the market" offering 1/1 to 5/5 printing using electrophotographic or inkjet printing technologies.

Océ now has an enviable range of colour web engines. According to Crit Driessen, vice president of marketing and strategy for Océ these additions give Océ "the broadest inkjet-based portfolio in the market" offering 1/1 to 5/5 printing using electrophotographic or inkjet printing technologies. In 2010 Océ plans to launch a 200 m/m JetStream, but hopes to reach this speed by the end of this year.

In terms of positioning, the 500/1000 model sits below the 100 metre per minute JetStream 750/1500. It has a 515mm print width and is compatible with existing finishing systems. The 2800 is slower than the existing JetStream 2200 which produces CMYK colour at 150 m/m but it has a 762mm width. Jetstream printers are now installed at nine sites including GHP Germany's biggest direct mail company and the most recent, Polestar, the UK's largest

gravure printer. Direct Group in the US uses JetStream to produce 30-40 million direct mail pieces per month. Océ reckons it has a market share of around 16% as of the end of 2008.

Sebastian Landesberger, executive vice president of Océ's production printing division.

Competitive Positioning

Based on Kyocera 600dpi piezo drop-on-demand heads, the new 762mm web Jetstream 2800 goes head to head with the HP Inkjet Web press, due for commercial availability later this year. The 2800 has a capacity of over 70 million prints per month, the same as the Inkjet Web press's and prints on 64-157gsm, whereas the Inkjet Web press prints on 40 to 200gsm substrates. The 2800 prints at 130 m/m whereas the Inkjet Web press prints 122 m/m. The Jetstream 2800 is 7% faster "than competitive wide format digital colour systems" according to Océ. It prints 2632 A4 pages per minute at 600x600 dpi, versus the Inkjet Web Press's 2600 which makes it only a smidge over 1% faster.

The Jetstream also offers customers a growth path, starting with the simplex monochrome Jetstream 500 up to the full colour 2800. Customers can upgrade in the field from monochrome simplex printing (1/0) to full colour plus specials duplex printing (6/6) including MICR and other specialty inks. There is also a new Multilevel option for printing finely graduated dot sizes for smoother tonal transitions and improved highlight details. And Océ has improved the performance of its SRA controller and Prisma Workflow systems to better support high-speed colour print production. And Océ wants the Jetstream 2800 to encourage the market to transition from offset to digital, which has long been HP's mantra.

Applications for Jetstream 2800

The new press's format was chosen to provide as much application flexibility as possible. It is suitable for newspaper printing so will be a natural addition to Océ's Digital Newspaper Network, which now prints over 20 million newspapers per day worldwide. The new press adds format flexibility and will be attractive particularly for colour pages, micro-zoned editions and special editions and most newspapers will work with this width.

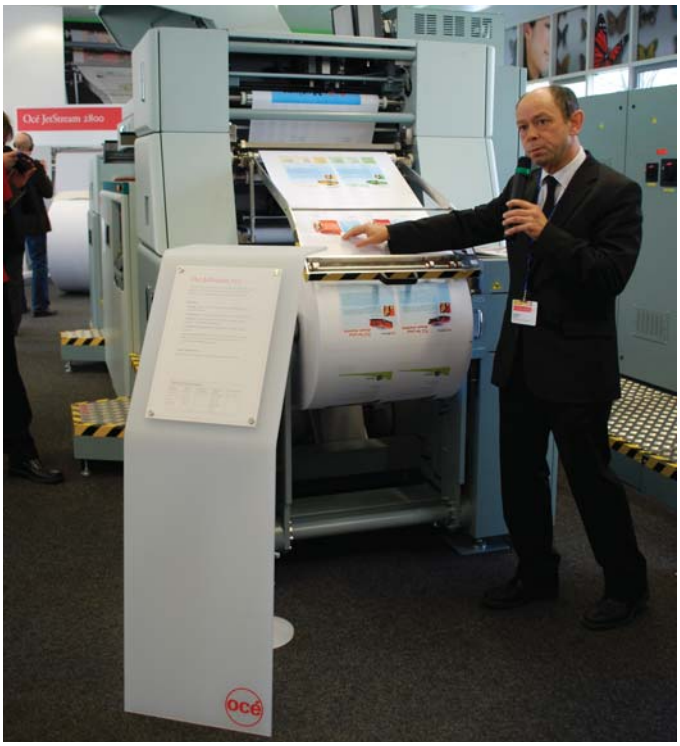
Digital newsprint however, may finally be coming of age as newspapers start to appreciate the benefits of decentralised production and start to move away from the current mass market, standard format model. Spanish contract newspaper printers, Imcodávila, will install a Jetstream 2200 to print 40 newspaper titles daily. Printing at 150 metres per minute the press will print average daily runs of 6000 80-page newspapers.

