How sweet to be a Cloud
Floating in the Blue!
Every little cloud
Always sings aloud.
– Winnie the Pooh

Dear Reader,

We hope everyone is getting back on track after eventful and restful summers. Our summer has certainly been eventful but we seem to somehow have missed out on the restful bit. The industry has been going through some ragged shifts and changes over the last few weeks, as stock market dramas accentuate the major trends in our industry.

The apparently inexorable decline in Heidelberg's share price evidences the traditional printing industry's ineffectual response to the rising power of digital press innovators such as Xerox and HP, amongst others. Xerox's digital press line-up is perhaps a little over-egged at the moment, but that the company sees sufficient opportunities for its offerings speaks to the health of the high-end digital printing market.

HP has had problems of its own lately, but we applaud the company's bold decision to move away from commodity computing to accelerate efforts to develop cloud services. The PC is no longer a force for innovations in workflow or graphic arts production and the graphic arts will benefit hugely from cloud-based services.

The combination of powerful and comprehensive production services in the cloud will help the graphic arts industry to further extract costs. The cloud also provides the foundation for remote production and an on-steroids version of the distribute and print model. Exciting times indeed!

Laurel, Nessan, Paul and Todd

In This Issue

Xerox's Jet-setting CiPress

Xerox proves that it does have a sense of humour, labelling its waterless technology Production Inkjet, or PIJ, but as Laurel Brunner finds, the machine itself is a deadly serious entrant into the high speed commercial inkjet space. Printing to low cost papers, this should be very attractive to many transactional and transpromo customers.

see page 12

Back to the studio

Earlier this year we reviewed QuarkXPress 9, which bizarrely shipped without it's most important feature: the ability to design iPad apps and publish directly to the App Store. Quark has now fixed that so Nessan Cleary took another look at this.

see page 16

Paperback writers

HP has conducted a life cycle assessment into the environmental impact of digitally printed books, and not surprisingly concluded that digital is a lot kinder to the environment than more conventional book production methods. Laurel Brunner looks at some of the details behind this.

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Regular Features & Special Treats

News Focus

Global Graphics has released a new version of the Harlequin server RIP. Version 9.0 introduces FOGRA certification, full support for the new Pantone Plus library, accelerated live transparency processing and PDF/VT support. Platform support is updated to include Windows Server 2008 R2. In addition, print shops can try the new version before they buy.

Fujifilm has developed a new wide format printer, the Acuity LED 1600, using Fujifilm's own Dimatix printheads and Sericol inks. It uses a LED curing system and prints at 20 sqm/hour. It has an eight-colour inkset, including a clear ink for a high gloss output, as well as CMYK plus light cyan, light magenta and white. It takes rigid and roll-fed substrates up to 1610mm wide and 13mm thick.

ECRM has a new digital production printer, the DPP 1200, which is capable of producing high-quality business cards, posters, brochures, magazine covers, real-estate pages and much more in line screens up to 175 lpi.

The **AFP Consortium** has announced a new version of the Advanced Function Presentation (AFP) industry standard. This includes the new interchange set IS/3, which enables smoother integration across the elements of a printing system – including formatters, servers, transforms, printers, AFP viewers and archive systems – with less customisation and faster time to production with any given configuration.

Quark has been sold to Platinum Equity, a California-based private equity firm. There are no details released on the price tag and PE hasn't said much as to its intentions, though Quark's management says that it will be business as usual but backed up with more investment.

EFI has updated its Fiery print server system with the launch of Fiery 10. The major new feature is Fiery Calibrator, which makes the calibration process more effective, integrated, and easier to use. The new Job-based Calibration increases calibration accuracy and effectiveness because calibration is customised for a specific job and the associated media and profiles. Because calibration is critical and needs to be performed routinely, Fiery System 10 has incorporated a "Calibration Guard" to provide calibration status, warnings, and alerts to encourage calibration to take place and ensure colour quality.

Prinect now features a fully integrated MIS, based on technology from CERM, called Prinect Business Manager. This accesses the same database as the production workflow so that job planning and production data will be available in the same system as, for example, job processing and materials management data. Heidelberg will continue to support its previous Prinance solution as well as connectivity to third party MIS. In the future Heidelberg will also add a web-to-print offering.

Remote Director has released v4.2 of its soft proofing option, also named Remote Director. This adds an Adobe RIP for faster and more reliable handling of PDF and PostScript files, and an optional File Download feature was added for reviewers who need to download the original file that was used to create the soft proof. There's also a new simplified press operator view option for press room use and a faster monitor calibration process.

Heidelberg has acquired CSAT GmbH, based in Eggenstein near Karlsruhe, Germany for an undisclosed sum. CSAT specialises in the development, manufacture, and worldwide sales and service of digital printing systems,

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including consumables for the packaging industry, and as such is a natural fit for Heidelberg's LinoPrint division.

EFI has acquired Prism, which has developed the Prism WIN MIS and Prism QTMS automated shop floor management solution. This is mainly to take a competitor out of the market, as EFI will no longer offer either Prism product to new customers, thought it will continue to develop them for existing users.

In the first half of 2011, **Manroland** recorded a rise in orders for both the sheetfed and webfed sector. Compared with the same period in the previous year, incoming orders rose by 13% to total €520m. The sheetfed sector increased by +2%, while the webfed sector recorded +33% growth in orders. Manroland achieved an operating result (EBIT) of €-25m and thus reduced the losses incurred in the previous year by almost half.

Heidelberg's figures for the first quarter of this year show sales on a par with last year at €544 million following adjustments for exchange rates. However, Heidelberg had expected to do better but claimed that sales had been shifted into subsequent quarters as a result of the earthquake catastrophe in Japan and delays resulting from the extended liquidity shortage in the Chinese banking system. There's a drop on incoming orders of €665 million, but last year's orders of €786m, were boosted by Ipex.

Océ has released its figures for the second quarter of this year, which show a net loss of €-14 million, as against €-11 million for the same period last year. Normalised operating income has dropped from €20m last year to €-7m for this year. Chairman of the board, Rokus van Iperen put this down to decline in the construction markets in the USA and Europe, which affected wide format printing, and changes in the cutsheet product portfolio, as well as supply chain problems following the Japanese earthquake.

Axaio has updated its MadeToPrint utility to support QuarkXPress 9. It comes in two versions: Standard streamlines single file output to PDF and other file formats; Auto is the plug-in that allows hands-off standardised output from QuarkXPress 9.

Recently published figures from Infosource for production devices/colour press cut sheet, for Western Europe, show that **Ricoh's** share of the market in Q1 2011 leaped from 22.2% to 33.1%. This gives Ricoh the number one spot in colour production printers just three years after stating its intent to lead in the market.

Glunz and Jensen has gained 67 percent of flexo specialist KH Microflex, which it hopes will expand its packaging business. KH Microflex is an engineering company which designs and produces custom-made machines with the Dry Flexo Sleeve processing technology.

Xerox will take advantage of EFI's Web-to-print solution, Digital StoreFront for use with its Fiery-driven digital presses. The system will also be integrated with XMPie giving customers have a powerful variable data printing and cross-media personalisation tool available as an optional module.

Adobe has released a public beta of a new tool for creating websites without writing code called Muse, which you can find at http://muse.adobe.com. It boasts easy-to-use sitemaps, master pages, and a host of flexible, site-wide tools which should make it fast and intuitive to plan a website layout. It can embed HTML code snippets from sources including Google Maps, YouTube and Facebook.

