There can be no economy, where there is no efficiency.

– Benjamin Disraeli, 1868

Dear Reader,

We are constantly bombarded with products and technology to improve our efficiency. From bloatware for word processing through to tools that compare an AFP datastream with a PDF one and the plague of apps for smartphones. The scale of digital choices is overwhelming. But is technology really the best way to streamline processes, improve communications, reduce the complexities of getting things done, or indeed to improve an economy?

The attractions and distractions of digital tools are seductive, but perhaps there is room for something more fundamental for process control. Is it possible, for instance, that companies who want to enhance their customer relations should go back to basics and actually talk to people face to face?

Printing companies, publishers and graphic arts service providers should consider this carefully. Technology is a facilitator not an end in itself. We should all be bold enough to admit that for some things analogue tools, whether it's a desk diary or print media, can often be more efficient, saving time and money.

Enjoy!

Laurel, Nessan, Paul and Todd

In This Issue

The Juggernaut that is HP

Laurel Brunner has seen the first of HP's new T400 printers in action and been impressed, both by the press itself, and the vision that HP and its customers have for the future of the print industry.

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On the way to ISO-compliance

Paul Lindstrom looks at the work that Heidelberg has done on its press control systems, and particularly the training and certification that it has offered customers through its Print Academy.

see page 15

XPress yourself

As Quark prepares to start shipping version 9 of its QuarkXPress page layout program, we look at the new features on offer. With this release Quark has gone all-out to address the market for publishing to portable digital devices, but there are plenty of other enhancements to make this a worthwhile upgrade.

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Regular Features & Special Treats

News Focus

Heidelberg has acquired Belgian software specialist CERM. The company, headquartered in Oostkamp, specialises in the development, sale, and implementation of management information systems for commercial and label printing and employs 26 staff. Heidelberg plans to launch and sell CERM's existing portfolio worldwide and integrate it into the Prinect production workflow.

Kodak has said that it will increase prices of digital plates from 5 to 10 percent and conventional plates from 15 and 20 percent, as of May 1, 2011 in all regions of the world. The company says this is due to "the sustained, universal rise in costs for key raw materials and utilities used in the production of offset plates".

HP has unveiled the latest edition to its growing family of Inkjet web presses. The T400 prints up to 4,926 full-colour, A4 pages per minute – 37 percent more than the closest solution from competing vendors. It has a print width of 1067mm (42ins) and runs at 83m/min (600ft/min). There are new A50 process-colour inks and new HP A10 printheads. For further details see feature starting on page 10.

EFI is to show its Vutek TX3250r 3.2m dye sublimation fabric printer at this month's Sign and Digital UK show.

It has new fast drying inks which enable the TX3250r to print at speeds up to 100 m^2 per hour direct to textile and transfer paper (for dying polyester-coated rigid or flexible substrates). Flags can be printed at this high speed in high definition, with excellent colour saturation on both sides.

Mutoh has shipped a new set of CMYK stretchable UV inks, called 3D UV. Specifically developed for Mutoh's Zephyr 65 UV inkjet printer, the new ink offers 200% elongation capabilities, making outputs fit for wrapping on 3D curved, riveted or corrugated surfaces.

The **Scodix** FinalTouch digital printing solution will be launched in Europe at the digi:media show in Düsseldorf in April. The Scodix1200 UV press, an inkjet machine with proprietary Scodink, creates embossing effects on demand with variable density, gradation, a high gloss level of clear ink, strong ink adherence to the material and camera guided registration. It adds tangible depth, texture and a whole new dimension to images and text.

GMC has introduced its Inspire end-to-end Customer Communications Management platform. This is a single platform that allows businesses to automate and control the entire communication cycle from capturing personal buying motivators to leveraging customer insight to the production of multi-channel communications and the management of customer responses.

GMG has also released version 4.7 of its ColorServer and InkOptimizer color management solutions, together with an update of the GMG SmartProfiler profiling and calibration tool to Version 1.5. The new versions are characterised by even greater user-friendliness and maximised production reliability. This includes preconfigured hot folders, and a wizard to help users create their own hotfolders.