Called to Book

The short run book market is another target for the Jetstream 2800 although, because of anticipated on-demand book printing growth, Océ is keeping its interests in mono. The 762mm format is suitable for 12- and 16-page book signatures and around 85% of book formats can be done on this width. Book printing will soon start to visibly change, with more titles produced in shorter runs and on-demand so that costs and revenues can be optimised. The long extant book publishing model of long runs and a long tail business is starting to change, driven in part by the rigidity and publishing chaos of traditional book publishing and partly by better market access through the internet. This can only benefit digital printing interests.

Like Xerox, Océ intends to stay in the monochrome business for book printing, both through its own development efforts and through partnerships, such as the one with Konica Minolta for low to mid-range machines.

Océ's position in this sector has strengthened over the last year to a 63% market share at the end of 2008. Xerox is up by a few points from its 2007 position of 15% and Nipson is too from its 5% position in 2007. These gains have been at the cost of Infoprint, which has lost ground over the last couple of years.



Océ claims that this new JetStream 2800 is the world's fastest printer, producing 130m/m and capable of 60-70m copies per month.

Transpromo

Transpromo, transactional work and direct mail are also in Océ's sights for this machine. Today's transactional market relies on preprinted forms with monochrome data added. Océ wants to turn it into a "plain paper solution" with full colour and new applications for transactional documents. Direct mail is getting increasingly more targeted and personalised with fully digital workflows supporting complex hybrid output paths, including print and web.

But transpromo, its rationale and implementation is not an easy market. It is relatively new and carries a high risk in terms of data management and IT investment, especially for printers with limited expertise in these areas. And consumers will respond differently to transpromo messages in different markets, so care needs to be taken to avoid information overload and getting the right messages to the right target audiences. There is a real risk of confusing consumers, if transpromo documents stop looking like bills and statements.

Timing drives direct mail response so this is another important consideration. Advertising must be timed to appear at the point of highest likely response, and the relevance of the offer and its packaging must also be managed. All of this is about personalisation and customisation, but it's also about transaction analysis, variables handling and matching images and messages accurately to the bill recipient. It all depends on huge data processing expertise and power, so this is not a market for the faint hearted.

Direct Group in the US is an excellent example of the scale this type of project has to have to justify the investment. This company has nearly fifty Océ engines including 28 Variostream 8750s used to print statements for CapitalOne, a credit card company. The company prints over 300 million statements per month and is moving into transpromo and database services. CEO Don McKenzie explains that this isn't about saving money for his clients: "We're not focused on cost, we're focused on response. We develop messages for our clients that drive response rates". Getting the right message at the right time and through the right channel using transaction analysis, customer profiling and compelling messaging is the challenge of transpromo printing.

Applications for ColorStream 9000

The new ColorStream 9000 is a continuous feed electrophotographic engine that sits below the high-end 10000 engine for the graphic arts market. The 9000 model is designed for direct mail, transaction and transpromo printing and Océ is repositioning the Variostream 9000 as a monochrome and spot colour machine.

The ColorStream 9000 prints 168 A4 colour or 800 monochrome pages per minute and is rated for five million colour pages per month. Océ's recently announced fifth station for the Colorstream 10000 is also available for the 9000. There are four models ranging from the single colour simplex machine to a five-colour perfecting printer, all of

which are field upgradeable. The first ColorStream 9000 has already been installed in Hungary.

Up Front & Personal

Advances in output need front-end equivalents to fully exploit their speed. Océ has expanded its SRA controller for its new engines to include colour functionality such as closed loop colour control, ICC colour management and full colour AFP support. The latest SRA controller can process up to 3,000 images per minute depending on their complexity.