Apple has updated its OS X operating system with OS X 10.7, known as Lion, which brings a general tidy up to the user interface. However, Lion also does away with Rosetta, the PowerPC-emulation layer that allowed older software to run on Intel-based processors. Nor is Java installed by default in Lion, which may affect some Adobe Creative Suite Products.

Markzware's handy plug-in, Q2ID, which converts Quark pages to InDesign has been updated to run under InDesign CS5.5 and works with QuarkXPress 9 files.

Quark has updated its Quark Publishing System to version 9. The new version offers enhanced automation for publishing eBooks and multi-page documents, customisable workflows for the creation of media and business documents, fully supports the new capabilities

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of QuarkXPress 9 and QuarkCopyDesk 9, and delivers updates to Web Hub for content creators working remotely and externally.

EFI has added support for Pantone Plus to its Fiery servers. Pantone Plus enhancements include the chromatic arrangement of colours for more intuitive selection, an expanded palette of spot colours, the addition of new premium metallics and a broader range of neons.

Océ has released the second edition of its Colorwave 300 wide format CAD printer. This gains some productivity improvements and there's now a choice of two integrated online folding units. Folding can be selected from the control panel, the printer driver and submission tools.

Fujifilm has put its first European Jetpress 720 into its demonstration centre in Brussels. The Jet Press 720 is a four colour digital press capable of printing a B2 sheet in a single-pass, resulting in production speeds of up to 2,700 B2 sheets an hour. The first European beta site is scheduled over the next few months, with full commercial availability in Europe planned for Q4 2011.

PrintCity is running an online survey as to why people value print which you can take part in at: **http**://**www**.**surveymonkey.com/s/Why_We_Love_Print**

News Analysis

InfoPrint has made a number of updates to its offerings as it bids for a larger share of the graphics market. InfoPrint's ProcessDirector workflow now natively supports PDF files, enabling indexing, sorting and grouping disparate PDF jobs together, making it easier to apply bulk mailing discounts and to meet regulatory requirements. Theresa Lang, managing director of InfoPrint UK says

Theresa Lang, managing director of InfoPrint UK

that previously this could only be done by transforming the data streams from AFP, saying: "So we see that this gives us something additional to take to the graphic arts market."

It also makes it possible to edit and preflight PDF files, including a direct link with Enfocus PitStop Server, as well as integration with Ultimate's Impostrip for imposition.

InfoPrint also has a set of ink tools that have now been integrated into ProcessDirector. This already included an ink estimator, but there's now a new Ink Savvy tool. Lang explains: "You can run the job with various settings which you can adjust so the printer can see if that level of colour works for a customer so you can get the colour right without overdoing it." Obviously if the customer is happy with a sample that uses a lower amount of ink then this could lead to significant savings in ink.

InfoPrint is also now able to offer specified colour support for PDF and PostScript jobs so that users can tag data to ensure that it is printed with a specific ink other than CMYK. To start with this will only apply to MICR inks but InfoPrint has said that it will develop other inks and fluids in the future. InfoPrint has also taken on the Screen options for monochrome and MICR versions.

Interestingly, InfoPrint has also enhanced its 5000 range of inkjet printers with a new high capacity dryer option. The 5000 models are rebadged Screen JetPress 520 devices but InfoPrint has developed this new dryer system itself, which lets customers run both heavier and lighter weight stocks. Lang notes that this is particularly useful to commercial printers: "The lighter stocks are becoming more of an issue these days. We need to be in the commercial space so this will help to show that we are serious about that space."
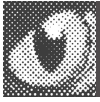
An Interview

Martin Bailey, chief technology officer Global Graphics

The Harlequin RIP originally evolved from ScriptWorks, a PostScript renderer, but since the mid-90s has been the main alternative, first to Adobe's PostScript RIP and, more recently, the PDF Print Engine. This month sees a major upgrade with the release of Harlequin Server RIP v9. We caught up with Martin Bailey, chief technology officer of Global Graphics, and one of the main architects behind the Harlequin RIP, who explained some of the thinking behind this latest version.

He began by saying: "We are continuously watching the market in general and what our OEM partners are doing, and what those people that we would like to be our partners are doing, to understand what the market needs. There are really three things that we have picked out as being trends in the market place that we are trying to respond to."

Bailey says that one of the main issues is the increasing use of transparency: "Often designers don't even realise that they are doing that because they just pick a drop shadow." But this additional use of transparency puts more strain on the processing engine, which Bailey says is especially important in a short run environment as the proportion of time spent in prepress increases, adding: "So you have to have faster RIP'ing." To this end, the Harlequin RIP has gained improved live transparency processing, though it's worth pointing out that this RIP has rendered native PDFs since 2002.

Bailey says that colour accuracy is becoming even more crucial: "As the years go by this has been a pretty constant trend. Ten years ago most printers cared about making sure that their press matched their specific proofing system and nothing more than that. There was no concept of the designer being able to see the job before it went to press without seeing a Cromalin. But now everyone is running digital proofs and some are going to soft proofing and the designer knows exactly what the job looks like with no feedback from the printer or contract proofing."

So Global Graphics has followed this trend by gaining Fogra certification (FograCert CPS). Bailey says: "It's an indication that we have very good colour management inside the RIPs that all of our OEMs can access too." This

Martin Bailey, chief technology officer of Global Graphics

was done using a new plugin for the Epson Stylus Pro 7890 proofer using off the shelf papers and inks. Bailey adds: "I don't think anyone else has achieved contract proofing certification using those materials so we are quite proud of that."

Global Graphics has made a number of improvements to the overall colour management, including a new API that allows vendors of press color control solutions to directly submit plate calibration sets into the RIP without manual intervention.

Bailey says that there's also support for the Pantone Plus library: "We had to choose whether to allow users to choose the old or the new numbers because there are slightly different colours and you can't tell from the job which one you should be using."

Theres also better support for spot colours, with Bailey commenting: "It's important for proofing but also for digital production devices because they are using CMYK so you have to get an accurate conversion from spot colour to CMYK."

According to Bailey, the third major trend is that more and more printing is being done digitally: "We have some pure digital printers like HP Indigo and we have a number of conventional print OEMs that are adding light production devices alongside their printing."

Bailey says that for the higher volume devices there have been improvements to the handling of variable data files, including support for the PDF/VT format.

He adds: "We now have an option that gives another significant boost of multiple thousands of pages per minute." This is External PDF retained Raster, which allows the RIP to deliver page foregrounds and backgrounds as rasters for management and aggregation outside the RIP for faster processing.

Global Graphics has also worked on improving overall performance, with Bailey noting: "We have moved away from emphasising that we can hit the engine speed because you can always do that if the digital front end is up to it but we are now concentrating on doing it with the minimum amount of hardware needed."

We at Digital Dots have always felt that the Harlequin RIP deserved more attention than it gets, yet the main workflow developers have preferred the Adobe offerings. Bailey says this is partly for historical reasons: "A number of vendors, such as Kodak with Creo and Agfa with Apogee all made their decisions around 15 years ago." He continues: "The real challenge for us is overcoming reengineering costs. We will have several product launches just before drupa that will allow us to demonstrate to people how they can make savings by switching to Harlequin."