Integrated Color Solutions has released Remote Director 4.0. This new version introduces a completely redesigned web browser interface. Remote Director proofs can now be shared immediately with anyone with an email address and an Internet connection. There is no client application to install, just a simple browser plug-in for viewing and calibrating that is automatically downloaded and installed on first use.

FineEye has shown its ICEserver 3.0, which delivers the same quality enhancement and ink savings to owners of digital and inkjet devices that are enjoyed today by litho users. This latest version of ICEserver is a client server system, with a browser-based user interface, which simplifies ICEserver implementation and deployment. It processes press-ready CMYK, RGB and greyscale PDF files prior to output on virtually any process color imaging system, including offset and digital presses, inkjet and toner devices. Cost starts at around €8500.

Adobe has released the Enterprise Edition of its Digital Publishing Suite. The DPS is a turnkey set of hosted software services and viewer technology to create, distribute, monetise and analyse digital magazines, newspapers and publications. The Enterprise Edition allows large publishers to implement a custom tablet publishing solution without disrupting existing publishing processes and infrastructure. It supports both the Apple App Store Subscriptions and Google One Pass for magazine and newspaper publishers.

OneVision has added new features to its Amendo image enhancement program, including Perfect Skin which uses a brand-new face detection technique to recognise faces, analyse the skin tones and execute any required corrections while preserving the characteristics of the different complexions for natural looking skin tones. There's also an improved user interface, new options for the handling of file extensions, and support for additional file formats such as PNG or RAW.

Fujifilm Dimatix has launched a new family of printhead models, expanding its already extensive Spectra Polaris brand of 512-jet, general-purpose, binary, drop-on-demand printheads. The three new models have 15, 35 and 85 picolitre fundamental drop sizes. Arrayed at 100 dpi, these jet two colours simultaneously, using only one Polaris 512-jet printhead.

Eastman Kodak Company has completed its acquisition of the relief plates business of the Tokyo Ohka Kogyo Co. The relief plate business includes flexography, letterpress, Braille and molding plate products produced and marketed by TOK worldwide. Included in the acquisition agreement is a manufacturing plant and development facility located in Yamanashi Prefecture, west of Tokyo, which produces relief plates.

Manroland's figures for 2010 show that incoming orders were up by 15 percent from the previous year, totaling €976m. Sales, on the other hand, decreased to €942m (compared to €1,112m in the previous year), attributable to the low number of orders in 2009. Operating earnings (EBIT) of €-66m were achieved. Nevertheless, signs of a recovery were apparent by the fourth quarter and an operational turnaround could already be achieved within this period. Manroland expects a return to operational profitability for the 2011 fiscal year.

Xerox has bought Concept Group, a supplier of digital document solutions that has nine locations throughout the UK and more than 3,000 customers from Aberdeen to London. It furthers Xerox's strategy of acquiring distribution companies for greater reach into the small and medium-sized business market.

Ricoh is to offer the Creo C-81 print server alongside its Pro C901 Graphic Arts Edition printer. This supports APPE2, the Pantone Goe colour library and a Synchronised paper library. It sits alongside two Fiery servers rounding out the choice for Ricoh customers.

Océ and **Canon** have combined a Canon ImagePress C7010VP with Océ's PrismaSync workflow to develop the C7010VPS series which offers an intelligent job scheduler, advanced color management and an easy to operate, intuitive user interface on a new 15" full colour TFT LCD touch panel, built in to a C7000 digital printer. The next target is to add the PrismaSync system to the light production ImageRunner series.

Markzware has issued a free updater for PageZephyr 2.0 users. PageZephyr is a desktop search engine that helps users of Adobe InDesign, QuarkXPress and Microsoft Publisher to convert print documents for publishing to the Internet. PageZephyr 2.11 adds full support for Adobe InDesign CS5, and can extract and export text to a WordPress Blog or Google Docs account.