Océ's Prisma workflow system has also been extended to include preflight and makeready tools for colour production. This is a colour workflow borne of Océ's relationship with Creo to provide preflight and colour management for AFP applications, such as transaction and transpromo printing. The partnership is a joint development effort to bring colour and AFP data preflight checking support to Prisma and a first, as far as we know. Océ can rightly claim to be the first company to implement data preflight and colour checking for the transactional market.

Prisma version 4.02 allows the user to match colours inside an AFP job to those of the output device colour space. An integrated AFP viewer shows the results of preflight checks and makeready. The Resource Preparer manages AFP colour resources according to AFP Colour Consortium standards. The latest version has improved productivity and faster throughput of colour files.

Océ is also introducing a new web-to-print service to be available in May. Océ Net Services is a hosted platform for print ordering and management that makes it easy for printers to get into web-to-print technology without heavy upfront investment.

Océ's Progress

Over the last few years Océ has made impressive progress in the colour market. According to Sebastian Landesberger, of the 250 billion A4 transaction pages printed annually, 97% of them are mono so "there is a huge opportunity to grow in the future into colour". Océ along with its competitors expects a rise in applications for digital printing and that 30% of printed pages will be full colour by 2015, with direct mail going up from 11 to 53% by 2015, books from 9 to 21%, collaterals from 47 to 88% and periodicals from 11 to 53%.

From the Colorwave 600 for desktop colour document production through to the super wide format Arizona 350XT and a host of colour products announced in the last eighteen months, Océ is clearly serious about the colour market. The company anticipates growth across all application areas and has stated that it will go into packaging in the future.

To this end the company now spends 70% of its research and development budget on colour and is creating a colour technology pool. Strength in electrophotography and inkjet and colour management software will enable Océ to develop specific colour printer platforms for production printing, cut sheet document printing and wide format. Océ is also working closely with partners such as Miyakoshi for heads, Müller Martini for finishing and Creo for DFEs in order to improve time to market. Océ expects that the next innovations to improve print quality will be in the paper itself so that it can be more receptive to inks and toners, and move even more quickly through the engines.

This is becoming a very crowded market, a murky market with almost too many choices for buyers, with attractive machines from many players. Customers will decide which route to take based on the merits of electrophotography and inkjet technologies, but also on the kind of support available to them. Technology can be evaluated using criteria such as cost of ownership, productivity, robustness, quality and substrate diversity and even environmental impact. Evaluating the supplier and service provider isn't so simple. Suppliers should plan for some very heavy investment to develop and protect their relationships with customers and prospects.

– Laurel Brunner

Keepers of the faith

The Guardian newspaper, affectionately known to its readers as the Grauniad, because of its surfeit of unintended typos, has been a beacon for liberal reporting throughout its 188 year history. It has campaigned on everything from the repeal of the Corn laws in the 1820s, to parliamentary corruption in the 1990s. Founded in Manchester by John Edward Taylor, The Guardian moved to London in the 1960s but still retains much of the eccentricity that has helped it to stand out from the other national dailies based in the capital.

The company behind the Guardian is Guardian News & Media, or GNM, which also owns the Sunday title, the Observer, and an online version of both newspapers, guardian.co.uk. GNM is itself part of a wider organisation, Guardian Media Group, which also includes regional media and GMG Radio, as well as the Emap business to business magazine group. Uniquely, amongst national media companies, GMG is owned by a trust fund, The Scott Trust, which is pledged to ensure the radical editorial tradition of the Guardian, including its editorial independence, and to plough profits back into strengthening the company.

The company has not been shy to embrace new ideas. In 1988 it adopted an eye catching and award winning design that reasserted its identity and ensured that it was instantly recognisable on the newstand. In January 1999 it launched its Guardian Unlimited network of websites, which have now morphed into guardian.co.uk, and which have consistently won awards. In 2005 the Guardian became the first UK national newspaper to change from the traditional broadsheet to adopt the Berliner format. And at the end of last year the company moved to a brand new building just behind London's King's Cross station.

We dropped by to see how GNM has adapted its image handling systems. A year ago the company looked at how it could better improve its processes, which led to a number of changes, including implementing Fujifilm's C-Fit colour technology. This can automatically enhance images for better colour balance, dynamic range adjustment and and smooth skin tones. Dave Kirwan, head of colour reproduction for GNM, says: "We were outsourcing a lot of work and that was costing us a big chunk of money because we didn't have the resources to do it ourselves. So it was a matter of what could we do to bring it in-house, so we looked at automation."