In the meantime, Harlequin Server RIP 9.0 is available from a number of OEM partners, including Xitron, HighWater, ECRM, PressTek, and Compose, though inevitably some will be quicker than others to incorporate it into their own workflow offerings. However, printer shops who are using

existing Harlequin-based systems can try version 9.0 free of charge for a limited period.

Did You Know?

Printing Quality Benchmark from VIGC

The Belgian research and training centre VIGC (or the Flemish Innovation Center for Graphic Communication, as it prefers to be known) has launched an interesting benchmark to evaluate the quality of print. It's a

VIGC is situated at Campus Blairon in Turnhout, Belgium, amongst other companies as well as departments of the Antwerp University Collage.

complement to common evaluations using control strips and comparing against, for example, aim values as defined by ISO standards.

One of the key benefits with the VIGC Quality Perception Benchmark is that it can pull reference colour data from the actual images on the page, the cut sheet. This is especially useful when evaluating a reprint against an approved previous print.

VIGC is a not-for-profit member organisation set up in 1997, and could to some degree be considered as a technical

extension of the Belgian Graphic Arts printing federation, Febelgra, which is among its founding members. It is based in Turnhout, outside Antwerp, at Campus Blairon, which houses both private and innovative companies, as well as many departments of the Antwerp University College.

Eddy Hagen, managing director of VIGC, explains the two-fold strategy of the activities: "We perform both individual training and research for single companies, but also general services like seminars, a member magazine and a website called GraphicBrain.com. VIGC is also very active in international organisations like Ghent PDF Workgroup".

Fons Put, senior consultant at VIGC, and the man responsible for the Quality Benchmark project, explains some of the challenges: "We wanted to perform the quality measurements on finished, trimmed jobs, so we couldn't use conventional measurements of density


Eddy Hagen, managing director of VIGC (to the left) and Fons Put, project manager for the Quality Perception Benchmark, at VIGC.

or spectral values of CMYK solids on control strips. We wanted to capture more parameters that are important when judging image quality, like dynamic range".

But VIGC is no stranger to evaluating conformance to the ISO 12647 printing standard, as it actually monitors some 80 certified printers, mainly in the Netherlands and Belgium, but also in other part of Europe and even Asia. The VIGC Quality Perception Benchmark is

a complement to quality management based on ISO 12647. The Quality Benchmark can be used in at least the following three scenarios: When comparing prints from a competing printing house; when comparing prints from different presses within the same printing plant; and when evaluating image related issues with the print quality.

When analysing the image quality it's useful, but not necessary, to know if the prints and proofs are within the tolerances of ISO 12647. The presentation of the analysis
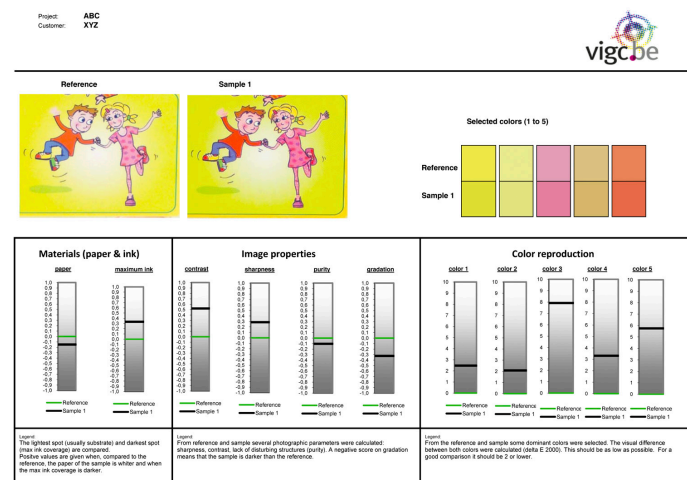
The quality report shows the parts of an image that have been the basis of the evaluation, and which key colours have been selected for measurement. An acceptable colour deviation from reference to sample is at or below Delta E 2 (using the Delta E 2000 formula).

is quite straightforward and visual, showing the parts of an image that have been the basis of the evaluation, and which key colours have been selected for measurements. The colour deviation is then expressed as Delta E 2000, a decision made from previous tests of the variation of measurements using spectrophotometers (see the Spindrift 7-6 report in October 2009). An acceptable colour deviation from reference to sample is at or below Delta E 2 (using the Delta E 2000 formula).

VIGC introduced the Quality Benchmark to a limited number of clients two years ago, and has now refined the methodology, and made this service available to a wider audience. Since the assessment and the analysis report not only tell you the colour deviation, but also the likely factors influencing it, it can be instrumental in ongoing quality management.

A secondary target group for the Quality Benchmark is advertisers who publish in different media, or publish on similar paper stock, printed by different printers.

Eddy Hagen concludes: "Ultimately the VIGC Quality Perception Benchmark is an instrument that provides users tighter control of their production processes".

Green Shoots

Tulane University scientists have identified a new strain of bacteria that could be used to turn recycled paper into butanol, a biofuel that can be substituted for petrol. In the presence of oxygen, TU-103 munches through old newspapers and indeed any cellulose-based substrate. A patent is pending for the process but this could be a truly revolutionary discovery. The US alone produces over 323 million tonnes of waste that is based on cellulose per year.

In the UK, an entrepreneurial undertaker operating in Gloucestershire is working with a local paper mill and a coffin maker to create coffins out of old newspapers. Their company is called *Sunset Coffins* and the product is an eco-friendly alternative to wicker and cardboard coffins which have apparently become popular as an alternative to wooden ones. It takes either 120 recycled broadsheet newspapers or 70 recycled tabloids to make one biodegradable coffin, which can be cremated or buried. An interesting way to bury news indeed!

Komori America Corporation, has published a white paper to help printers to run their businesses in a more sustainable way, not that that is particularly special. What is special is that this effort is being made to serve the US printing community, which in turn serves the planet's largest producers of waste.

The white paper is short enough to read and long enough to include useful and practical details. It is comprehensive and accessible and even if you think your running things pretty greenly, you should find some new ideas and interesting perspectives.

The white paper can be downloaded from http://www.komori-sustainable-print.com.

drupa 2012 will include a Green Printing Park as one of the many "theme parks" that make up the drupa Innovation Park. It will include innovations for sustainable print production, but details are still sparse. We are hopeful that the green agenda will get a substantial airing at drupa 2012.

For more green news, check out The Verdigris Project:

Verdigris

http://verdigrisproject.com

Another Interview

Hybrid Software for integration

The automation of workflows is a common theme with many vendors of solutions related to prepress, but when it comes to the integration of several different systems, the challenges are many. One relatively new actor, at least on the European market, is Hybrid Software. We met the managing director for the subsidiary Hybrid Software NV, Jan Ruysschaert, when he visited the UK. We asked him what the main challenges are for printers today, and where Hybrid Software see that their solutions might fit.

JR: "Printing companies, whether they operate in the field of labels, packaging, screen and signage, digital or conventional offset printing, inevitably end up using a mixture of prepress equipment and workflows as well as planning, accounting, administration software and databases that have been purchased at different times from various sources. Invariably, these products do not communicate with each other, which often results in significant levels of inefficiency, mistakes and wastage."

When asking Ruysschaert if JDF wouldn't be the obvious answer to this dilemma, he quickly wants to modify this belief.