Glemser Technologies, which designs and implements XML and content management solutions for life sciences

companies, has signed on as a Value Added Reseller of Quark XML Author. It will use it for companies that author XML documents ready for submission to the Food and Drug Administration (FDA) in Structured Product Labeling (SPL) format and to the European Medicines Agency (EMA) in Product Information Management (PIM) format.

News Analysis

Much effort has gone into developing standards to produce bullet-proof, print-ready PDFs for graphic arts use. But a new study by VIGC, the Flemish Innovation Center for Graphic Communication, claims that there are issues with the programs used for viewing these PDFs.

VIGC tested more than 20 tools, including Adobe's Acrobat and Acrobat Reader, as well as common alternatives such as Foxit Reader and Mac OS/X Preview. The study included test patches from the Ghent PDF Workgroup (GWG), some of which were designed by VIGC, which is an active member of the GWG. As such, these files were designed to be perfect PDF/X files, but with specific yet quite common properties for printing.

"Not everyone is aware that a PDF viewer essentially does the same as a RIP," explains Didier Haazen, PDF expert at VIGC. "It translates the information inside the PDF on a specific output device, in this case a screen. This is why our test is so important. If you use an inappropriate PDF viewer, you can't be sure that what you see on your screen is what will come out of the RIP, out of a digital press. In our test, we have clearly seen that many developers didn't implement the complete PDF reference, which is more than 1300 pages thick."

Unfortunately, VIGC won't confirm which programs failed to make the grade, although it seems that Acrobat did

work well, and hopefully, no one in a print environment is using OS X's Preview to check their PDFs. Though, as the report points out, there's no guarantee as to what software end customers might have used, or what results they might be expecting from their print jobs, which could potentially lead to problems.

VIGC also tested some iPad apps, none of which performed well. This is perhaps to be expected as, despite the clarity of the screen, the iPad itself was not designed for proofing purposes. Indeed a study by Bard Sandstad for his Optirep blog has shown that although there is support for ICC profiles in iOS4, those profiles are not used to display files on-screen.

Heroes & Zeros

Hero

Jim Lucanish of O'Neil Data Systems has worked with his digital printing press supplier, HP, to put print back at the heart of his customers' media strategies. Together the two companies have reduced the lead-time for a job with over seven million page impressions, from three weeks to one day. Way to go, Jim!

Zero

Apple, for such sloppy work on the iPad 2. Although most people have been thrilled with their new toys there have been numerous reports of backlight leaking from around the screen, yellow blotches on the screen, dodgy WiFi, cameras that don't work properly and malfunctioning alarms. Not good enough at all.
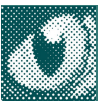
Green Shoots

The Digital Printing Deinking Alliance (DPDA) and Ingede, the German organisation representing the deinking industry, have signed a letter of intent to collaborate. The two organisations will work together on various research projects. The DPDA is also working with suppliers of chemicals to deinking organisations to improve the deinkability of inkjet printed inks.

An *Epson* all-in-one inkjet printer has been certified as Energy Star compliant by TÜV Rheinland. The international Energy Star program identifies and promotes energy-efficient products, to reduce energy consumption and CO_2 emissions. TÜV provides technical services to help companies achieve sustained development "to meet the challenges arising from the interaction between man, technology and the environment". The printer is due for launch later this year.

Epson has also been named a Sustainability Leader and achieved Silver Class status in the SAM Group's annual Sustainability Yearbook 2011. Every year SAM assesses 2500 companies in the Dow Jones Global Total Stock Market Index, for their sustainable growth potential using 100 general and industry-specific criteria. Only the top 15% in each of 58 industry sectors get included in the yearbook. Well done Epson!