Kirwan says that the major saving was putting in a new editorial image ordering process: "We were doing around 3200 images a week and as soon as we put the new editorial processing in it dropped quite a lot because things were being over-ordered."

Dave Kirwan, the Guardian's head of colour reproduction.

GNM uses Picdar's Media Mogul to store its main image library. Previously this was a standalone system, "Just one step up from the old-fashioned paper ordering," according to Kirwan, who adds: "The new system just processes the image for us ready to go and then, when we finish working on it, it just sends it to the right place." GNM is still using Media Mogul, but now it is just being used as a database rather than as an asset management system.

GNM uses InDesign CS3 as its front end, but with an internal editorial system called Octopus, developed by the

in-house IT team. This allows images to be checked in or out, and makes use of the metadata in Adobe's XMP files to apply crops. The whole system was loosely based on an earlier implementation of the Quark Publishing System. However the company moved to InDesign, partly because at the time there was no Mac OS X version of Quark, and partly because InDesign allowed it to use transparency in its designs. The system was originally designed for print workflows, but now has to cope with the Web and multimedia as well.

A plug-in allows images to be taken from the Picdar system to InDesign, as Kirwan explains: "As for InDesign, they can select the picture, drag it onto the page and select it to fit the page. They don't even have to order the picture at that stage, they can play with it until it fits." He adds: "Once we have the image placed on the page then it can be manually processed or sent to the C-Fit system."

Journalists have to choose one of six different job categories which describe the image type, such as portrait, sport or architecture, and which determine which processing queue the image goes through. David McCoy, GNM's imaging manager for newspapers, says: "The hardest part of the whole process is to educate the people who are ordering the image as to what that image is. C-Fit doesn't work when human error occurs and the wrong job ticket is applied."

C-Fit won't handle every type of image, and in theory, users know not to send images with strong colour casts or heavy theatrical lighting, such as you would get at a pop concert. McCoy Adds: "So editorial people order these images through a manual process, and if they get it right and the images are good to start with then C-Fit will do a perfectly reasonable job." He says that people are getting used to it, but adds: "Inevitably some people in editorial will take risks because the automation is quicker so they will just cross their fingers that it might work. So we are still being kept busy to make sure that everything works well."

Kirwan says that it does a good job with the majority of images, and that this has saved a huge chunk of time. He adds: "The whole point of the exercise was to save time and to make the department more efficient and be in a better position to to take back in the pictures that we were sending out to repro." And this has worked with all of the various newspaper sections and magazines now being done in-house, and with the system now being used for other items such as promotional CD and book covers. The Guardian and Observer use colour throughout, with all the images being processed in colour. However, there are a lot of B/W images in the archive, and there are occassional photographers who still prefer to work in B/W.

Uniquely, amongst national media companies, GMG is owned by a trust fund, The Scott Trust, which is pledged to ensure the radical editorial tradition of the Guardian, including its editorial independence, and to plough profits back into strengthening the company.

McCoy stresses that the quality of the design is paramount at the Guardian, pointing out that a lot of time is put into working over the covers and spreads. Kirwan says that the automation has added to this, noting: "We have skilled people and we want to keep them and to use their time to make the images better. We want the people to be doing the difficult stuff and the more creative things and to leave the bog standard stuff to C-Fit." He adds that because the designers are concentrating on the high-level work their overall skill levels have gone up.

The company did look at other alternatives to C-Fit but felt that overall its image processing was a bit more perceptive, as Kirwan explains: "It wasn't the most straigtforward and it took a lot of juggling but the sheer freedom that we could exercise gave us the control that we needed, whereas other packages dictated what job tickets to use. But C-Fit gave us control over things like curves and tonal corrections."

He adds: "But we didn't want to trust the automation because we weren't sure that one program was going to do everything so we put a check in place and we were

quite happy if it could do about 40 per cent." Kirwan says that it has far exceeded that because of the quality of the processing and the workflows that they have put in place.

GNM moved recently to a brand new, open plan office block, just behind London's King's Cross station.

However, the Guardian doesn't let images over a certain size, or those images to be used for the front page of any section, to go through the automatic processing, because as McCoy says: "It's just about controlling the risk." McCoy says that his team keep an eye on the images that are being processed: "We monitor the images in Bridge which is adequate but not perfect because it's not colour managed. We have a plug-in within Bridge to check out a picture and work on it manually."