JR: "JDF is not compatible with many legacy systems, and traditional integration methods are too expensive and lengthy for many printers to consider. With margins today generally so tight, even the smallest error in job specifications or graphics can easily eliminate the profit on a job, and Hybrid's products prevent this by providing a high level of process automation using a printer's existing production systems."

The offer

OK, so Hybrid Software has solutions for this, but what kind of products do they offer? In brief the product portfolio can be organised into three main families. The first of these is FrontDesk, which is the interface between the customer and the printer. It provides a web-to-print portal that offers customers file upload and download facilities plus different job interaction, from online ordering through all

stages of tracking, proofing and approvals to delivery of the completed work. The system is modular, and among the optional components are soft proofing and annotation systems from other vendors, and also on-line editing and variable data, as well as campaign management and store profiling tools for retail applications.

The second product, FaceLift, provides integration between production workflows like, for example, MIS or ERP systems, but it can also be third-party websites, external databases or other sources of digitally held

Managing director for Hybrid Software NV, Jan Ruysschaert, believes that the company's Order Lifecycle Management concept will benefit many printers.

information. Users can create their own templates for the different stages in the order's lifecycle. This is perhaps the core of the Hybrid Software range of solutions, and explains its concept of 'Order Lifecycle Management'.

The third product in the Hybrid portfolio is FileForce, which connects multiple production or printing sites within an enterprise environment, enabling load balancing and file sharing between sites. FileForce does not require a centralised file server or DAM system, but instead works in conjunction with local file servers at each location. File versions can be moved, copied, harvested, scrapped, archived and tracked across multiple sites as revisions occur throughout the order lifecycle.

To us this sounds like an interesting concept, and so we asked Ruysschaert what made him decide to join Hybrid Software.

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JR: "For thirty years I've worked for major graphic arts suppliers that provided systems and software for prepress applications and I've never come across an approach to integration in the way that Hybrid Software does. Hybrid Software treats integration as a product, our main product, and I believe printers have an opportunity to automate their workflows at a reasonable cost using our products."

So, we asked, who are your typical customers?

JR: "Our customers range from medium sized companies to large print groups spread over many sites. As long as the systems use standard database platforms we can integrate them. We already have close working relationships with MIS vendors such as EFI, Solarsoft, CRC, EPMS and others, as well as content management companies such as ADAM. Several software and hardware vendors have expressed an interest in working with us, because they see that we bring an important added-value that perhaps has not been available previously in this way."

It sounds as if we will hear more from Hybrid Software in the near future, and we hope to come back again with some examples of implementations in Europe.

Xerox's CiPress

It seems like forever ago, but in our previous issue we teased you with some hints at Xerox's plans for its Production Inkjet system.

Xerox has now come up with a new name for this, which will henceforth be known as the CiPress 500 Xerox Production Inkjet (XPIJ). Apart from the name, this technology looks very exciting. And there is more coming from Xerox this year, much of it technology to add cohesion to the company's offerings, particular for web-driven variable data applications.

Xerox has introduced around one hundred new products and services in the last three years, during which period the company has also won 500 awards. The emphasis this autumn is on enhancements to existing presses as well as the waterless CiPress XPIJ, which includes over 100 patented technologies. Xerox describes this machine's workflow as an "open Advanced Document Factory" designed to print predictable, consistent colour on low cost untreated offset papers. During one month of its testing phase, the machine saved over $7,000 in paper costs on a print volume of six million A4 duplex page images, compared to aqueous inkjet papers.

CiPress 500 XPIJ

The machine that caused the greatest stir at Graph Expo last week is the CiPress 500 XPIJ, which we covered briefly when it was presented at the Hunkeler Innovation Days event earlier this year (see volume 8, issue 10). This is a continuous feed solid ink inkjet machine with highly accurate dot control and placement, made possible because the printer uses hot melt phase change inks. It prints 600 dpi with virtually no dot spread, across a 520 mm web width at 152 metres per minute (2050 A4s per minute), for substrates 50-160 gsm regardless of coverage percentage. The XPIJ uses Xerox's own piezo drop-on-demand heads of which it has manufactured over one million. Seven of these are stitched together in an array in the CiPress to print the web's full width of 520 mm and there is nothing in the technology which would preclude going wider or narrower with it.

For the CiPress Xerox has enhanced the head to make it suitable for high speed production on stocks from 50-160 gsm, but the 45 gsm samples we saw looked lovely, helped by an impression roller that flattens out the droplets. The system measures paper stretch by looking at the

> The Color 800/1000 press now has a full width array option for improved colour control. It scans the complete width of the printed sheet for automated colour control. This is not yet a fully automated process, so it has to be operator initiated as does media profiling. There is, however, automated correction for front to back registration. These features will be available before the end of the year and a perfect binder option is also in the works. This will run in manual mode, so it can also be used to bind material printed on other engines.
>
> Xerox also launched a new business programme for the Color 800/1000 press to help customers get most out of their machines. This includes providing materials they can show to their customers, such as clear dry ink samples and brandable source files so that they don't have to originate their own marketing materials. Subject to contract, Xerox will also provide personalised support to help customers show off variable data printing applications to their clients. Xerox is expanding this programme in the future, with additional components for Clear Ink applications.

positions of the printed dots as the paper moves through the machine and compensates by adjusting the nozzles to ensure accurate dot placement. Xerox can tune each of the nozzles so that they all perform equivalently.

This machine could be suitable for newspaper applications, but Xerox's market focus is on direct mail, transaction, book and manual printing. We think Xerox should also consider packaging applications for this technology because of its combination of speed and substrate flexibility. The press currently prints best on uncoated media so it is suitable for standard offset papers. Because of the hot melt technology coated stocks are less suitable, but Xerox is working on improving the performance on coated stocks.

The press borrows the scan bar from the iGen4 for closed loop control over the 50,000 nozzles in each of the 56 printheads (14 heads, for each of the four colours) in the

system. The scan bar detects missing nozzles and allows adjacent nozzles to compensate for misfiring ones. It also looks at colour to colour registration and can instruct the heads to move both vertically and horizontally, for on-the-fly registration control.

The CiPress is designed for colour consistency and stability in the engines and to provide a strong foundation for colour management across devices. Multi-dimensional colour characterisation is generated post-RIP to ensure full colour gamut consistency within and across devices. ICC colour management is fully supported. Maintenance diagnostics validate and correct colour rendering throughout the entire paper roll.

Green Greeny

The XPIJ is a waterless technology that uses solid hot melt inks. This produces 90% less waste than typical laser engines and it emits no VOCs and requires no solvents for cleaning. Any waste is non-hazardous and the XPIJ print deinks like offset prints do, and the inks are Ingede certified.

This is a four colour machine, but it has two additional stations which will likely be used for MICR and either special colours or coatings. The MICR solution is on track for demonstration at next year's drupa.

Installations

The first CiPress 500 has been installed at dmh Marketing Partners in Iowa, USA. This is a full service direct mail company founded in 1978. It handles more than 85 million pieces of mail per month, working mainly in the fundraising, consumer services and products, financial and healthcare markets. dmh also provides data analytics services, database management and consulting and has multiple facilities across the USA. It has a mixed bag of technologies including web and sheet fed offset presses and digital presses from both Kodak and Xerox.