Duraweld, a UK producer of customised presentation, packaging and printed products, is continuing its carbon offsetting programme for a fourth year. It is purchasing twenty energy efficient stoves for an African project managed by offset provider co2balance. The stoves are built in Africa close to their point of use and are about 50% more efficient than open fires so they use less fuel and generate fewer emissions. Each stove will apparently save over 15 tonnes of CO_2 over its lifetime. Duraweld reduced its CO_2 tonnage by 0.07% from last year by installing sprinklers onto all taps in the plant, using more PIR sensors, buying a Toyota Prius hybrid company pool car and issuing corporate gilets and fleece jackets to all staff so that the heating could be turned down by 2o °C.

Heidelberg is offering an own brand of eco-friendly consumables based on Agfa materials. Saphira Eco products include products for prepress, press and postpress, starting with CtP plates, inks, coatings, adhesives, and washup and dampening solutions.

The VTT Technical Research Centre of Finland has found that print products only account for around 1% of a Finnish household's climate impact. The group estimates that during its entire life cycle the greenhouse gas emissions that a single newspaper produces are equivalent to a car journey of approximately one kilometre, although we are not sure what sort of newspaper, car or terrain they are talking about. The book equivalent equates to the greenhouse gas emissions of a seven-kilometre car journey.

▶

This is important research because it gives us some idea of the environmental impacts related to different types of print products.

The report looks at the environmental impacts of newspapers, magazines, photobooks, books, and advertising brochures. Life Cycle Assessments were done for each category, following each product from cradle to grave. This included fibre supply, paper production, printing, transport, and use, but did not include recycling and waste management. The study was based on Finnish usage and found that the impact of newspapers, books, and other paper products used in Finnish households in 2005 was approximately 1%. The biggest culprits were housing (28%), food products (16%), and transport (13%).

For more green news, check out The Verdigris Project:

Verdigris

http://verdigrisproject.com

A Review

This month we've been trying out Quark's new iPad Design Service. Quark has realised that app publishing is likely to be the next big thing for its desktop design customers – it'll be the headline new feature, when it finally ships, for QuarkXPress 9, as you can read on p18 of this issue.

But for now, Quark is offering an iPad app development service, which anyone with a copy of QuarkXPress 8.5 can use. The service comes in two halves: firstly, you'll have to design your layout; then you'll have to send it to Quark where a team of developers will convert it into an app.

You'll need to download the App Studio XTension, freely available from the Quark.com website. You can then use this to go through a project and tag the images to define the level of interactivity that you want to add to your app. There are six different media types: picture, movie,
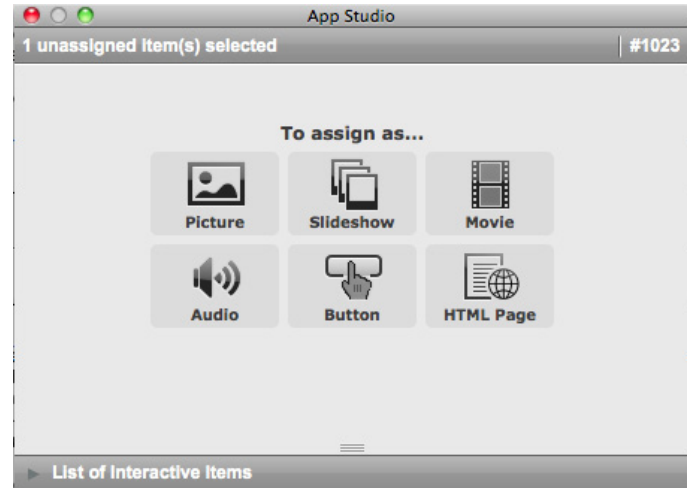
The App Studio XTension lets you define some level of interactivity for six different types of element.

slideshow, audio, button and HTML link. So, you can pan and zoom across still images, set up slide shows of images, set movies to play when the page is opened, or when a user clicks on a button. You can also use buttons to direct readers to a particular spread, or a website, and of course you can incorporate HTML links, or even embed YouTube videos.

The main thing to remember is that you'll need to set up two separate layouts, one for vertical and one for horizontal orientation. You can duplicate one layer to the other but will have to watch for elements that slip off the pasteboard. Effectively this means that you will have to go through and tweak the design twice over.