The Guardian is also starting to move towards a soft proofing system, having invested in ICS's Remote Director. For the moment this is being used with page proofs for content, though Kirwan says that the company is hoping to stop all paper proofs. This is in line with GNM's environmental campaigning (which also includes a lack of parking spaces at the new offices in a bid to persuade visitors to use public transport).

These days the Guardian Unlimited websites are becoming ever more critical to the business. This has huge implications for all newspapers which are trying to maintain their traditional advertising-led business model, whilst also competing against 24-hour television news. Earlier this year GNM announced its Open Platform, which will allow partners to reuse content and datasets from the Guardian's website in building their own applications in return for carrying Guardian advertising. Emily Bell, the GNM's director of digital content says that this will allow Guardian content "to be woven into the fabric of the Internet'.

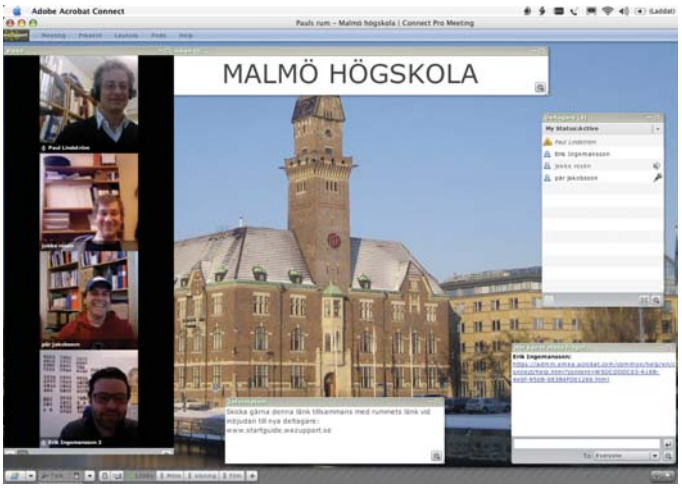
It's fitting that the Guardian should look to exploit the opportunites that new media platforms can bring, rather than fearing them. The success of the Guardian has been founded on the quality and the independence of its editorial coverage, and the Open Platform will build on this. But part of the Guardian's success has been knowing when not to take itself too seriously. One developer, for example, has used the tools that go with Open Platform to track the use of swearwords in the Guardian over the last ten years. Fortunately, the news that the Guardian was about to abandon its traditional paper publication in order to publish exclusively on Twitter, turned out to be an April Fool.

- Nessan Cleary

Net-based team working

The plethora of components in the latest version of Adobe's Creative Suite can be quite overwhelming. So to be asked to look for utilities outside CS4 might just be a little too much. But when it comes to online collaboration, it's worth looking at what's on offer in Adobe Acrobat Connect.

With MSN, Skype and other online communication facilities, one might be tempted to think that there isn't any need for a dedicated online video- and collaboration software – surely some nifty freeware would do the job? But it's difficult to find a solution that combines audio, video, chat, file sharing as well as the capacity to record and edit sessions, and with a user-friendly interface. So if you are prepared to pay a reasonable fee to get a professional tool, then Adobe Acrobat Connect Pro, to give it its full name, is worth a second look.



Adobe Acrobat Connect Pro is a web conferencing and e-learning software with a user-friendly interface and predefined presentation layouts. This shows the Lobby where participants can gather before the actual meeting starts.

The software has its origins at Macromedia, as a collaboration tool for web designers under the name Breeze. It soon proved to be very useful for teamwork where the members were located at different sites, perhaps across the world, often in different time zones. But the user interface of Acrobat Connect shows no traces of being limited to web design only, rather there are two main applications possible that Adobe suggests: Web Conferencing and e-learning. The user interface is the same, it's mainly which of the tools you decide to use that will determine the type of context for Acrobat Connect to service. Other obvious uses include online demonstrations of software, or some form of marketing activities.