This company is one of Xerox's oldest customers and the two companies have worked together for the last 17 years. Randy Seberg, vice president of technology, seems to absolutely adore his CiPress which has been successfully producing commercial work since last February. We expect further installation announcements later this year in direct mail and possibly a book printing site. There will be a European installation before the end of the year, as well as additional sites in the USA. These will be multiple configurations including engine, duplex and single engine narrow web duplex. A single engine, duplex, narrow web system was shown at Graph Expo for launch in early 2012.

At this early stage pricing, if there is any, is obviously customer specific but we reckon the CiPress 500 will probably cost at least €1.25 million since it sits above the 980 which is less than €1 million. It is impossible to say at this stage what the cost of ownership will be with this engine but Xerox is no longer wedded to the click model. Kevin Horey, vice president of Xerox production marketing, told us: "It achieves low cost by using standard uncoated, untreated papers that are the type that our customers have told us that they want to use." Xerox is working with companies, including some high profile existing users of high speed inkjet engines, on an individual basis in order to come up with payment terms to suit both sides.

Positioning

Quite what the CiPress means for the future of the 980, the 69 metre per minute flash fusing xerographic press isn't clear. The CiPress sits above it in performance and quality and most importantly is twice as fast. It also produces work with a different look and feel and image quality. The 980 is four feet shorter but the CiPress has a much higher duty cycle. The CiPress also sports vector halftoning stochastic screening, which is Xerox's own development and one of the patented technologies in the machine, so it seems on paper to be a better choice all round.

The other question to ponder is how the CiPress and its future models will be positioned relative to the 200 metres per minute 2800 Inkjet Color Continuous Feed Printing System Fuji Xerox Australia recently previewed. Xerox owns 25% of Fuji Xerox. The 2800 is a much faster device with a price ticket starting at $2.5 million, so as far as volumes are concerned its target markets are closer to those of the HP T400 (183 metres per minute). The 2800 press has piezo drop-on-demand inkjet heads and uses pigmented aqueous inks to print 2624 A4 pages

The CiPress 500 XPIJ.

per minute across a 520mm web width. It isn't due until next year, but will apparently be Fuji Xerox's 'fastest ever' digital inkjet printing press. It is expected to be available to high-end mailing houses, commercial and catalogue printers shortly. The CiPress is positioned for some of the same applications, however the current iteration of the technology is spec'd rather below it. This first model is probably just the start so it will be interesting to see which way Xerox goes with its options.

Control Freaks

Data processing is as important to a printing system as the output engines. With this in mind Xerox has added an enhanced print controller, Freeflow print server for ADF environments. It is specifically designed for ultra-high print volumes. ADFs provide the framework for structured information for document production, for instance for transaction printing, or marketing collateral, based on input data, data transformations, delivery and their control and reporting.

The Freeflow platform is becoming an increasingly open generic controller for workflow management. Only 15% is engine specific which makes it easier to enhance and for operators to use Freeflow, since they can work with familiar user interfaces and processing patterns. This makes the platform more suitable for hybrid environments

processing data and documents from multi-vendor print management systems. The Freeflow print server for the CiPress is now available in three configurations starting with the standard three RIP servers each with six RIPs, per engine configuration. This can be upgraded to five or seven RIP servers per engine, for a maximum of 84 RIPs running simultaneously.

Xerox is working with partners to develop additional RIP modules for their platform. The first new module to be introduced has been developed with GMC Software Technology, developers of PrintNet (now called Inspire) software for delivering transpromo and variable data applications. The new tool provides bi-directional communications for JDF/JMF, PostScript and PDF; bi-directional communications is intrinsic to IPDS. The new module will provide Xerox with the format management flexibility to support both AFP/IPDS, PostScript and PDF workflows for a more robust offering in the ever- more crowded transactional and commercial sectors. The tool provides such sophistications as the ability to optimise colour gamut automatically for predictable and consistent colour quality. It also optimises font handling and datastreams for text and images, supports page tracking for all formats. On top of this, it manages high speed page buffering and optimises file preparation, a sort of on-the-fly preflighting.

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It's all very impressive but the market for high speed continuous feed inkjet technologies is becoming pretty congested. Buyers are spoilt for choice when it comes to digital press options across all sectors including emerging ones such as transpromo. Quite how well the CiPress will stack up against devices from HP and Océ depends on pricing and the performance of the inks on a wider range of stocks. Success will also depend on effective nurturing of emerging applications, both for the press and workflow technologies, and for the new business models they will require.

– Laurel Brunner

Back to the Studio

Quark finally releases the XPress 9.1 update complete with the App Studio, as previewed earlier this year.

A few months ago we reviewed QuarkXPress 9.0, which ushered in the possibility of iPad app publishing alongside the existing print and web platforms. Except that the actual iPad layout tools were missing. Now, with the release of the 9.1 update, Quark has finally added the App Studio, so we've taken another look at this.

This takes Quark in a new direction, because whereas the print and web tools are fundamentally about designing for these platforms, the emphasis of the App Studio is about publishing, via Apple's App Store.

Designed for iPad

When you set up a new document you now have a new App Studio layout option alongside the familiar Print, Interactive and Web options. For now this only lets you design for the iPad and sets the iPad screen size, though you can set the margins. But Quark has said that it will add support for other devices, and even Web apps in the future. It's an important point because while smaller publishers are probably better off taking advantage of the App Store's ready made marketing and payment features, larger companies, such as the Financial Times are finding that a Web-based app is more suited to their needs.

The iPad option creates two blank layouts side by side, for vertical and horizontal layouts. The two layouts are synchronised together as a single Layout Family, so adding or deleting a page from one layout will automatically have the same effect on the other. You can also easily convert existing print layouts into tablet-friendly editions though these can only be viewed in the one orientation unless you want to go through the pain of redesigning them to suit a dual-orientation layout.

You can use all the familiar QuarkXPress tools with no extra coding needed to create your iPad layouts. There's also an extra App Studio window, which lets you add some interactivity, useful for building the kind of rich content, which will hopefully entice readers to pay for your app.

So, for example, you can set up pictures which expand to full screen when double-clicked, and you can pan and zoom within those pictures. You can also add captions with extra information, and can set up slide shows to expand on a particular topic. You can also include movies and audio tracks, with options to embed those in the app or link to an external site to keep file sizes down. Other options include buttons, links to websites, and adding scroll bars to windows, and Quark has said that it will add further features in the future.

As such this panel works well in that you can build in quite a lot of interactivity, going considerably beyond what can be achieved with a static page layout. It's quite an achievement, bearing in mind that you don't have to
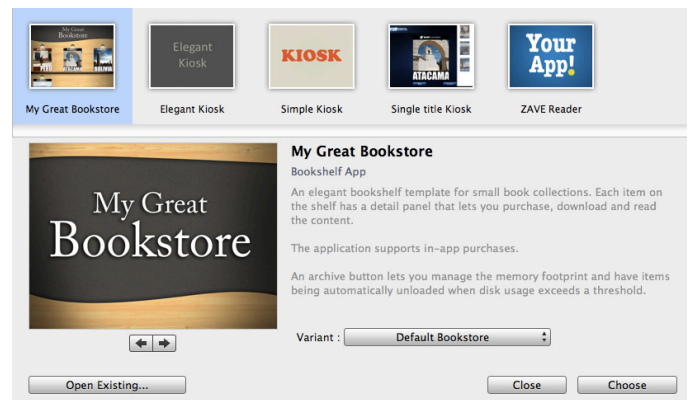
You'll need to customise one of these templates to create an app for customers to view your issue.

learn another program or do any kind of coding at all. That said, the look and feel of this is functional at best, and a design tool like this really should have a much slicker interface.