Once you're happy with the design and its interactivity for both layouts then it's time to send it off to Quark to have it converted into an App. The service takes a couple of days, depending on how complex your project is, but works well with the Quark designers correcting things that were forgotten and generally improving on original intentions.

You can opt for a one-off publication, like a book, viewable through a MyKiosk reader. This costs €357. Or you can opt

for multiple issues within a single title, which costs €357 for each issue. So, for example, if you wanted to create one title and publish five issues the price would be €357 x 5 or €1786. The price includes up to two revisions so if you're not happy with the result then you can have it altered to your requirements. You can preview the app on an iPad, or, if you haven't got one, via a simulator on a Mac. You'll also need to set up your own Developer ID with Apple before you can put anything into the App Store.

This service offers a reasonably cheap way for smaller publishers to tap into a potentially lucrative market without the overhead of having to develop a bespoke solution. The only real drawback is that you cannot see the impact of any of the effects that you set up until you get the finished app back from Quark so there's no chance to play around with it and test out different ideas. Then again, it is only a short-term solution until the App Studio comes to QuarkXPress 9 later this summer. Once that happens the iPad Publishing service will be wound up. For now it only supports Apple's app store but Quark is also planning to add support for Google's Android Market later this year.

Picture This

In 1930 the Swedish-Estonian scientist and optician Bernhard Schmidt invented the modern telescope, reducing spherical aberration, coma and astigmatism with his design. It was a big breakthrough for astronomical research and photography, and his design is still used today, even for NASA's famous Hubble space telescope.

Schmidt introduced a thin aspheric lens, called a Schmidt corrector plate, which made it possible to achieve a sharp picture over a large portion of the lens. Other opticians of that era could hardly believe the image quality from the Schmidt telescope, such a big leap forward in technology was this.

Bernhard Schmidt lived and worked in Germany at this time, and was very troubled when the Nazis took power. In fact he got so distressed that he became mentally ill, or at least mentally exhausted. While in a mental hospital, he fell victim to the Nazi doctors practice of judging some

Some of the thinking behind Bernhard Schmidt's design of telescopes has gone into today's lenses for cameras. Here a photo of the moon taken the other week, using a normal 300mm telephoto lens and digital SLR camera.

patients 'unworthy' of living, and was murdered. The official cause of death was a "lung infection", but this was just a cover from the hospital's side.

He didn't live long enough to see the full acceptance of his innovations, but in 1938 an 18ins Schmidt telescope was built, and ten years later the famous 48ins telescope at Mount Palomar, in San Diego, California.

Now what has this to do with graphic arts production? Not very much we must admit, but we came to think of Bernard Schmidt and his tragic death when we took an image of the moon, when it was at it's closest to earth in 18 years, just using a telescopic lens and a new Canon EOS 550 camera.

We were amazed at the details we could render, and thought: "If one just could have had a small Schmidt telescope instead, then one could see details on the ground of the moon!" And again we were reminded of the German Nazi doctors who in 1935 had decided that

Bernhard Schmidt was among the "unvaluable" part of humanity – the fools! May we never allow such a type of thinking come to power ever again!

For anyone who wants to read more about Bernhard Schmidt we recommend the book Vastutuulelaev (freely translated "The boat that could sail against the wind") by Estonian author Jaan Kross.

A Case Study

Your imagination is the limit

One of the most exciting and rapidly expanding markets within graphic arts production is large format printing. Not only do the printers straddle the territory between conventional screen printing, some types of commercial printing and state-of-the art digital printing – the new inks and digital printers open up new applications using a huge variety of substrates.

One company that whole-heartedly embraces this wild west-type of environment is Data Image group in the UK, situated in Narborough, just outside Leicester. We met with co-founder Robert Farfort, to discuss, in particular, the challenges of colour management across a fleet of different printing devices, printing on many different substrates.