Acrobat Connect and eLearning

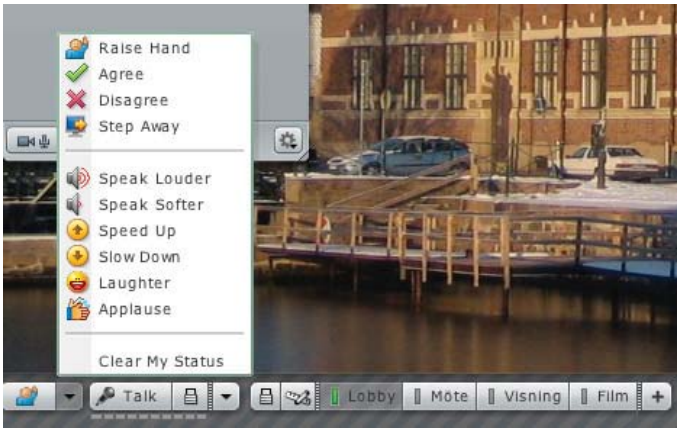
It was actually while searching for a good eLearning tool that we took a closer look at Acrobat Connect. The free trial account gave a promising impression, and through a contact with the local Adobe distributor for Adobe Acrobat Connect Pro, WeZupport in Sweden, we got our own 'meeting room' to play with. Even though Acrobat Connect is said to be very easy to use, we recommend accepting help with the basic setup. You don't need to install any special software locally, or on any server (at least not if you go for an ASP model – a full scale Enterprise solution will need a radically higher level of internal IT-knowledge)

Adobe, or any of its distributing partners for Acrobat Connect, will help you set up a basic account, with a default set of tools and options. If you are going to be the administrator of meetings you will probably need a couple of training sessions to go through the basic tools, such as how to invite participants and regulate their user rights. But none of this requires programming skills in Java, XML, Flash or any of the other underlying Acrobat Connect technologies.

The typical user will find all the tools necessary in the menus of a default setup. A standard web browser, with the Flash Player plug-in installed, is all that is needed. Well, the first time an Acrobat Connect session is started, the user will note some additional components being added to the browser, listed as an Adobe Acrobat Connect Add-in, but this is done automatically in the background, and doesn't require any manual settings or intervention by the user.

A typical setup uses a standard set of layouts, with the first layout being the 'Lobby'. This is where participants can gather before the meeting actually starts. It's a good idea to offer some guidelines and introductions to

Acrobat Connect here. Another tip to remember is to ask the participants to switch to mute initially; otherwise the presenter, or host, has to try and talk over an accumulated noise of background activities, chit chat and music, going on around the members in the meeting.

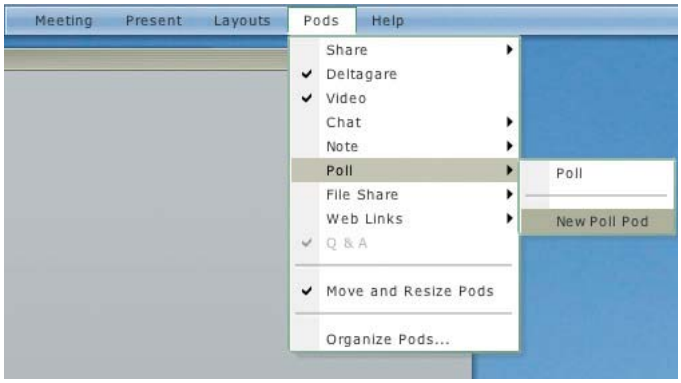


All the users in a meeting have access to some basic tools in the Tools Palette. These include buttons to speak, raise a hand, give applause and so on.

The next layout is typically the Meeting, and here the presenter probably has prepared some material to show. Contrary to the name, Acrobat Connect, the Acrobat software itself is actually not involved in a Connect session. And, strangely enough, Acrobat Connect can't open PDF-files; they need to be converted to the Flash file format beforehand. MS PowerPoint-files, on the other hand, can be opened straight off and used in presentations. But Adobe provides software for the conversion between PDF and Flash (at the moment a Windows-only converter), and CS4 users have a somewhat better support for Flash than before, including Mac users. Perhaps Adobe should have stuck to the original name, Adobe Connect, and not bothered to make the change to name it Acrobat Connect Pro.

Besides working with different layouts Acrobat Connect also has a predefined group of tools called Pods. It's basically windows that the host can open and where the participants can share documents, chat, see a list of meeting participants, participate in polls and so on. Beside the pods there are some general tools in a palette always visible on the desktop, and this is where basic functions like switching the microphone on or off and raising a hand, can be found. Connect also offers a White board function, which the presenter, or anyone from the audience (if allowed), can use to point, mark or write onto the page that is shown.