App Studio factory

While you can use the App Studio feature in QuarkXPress 9.1 to create individual issues, you will need a standalone program, such as App Studio Factory, to create the actual app for customers to download and view that issue. This App could cover a monthly magazine or a collection of loosely related issues or books. Or you could simply embed the issue within the app and then sell it as a one-off event.

App Studio Factory is included within QuarkXPress 9.1 – you can find it in the App Studio folder. It's easy to use –

just pick a template from the selection and then customise it to suit the products you want to publish. The templates include a bookstore and a single publication but you will have to get a template license from Quark before you can
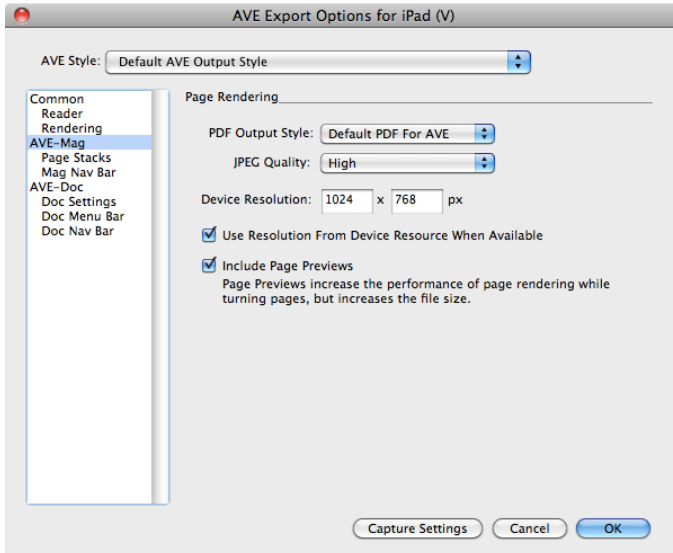
Issues can be exported as AVE-Mag files which supports dual orientation, or AVE-Doc files, which is best for repurposing older projects.

use it. You then have to register your iPad with it in order to test your apps with that iPad before submitting the finished product to Apple.

There's another option, App Studio Framework, which is more easily customised, so that you could integrate the App sales to your own ecommerce system.

You can test your app using Quark's App Studio Issue Previewer, available for free from the App Store. You can run this through the iOS Simulator on a Mac, but its really designed to let you test your issue on an iPad. It's very easy to use - the Previewer app generates a URL, and when you enter this into a web browser on your Mac it brings up an Upload page. From here you just choose the .zave file that you created by exporting the issue, and providing your iPad's WiFi is turned on, that file then appears in the Previewer app on the iPad. You can also upload the file through iTunes when you synch your iPad, but the WiFi option is a very neat way of checking how your app looks.

Cost

Once you're happy with the way that your app runs in the previewer you then need to set up an account at the App

Studio Publishing Portal which manages how you publish files to the App Store, and also lets you track sales of your apps. You will need an App template license and an issue license pack from Quark. These are charged on a sliding scale, depending on the number of issues you plan to sell. You can find details on Quark's website. As a rough guide, the app template for a one-off single item would cost €119, while a one-issue license pack costs a further €279.

You will also need an Apple developer account which costs $99, around €71. You will also need a web server to

The App Studio Issue Previewer running on an iPad.

host your app, and of course, Apple will take a 30 percent cut of any sales.

We think this is pitched about right; it gives smaller and medium sized publishers a good opportunity to develop their own apps, and even lets individuals publish their own books, with a fair chance of making a profit. At the same time, the price is high enough to make people think twice about it, which will hopefully lead to better quality apps.

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Indeed, the only question we have is whether or not Apple's continuing adjustments to the rules has diminished the App store. Given that a number of larger publishers, from the Financial Times to Amazon, have focussed their efforts away from the App Store it seems likely that Apple may want to further tweak the conditions. Quark has said that it will look to support other tablets and their associated App Stores, but we think that as this market grows more developers will switch to web apps, which will give a lot of the rich interactive content associated with iPad apps but in a form that works across multiple platforms. Of course, this largely depends on how successful any alternative tablets might be, given that Apple totally dominates this market.

In conclusion, the App Studio works very well and is a good option for anyone wanting to publish via the App Store. More importantly, it gives publishers a single platform for publishing across multiple media, without demanding a lot from your computing hardware, and without the need to learn extra software packages. As such, it makes QuarkXPress a genuine alternative to the Creative Suite. What we particularly like about this is that, as well as the design aspect, Quark has also taken care of the publishing side of it. You do have to set up multiple accounts, with Quark and Apple, but Quark has still done a good job of making this a fairly painless process.

– Nessan Cleary

Paperback Writers

HP has recently published the results of its Life Cycle Assessment of different paperback book printing options. The comparative study, "The Environmental Case for Digitally Printed Books", focuses on the US market but its reasoning is relevant for book markets around the world.

The basic conclusion, as you might expect from the title, is that digital printing is less damaging to the environment than the conventional sort. However the story isn't quite that simple and book publishers should look closely at this report as part of their future publishing strategies. Publishers can use printing technology synergies to balance higher profitability with the need to reduce their environmental impact.

In the US 25 percent of printed books are returned, either to be resold or thrown away. The numbers for waste are pretty similar in other developed markets according to a number of sources cited in this study. The cost of managing so much waste, as well as the negative impact it has on the environment, is an important driver for waste reduction and an argument for hybrid print media production. For instance, "analysis showed that combining digital inkjet technology with offset resulted in the need to print 22 percent fewer books to sell the same amount" of best sellers. Indeed in all of the scenarios where digital printing supplemented or was substituted for offset book printing, the total carbon footprint was reduced.

HP & Quantis

HP worked with Quantis, a sustainability consulting group, to investigate various systems for printing and delivering paperback books. They compared conventional offset printing and digital printing, using different demand profiles and fulfilment models. The presses studied were a Timson T48a, HP T200 and T300 inkjet web presses, and an R85 inkjet printer used for instore on-demand book printing. Covers were printed on an Indigo 7000 and an unnamed HP "small laser press".

The report notes that "it is difficult to assume a priori that the four presses are fully substitutable and that at a given point in time, a given book can be printed on either one." However everything possible appears to have been done in this work to make a fair comparison. The point isn't so much the technology choice as it is the business model: "while return rates are variable and depend on contexts and publishers' strategies, in general digital printing allows a reduction of return rate in comparison to offset printing".

The report studies two different types of book: a blockbuster that sells 500,000 copies over two years and a general title that sells 5,000 copies over five years. For both scenarios the analogue press printing at a central location, with a return rate of 25 percent has the most negative environmental impact. For all four presses, "paper production is the largest source of potential environmental impacts, representing 40 to 80 percent of the total impacts". This work makes eminently clear that reductions in the number of returned books reduce the industry's overall environmental impact.