Standardisation to ISO key

Farfort, who has a background in design, early on became interested in trying to colour manage the inkjet printers at the Gilchrist repro studio, where he first worked in the early nineties. It was the time of the first Encad NovaJets, trying out a range of different RIP solutions to manage the colours on the 'beast'.

Today Data Image have in total about 15 different large format printers in their production lines, not counting toner-based machines, or smaller proofing devices. This includes Durst Lambdas for high-end photorealistic output, as well as dye-based, solvent-based and UV-curable inkjets, in both roll-fed and flatbed form.

Farfort has taken a somewhat unusual approach to colour management, at least for large format printers. Instead of always trying to achieve the largest colour gamut possible for that particular device and substrate, he instead chooses to calibrate towards quality offset
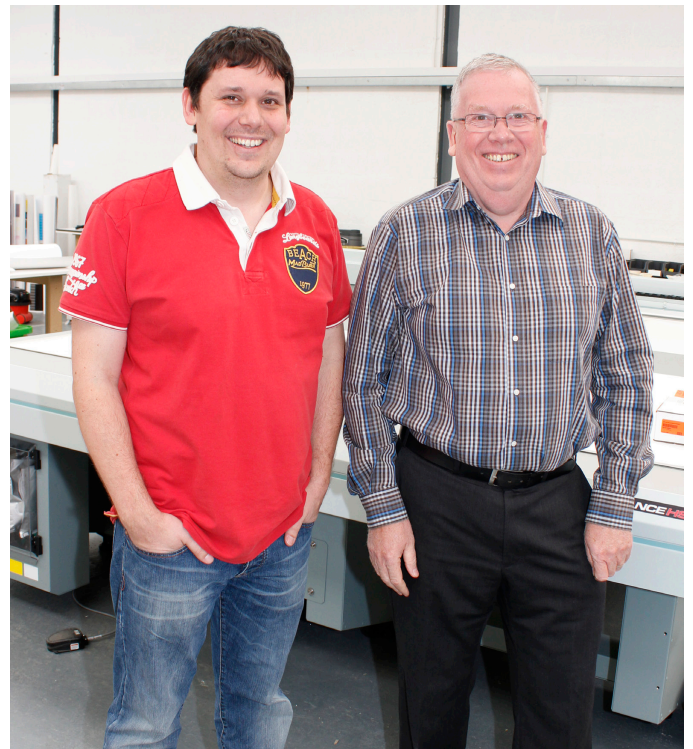
Father and son, or rather, Robert to the left, and Alan Farfort to the right, in front of Data Image's latest investment, a Fujifilm-Sericol Acuity Advance flatbed inkjet printer.

printing, on coated paper stock. While you can argue that you then sometimes reduce the possible colour gamut on one device, you gain something else – predictability and consistency. Proofing according to ISO 12647-2 is today a well known procedure, and viewing prints and proofs in proper viewing booths helps the printer operator, designer and client to approve (or not) the proofs or final prints.

After having used an array of different printer drivers, printer control systems and RIPs (often one for each printer type), in 2005 Data Image decided to try and use one single RIP system for all of its devices. The challenge went to ColorGate, a Hannover-based software

company, with local offices across the globe. "Everything has become so much simpler when we streamlined the production process in this way. It used to be me that had to do the calibration and fiddling with ICC profiles. Now most of the operators know how to recalibrate a printer and build a custom ICC profile, when and if necessary", concludes Farfort.

A huge range of substrates and applications

Walking around the production floor at Data Image you quickly get an idea of what a mix of printed products they have in the portfolio. One of the more spectacular and odd products is a loudspeaker made of cardboard. The printed display IS the loudspeaker! The visitor in the shop

The range of applications for large format digital printing is mind boggling. Here Farfort is standing by a display where the cardboard material itself acts as a loudspeaker!

can push a button on the printed display, and so start the music or spoken message, be it an ad or sales offer!
On the large format flatbed printers with UV-curable ink,

or solvent-based ink when necessary, more or less any kind of substrate can be printed, be it wood, plastic or metal. Data Image also combines conventional screen printing with digital printing. When we visited them a black-only frame on glass platens was pre-printed with screen printing, to have additional printing added later using digital technology.