So far, our experience with Adobe Acrobat Connect has been very good. We haven't tested it using very low bandwidth connections, but with 2-10 MBit/s internet connection the screen update, the sound and video quality are reasonable. When it comes to ease of use all software needs getting used to, but it's difficult to see how Adobe could have made it much easier than it is to get started. We recommend though taking the tutorials offered before



Besides the different layout modes and tools, the meeting host can open up a selection of windows, called Pods. This gives additional functions such as starting polls or chat sessions and file sharing.

trying to go ahead with meetings online. After a couple of sessions it should be possible to have a quite pleasant experience of web conferencing or e-learning through Acrobat Connect.

– Paul Lindström

Quiz

Given the loud shouting about the transpromo market of late, we thought it might be time to test your knowledge about the technology and requirements to support this application.

1. What does the word transpromo refer to?

(a) An application that combines customer communications and financial information.
(b) A combination of promotional information and commercial transactions.
(c) The mix of financial information and product details.
(d) Transaction data and generic product promotions

2. Which of the following manufacturers has not expressed an interest in the transpromo market?

(a) Screen
(b) Océ
(c) HP
(d) Goss

3. What technology is best suited for high speed variable data transpromo printing?

(a) Inkjet
(b) Hot melt
(c) Electrophotography
(d) Offset lithography

4. What is the most important part of a transpromo printing system?

(a) The printing engine
(b) The controller
(c) Data management
(d) Finishing

5. What poses the biggest threat to the future of transpromo printing?

(a) Web delivery
(b) Customer resistance
(c) Regulation
(d) Unavailable credit

6. Name the most common data type for transpromo?

(a) PDF
(b) IPDS/AFP
(c) JDF
(d) XML

7. Which company now dominates monochrome transaction printing?

(a) HP
(b) IBM
(c) Océ
(d) Xerox

8. Which of the following document types is not a possible candidate for transpromo content?

(a) Newspapers
(b) Legal
(c) Packaging
(d) Financial statements

9. How many variables can a transpromo document have?

(a) 100
(b) 300 million
(c) Unlimited
(d) 100,000

10. What type of printing company is the strongest potential candidate for transpromo?

(a) Heatset web offset
(b) Gravure
(c) Digital
(d) All of the above

11. What kind of documents are most frequently read and reread?

(a) Direct mail
(b) Bills and statements
(c) Insurance policies
(d) Newspapers

12. Which international standard defines the characteristics of an information security system?

(a) ISO 27001
(b) ISO 12647
(c) ISO 15432
(d) ISO 20449

13. What does MICR stand for?

(a) Micro Intelligent Card Reader
(b) Multiple Interpreted Character Recognition
(c) MIS Integrated Colour Rendition
(d) Magnetic Ink Character Recognition

14. What characteristic should transpromo sales people most have?

(a) Understanding of printing
(b) Patience
(c) Understanding of data processing
(d) All of the above

15. Which two manufacturers have set up Infoprint?

(a) Canon and EFI
(b) Screen and Fuji
(c) Ricoh and IBM
(d) Heidelberg and Xerox

Answers on next page...

Each correct answer gets you four points for a maximum of 60.

Answers

1. (b)
2. (d)
3. (a)
4. (c)
5. (a)
6. (b)
7. (c)
8. (b)
9. (c)
10. (c)
11. (b)
12. (a)
13. (d)
14. (d)
15. (c)

A score of 0-19 suggests that you are clearly living in a world where advances in digital printing applications are of no interest to you. This is probably because you don't need to know anything about this to do your job, but someday you might need to find a job selling or using high speed digital printers, so maybe look out beyond your world once in a while.

19-40 hints at a passing interest in transpromo and a possible enthusiasm for what the technology could do. But if you're serious about it you really do need to plug some of the gaps in your knowledge. Check out the websites of the leading players and read more about what successful companies are doing with this application. The transpromo business is set for major upheaval and will attract some serious marketing money as soon as people have money to spend. Make sure you're in line for some of the education.

41-50 says you really do understand this application but if you're at the low end of this scoring category, pay a bit more attention to what's going on out there. Chances are that you understand either the printing or the data processing side of the picture, but not enough about both. So you need to redress that balance.