Defining the System

The report defines a system as having the function "to print, bind, distribute and sell paperback books to retail store customers in the USA and to dispose of them." The study evaluated four fulfilment models: centralised, regional and local distribution, plus in-store printing. The goal was to establish the environmental profile of each system and to consider possible synergies between the technologies, using Life Cycle Analysis (LCA).
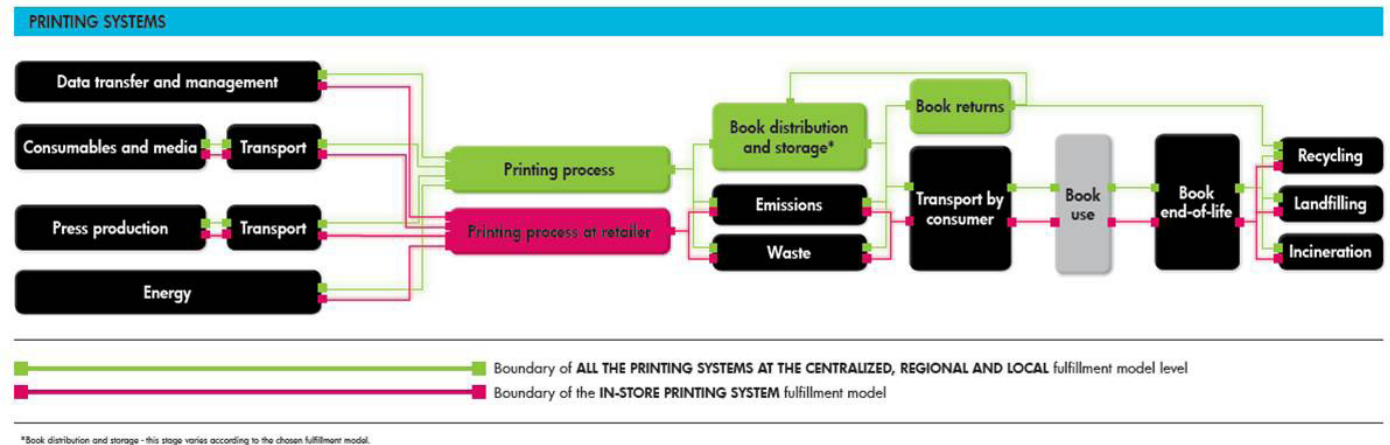
This graphic analyses the different stages involved in book production, showing that there is less environmental impact if the book is printed in-store.

There are two fundamental differences between analogue and digital printing, apart from the ability of the latter to provide variable data output. Book presses can either print to stock or print on demand. Printing to stock makes assumptions about how many copies of a book need to be printed in order to reach the sales target. For the purposes of this study HP/Quantis assumed 5,000 to 20,000 is the typical run length for an offset book press, 2,000 - 5,000 as typical for the T300 and 500 - 3,000 for the T200. The run length for the R85 is typically one.

Printing on demand assumes that only the books specifically requested by a customer are printed. There are strengths and weaknesses to both models and the HP study does an admirable job of presenting the various scenarios that book publishers might consider.

The study chose paperback books because they represented: "59 percent of books sold in the USA in 2009" and because "paperbacks can be printed by all of the presses studied in the two categories, analogue and digital". The study also strives to determine "the least environmentally impactful means of production and distributing a paperback book".

The report acknowledges one of the biggest problems for studies of this kind: "Lack of data (and a high variability of situations in reality) for data management, lack of strong references for the return rate for digital presses, low quality of ecoinvent LCI." HP's figures are therefore conservative but digital printing can contribute to

reduced environmental impacts for both blockbuster and general interest titles.

In each fulfilment model the number of returns varies with each printing system. For instance, the bestseller printed on the Timson press required a run of 625,000 in order to sell 500,000 copies distributed a distance of 2000 kilometres, because of the high return rate of 125,000 (25 percent). For sales of 59,000 with 61 runs of 1,000 copies on the HP T200 digital press, and distributed a distance of 500 kilometres the returns are 2,000, which at 4.1 percent is considerably less. It isn't easy to compare like with like in this study, but the arguments supporting digital printing close to the point of use are very compelling.

HP & Publishing

This study aligns HP's interest with that of the wider industry. It demonstrates how different print and distribution scenarios support different market expectations, and how different technology blends support different business models. For instance, by looking at digital presses with varying levels of productivity in the context of alternative distribution models, a book publisher can get a better understanding of how the printing and distribution scenarios can be used to reduce environmental impacts.

It is clear from this report that publishers need to combine the ideal run length and distribution models to optimise supply so that it more closely matches demand for a given title. This argues for regional print and local distribution

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CLIMATE CHANGE (100 yrs) - T300

Climate change impacts for Digital T300 press system illustrating that paper is the largest potential impact (Note that waste paper from returned books is included in the Paper component and not under book returns.)

Legend:
- End of life
- Book returns
- Consumer transport
- PSP to store
- Onsite emissions
- Printing energy
- Data mgmt
- Paper
- Consumables
- Equipment

y-axis: kg CO_2 eq/sold book
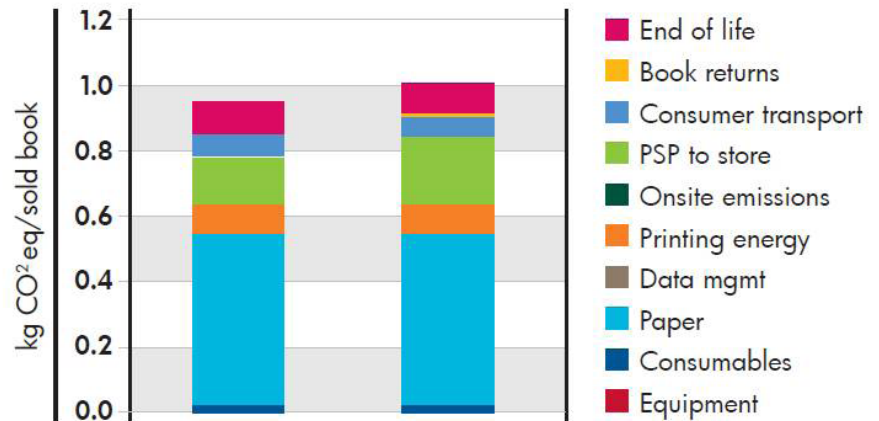
Above: *HP's figures indicate that paper has the biggest environmental impact in book production so that on-demand digital printing has an immediate benefit in reducing paper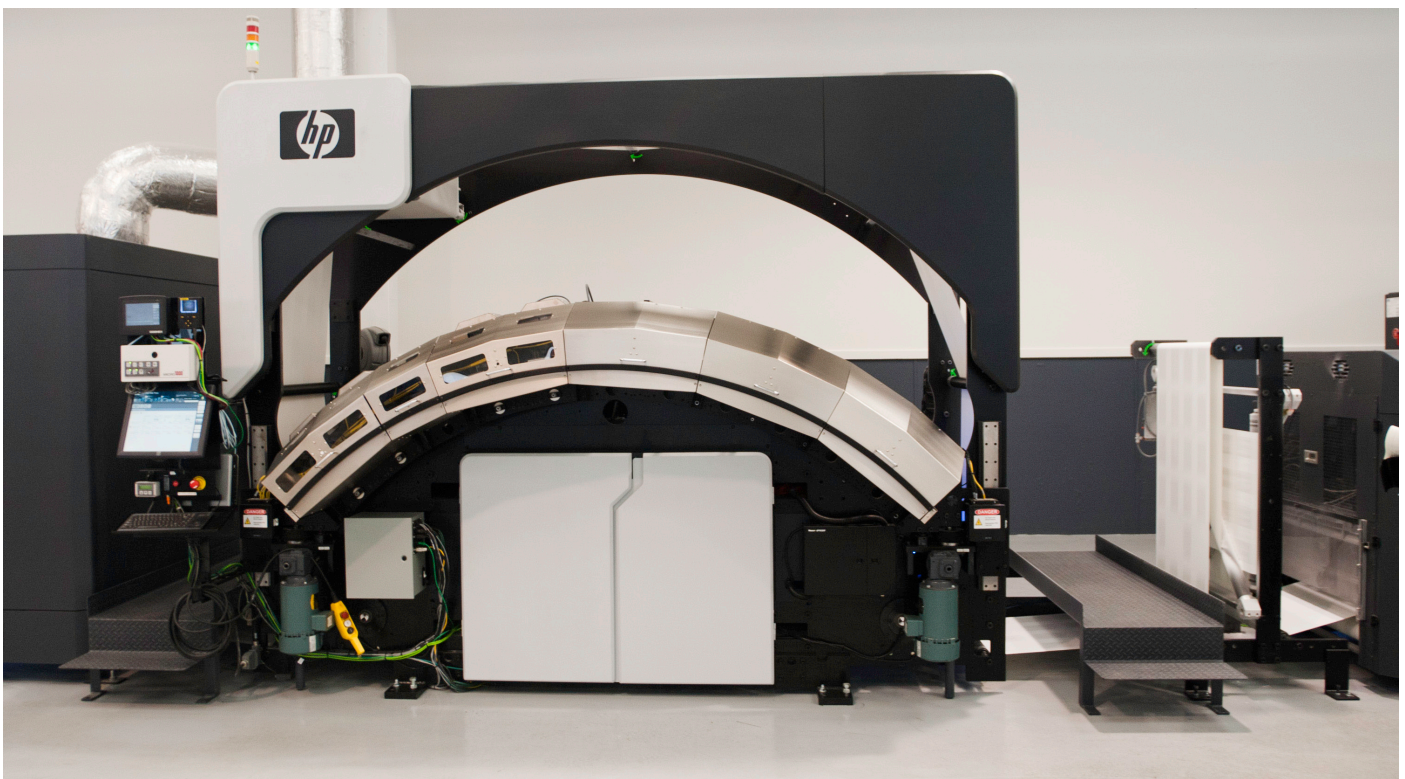 usage.* **Below:** *This shows one half of a T300, in this case a monochrome version installed at french book printer CPI.*