Farfort also showed us digital printing on a film material, to make a heat reducing curtain material in small series. Truly – there seem to be no limit to what can be done with digital printing, your own imagination seems to be the biggest limitation!

One of the latest large format flatbed printers in the Data Image fleet is an Acuity Advance HS-X2 UV flatbed from Fujifilm-Sericol. We asked Farfort what he looks for in a new printer, is it mainly printing speed, or perhaps resolution, or perhaps colour gamut?

"It's often a combination of many factors", explains Farfort. "Overall productivity is perhaps the most important criteria. Sometimes it's very important to have very high resolution, even in large format production. We often do step-and-repeat production, in our large format printers. In this case the final product is used and seen at arms length, so we compete with commercial print and offset when it comes to quality in that case. Other times resolution is less crucial, instead speed and easy and efficient loading and unloading are perhaps more important. This is why we have so many different types of printers in production – one type isn't the best for every job."

We notice that next to every printer, or every cluster of printers, is a proper viewing both installed, and they are frequently used by the operators. It's clear to us, that alongside all the criteria for a good large format printer at Data Image, is always the capacity to produce high quality imaging, at (or as close as possible to) photorealistic quality. We leave truly impressed with the quality and ambition shown by Farfort and his colleagues at Data Image Group.

The Juggernaut that is HP

When HP introduced its inkjet web press at drupa in 2008, the plan sounded over-ambitious to the point of innocence. And at the same show Kodak, already a well-entrenched graphic arts player, presented its impressive Concept press, with its Stream technology, which later became the Prosper press.

But fast forward to Ipex 2010 and the Prosper press was still to enter its beta testing stage. By that time we had already seen HP's inkjet web press technology in live production almost a year earlier at O'Neil Data Systems in Los Angeles, California. Since then, with bold investments, unerring commitment to purpose and a ruthless focus on its objective, HP has produced a string of engines based on its Scaleable Printhead Technology. This astonishing rate of new product introductions, with four presses in two years, has produced a rapidly growing installed base that will reach 30 machines before long.

HP is on an aggressive mission to own the high end digital inkjet printing space. The latest addition is the T400, up and running now for several months at O'Neil Data Systems (ODS), alongside a newly upgraded T350 running at 183 metres per minute (mpm).

HP's first taker for its inkjet technology, O'Neil Data Systems has been central to the strategy. As Chris Morgan, senior vice president of HP's Graphic Solutions Business said at the LA event: "It really is a combination of HP innovation and having O'Neil's to go out there and do it". O'Neil Data Systems rides the crest of a market wave. A content explosion, mobile communications and the Web together with high speed variable data printing technologies are driving the printing industry.

According to HP, printable content will triple in volume by 2012 and 85% of smartphone users want to print from their devices. For HP, the analogue to digital transformation and new online services provide it with a terrific market opportunity. For instance, Blurb, a self-publishing website that uses a network of digital printers,

shipped 1.4 million books in 2010. Cloud computing provides the environment for these exciting new business models, and according to Aurelio Maruggi, vice president of inkjet high speed production systems for HP, "digital is already representing about 40% of page values … over 3 billion pages will be printed in North America on the current installed HP base for major publishers".

Let's Be Friends

The partnership with ODS has given HP priceless insights into how printers might serve customers in this bold new world, giving it the practical knowledge and experience its people need in order to start new conversations with

Aurelio Maruggi, vice president of inkjet high speed production systems for HP.

customers. This may be why HP, uniquely amongst the digital press manufacturers, has shown no interest in working with analogue press companies in order to reach their customer bases. When Heidelberg approached HP with an eye to partnering, HP wasn't interested, preferring instead to drive analogue to digital conversion alone.