If you've scored 51-60 you've either cheated or care far, far more than we do about transpromo and should have written this quiz instead of us! Well done!

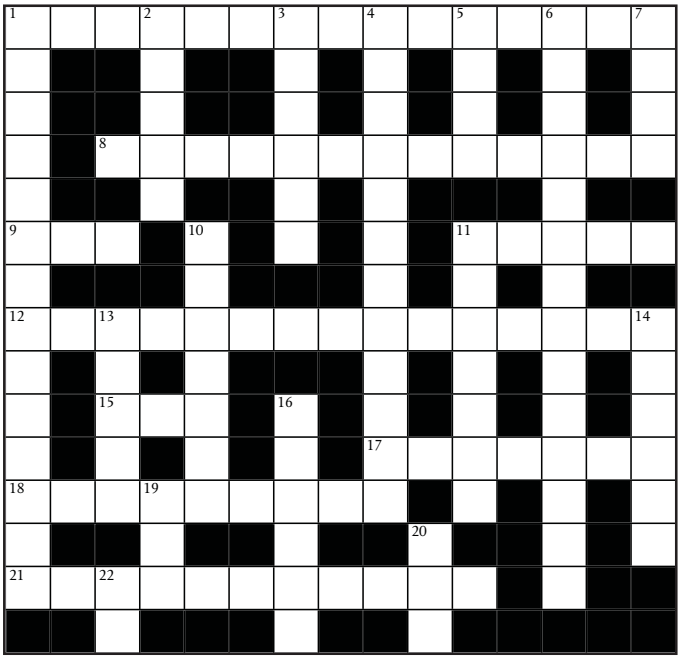
X-word Puzzle

Number 16 – Answers

A	N	A	L	U	M	I	N	I	U	M	B	A	S	E
B	■	■	I	■	■	N	■	N	■	A	■	G	■	A
L	■	■	G	■	■	S	■	S	■	N	■	G	■	S
A	■	C	H	E	M	I	S	T	R	Y	F	R	E	E
T	■	■	T	■	■	S	■	A	■	■	■	E	■	■
I	N	K	■	M	■	T	■	N	■	F	U	S	E	D
O	■	■	■	E	■	■	■	T	■	R	■	S	■	■
N	E	G	A	T	I	V	E	I	M	A	G	I	N	G
P	■	R	■	A	■	■	■	M	■	G	■	V	■	A
L	■	A	L	L	■	A	■	A	■	I	■	E	■	N
A	■	I	■	U	■	B	■	G	E	L	L	I	N	G
T	O	N	E	V	A	L	U	E	■	E	■	N	■	E
E	■	■	R	■	■	A	■	■	E	■	■	K	■	D
S	E	P	A	R	A	T	I	O	N	S	■	S	■	■
■	■	O	■	■	■	E	■	■	D	■	■	■	■	■

X-word Puzzle

Number 17 – CTP Imaging*



Across

1. The foundation of any metal printing plate. (2, 9, 4)

8. The kind of plate that is almost processless. (9, 4)

9. A liquid with pigments, dyes or other colorants. (3)

11. Fussed about it? The toner's stuck. (5)

12. An unaffirmative response, removing what's unrequired to visualise. (8, 7)

15. Everything? (3)

17. These agents stabilise liquids and are used in some plate coatings. (7)

18. An increase gains and decrease loses. (4, 5)

21. You need a single plate for each one of these. (11)

Down

1. They involve removal, yet they are candidates for processless plates or direct to cylinder imaging. (8, 6)

2. It's used to burn an image in a plate's surface. (5)

3. Violet, thermal in site stats not uncertain? (6)

4. Is it what every plate manufacturer wants his plates to give to customers? (7, 5)

5. Definitely the number of plates manufacturers want customers to use. (4)

6. Baking a plate can help it resist corrosion by these on press. (10, 4)

7. Convenience is all about this. (4)

10. A type of plate with a solid customer base. An upstart, verifiable? (5, 2)

11. Is this the balance between water and ink? (7)

13. Its shape on the plate's surface makes a difference to quality. (5)

14. Jobs that exploit ultrawide format platesetters are thus grouped. (6)

16. To remove. (6)

19. Entered radical addition in time for CTP. (3)

20. When it's all over. (3)

22. Pleased over the receipt of one. (2)

** Answers at www.igaef.org*