rather than centralised print and national distribution, the model conventional offset offers.

On-demand printing, of course, has the least negative environmental impact, but this may not be the best business model because it doesn't necessarily generate the best sales for a title. There are no unwanted books in this model, but there is also an inbuilt limit on the potential

sales: only people who know they want a title will buy it. It excludes those who might be tempted from looking at the cover and skimming the pages of a printed copy.

This is an important concern: how do you know how many copies to print in order to sell one? For publishers who can answer this question, the Timson obviously offers economies of scale that can ensure profitability. But

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for those who cannot, which is most publishers, the HP study concludes that a combination of long and short run digital printing may be a better option.

According to the study, reducing returns is a major contributor to improved footprint reduction. But it also points out that the combination of print run length, transportation distances and data management influence reductions. The extent of their influence depends on the different demand profiles, however it is clear that unsold books are the primary driver for higher potential impacts from offset printing.

Perhaps the most important conclusion HP/Quantis reach in this work is that there is a synergy between the two technology classes and between the print to stock and print on demand business models. Combining digital and conventional offset leverages technology capabilities and to meet market needs with the lowest environmental impact.

A combination offers the economic scale of volume production of an offset press, with the nuanced model of short run and on-demand production close to the point of use. Falling run lengths are a reality in book printing as well as elsewhere in print. So at some stage, the economic and impact arguments will probably swing in favour of digital printing for all publication types.
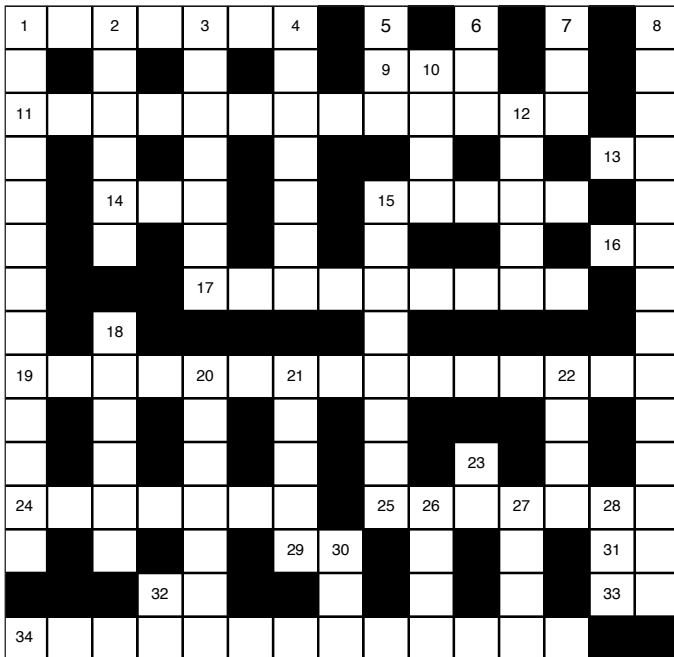
– Laurel Brunner

X-word Puzzle

Number 32*

This month's crossword follows no particular theme, in line with the apparent randomness of the industry's current state. It is much easier than last month, something warm and fluffy in keeping with the season.

Across

1. Advanced printing format for on the fly variable data page construction. (3, 4)

9. Or Point of Sale? (3)

11. The financial goal of every enterprise. (13)

13. To start. (2)

14. Allow the lease. (3)

15. The OS freezes again! Less often could keep sanity. (5)

16. @ (2)

17. The bane of production managers. (9)

19. The safest way to ensure flawless file throughput. (9, 6)

24. A building block, added to the page layout, graphic, lineart or text. (7)

25. Not text or lineart, but a component nonetheless. (7)

29. Executive Officer. (2)

31. Acceptable. (2)

32. Alternative. (2)

33. Newspaper Society. (2)

34. The mixture of water and chemicals the dampening system distributes on an offset press. (5,8)

Down

1. The company that irrevokable reshaped the graphic arts, music and telephone industries. (5, 13)

2. They are the foundation of any enterprise. (6)

3. The look of our favourite form of graphic communications. (7)

4. Opposite of highlights. (7)

5. Retail Price Index. (3)

6. Dots Per Inch. (3)

7. Opposite of sell. (3)

8. An alternative to coated papers. (8, 6)

10. Italian for oil? (4)

12. One who responds to an offer. (5)

15. Luminants such as D50 or D65, for example. (8)

18. The loving offer. (6)

20. Not text or graphics. (7)

21. Gets on ones nerves, a drain. (5)

22. The perfect response to a bill that needs paying. (4)

23. Emulsion Aggregation. (2)

26. Torn a periodic payment for premises. (4)

27. Of or relating to fire. (4)

28. An atom that can gain or lose electrons. (3)

30. For print, it is the opposite of water. (3)

32. Not off. (2)

*If you get stuck, the answers are at http://www.digitaldots.org

Number 31 – Answers

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