With customers like ODS and CPI, HP has its hands full indeed. Over 25 Inkjet Web Presses are now installed, with four at ODS, three each with CPI, Emdeon and Courier (one of these is on order), and Communisis with two. CPI has another on order for the UK and CTPS in China has installed HP's first Inkjet Web Press in Asia Pacific. Maruggi said the T400 is "completing the portfolio for the Inkjet Web Press … 2011 is for us the big year in Asia".

HP's latest addition to its Inkjet Web series is the T400, a 42-ins printer capable of a production speed of 183mpm.

HP's strategy is to work with customers to optimise their print service provisions and to transform the value chain to make it more profitable. HP customers are in turn working with their customers to help monetise content, taking what HP calls "the total value view".

The T Zone

The Inkjet Web Press series is designed for scaleability, with different models to match volume and productivity needs. The T400 leverages 70% of the T300's technology, with 140 heads to print across a 1066.8mm web, a new paper path, closed loop tension control, new data pipelining and new heads. The heads are the same printhead as the T350's, optimised for 183 metres per minute, and the T400 is also available in a 122mpm version. The A10 printheads print with a 50% higher drop frequency and are "an extension of the fourth generation; it's not the fifth generation" according to Maruggi.

There are multiple optimised dryer zones and the T400 uses infrared and hot forced air in its dryers for a 20% improvement in drying efficiency and smaller footprint. A vision system reads test bars printed in the trim areas to check nozzle health, and a Weko moisturiser replaces

extracted moisture to minimise cockle. This is a new addition to the technology that HP has found necessary because of the rising volumes of colour. Black print needs no drying but colour does, and some of the extracted moisture must be replaced. We think this ought to be managed better in the first place, both for cost and environmental reasons.

The MICR option announced at Graph Expo last year is now available on the T400 and across the portfolio. New A50 pigment inks are due to be announced in the autumn with enhanced fluidic and thermal performance, and the new heads and inks will be rolled back to all machines in the field. The T400 has a duty cycle of 140 million US Letter-sized four colour page impressions per month, prints a media range 40-350 gsm and has a zero-speed splicer to reduce the time taken for loading and splicing rolls to the unwind unit. HP is in the process of implementing a turret rewinder so that a roll can be unloaded without stopping the press.

Like the T300 and T350, the T400 has a tandem print bar for single pass printing with nozzle cycling for suppression of print artefacts. This helps lead to quality equivalent to

that of multipass devices and to maintain print quality in the event of nozzle failures.

ODS on workflow

Jim Lucanish, president of ODS, has a tiger by the tail. Or since he has to feed it, perhaps the tiger has him? ODS has four HP inkjet engines, the most recent of which, the T400, was delivered in November and operational by mid-December. His description of the complexities of ODS's

Jim Lucanish, president of O'Neill Data Systems, with its latest toy, the HP T400.

variable data workflow, for instance "breaking saddle stitched books into eight files totalling 120,000 frames and feeding a split roll" lost us after the first few syllables. Probably that means he can't share too much about the workflow specifics, beyond that "a roll to roll workflow is best for us". ODS is heavily into complex imposition development to get the most out of the T400's 1060.4mm print width and is planning future add-ons to the T400. In essence the planned new pasters and rewinders make it behave more like a conventional book press.

The upgrade to turn the T300 into the T350 improves its productivity, particularly for books and newspapers, to 183mpm, rather than 122m, across a 30ins web. Productivity is what ODS is all about. Ten years ago a job of seven million impressions took three weeks to complete. Today ODS's highest recorded 24 hour peak production is a staggering 7,619,883 total page impressions. Five years ago 34 digital sheetfed printers, and then five roll-fed toner based machines, produced this volume of pages and today it is handled with a single T400.

These pages are paid for on a consumption, rather than a click charge model. Inks and printheads are sold according to usage so there is a cost distinction between mono and colour pages. An ink estimator RIPs a file offline to work out consumables costs in advance, which aids estimating.

HP's estimate of one printhead failure per eight hour shift is an underestimate in ODS's experience. They get one per 24 hours and have monitored head failure since they first started working with HP. At the end of the first year of the T300's operation 71 (over 50%) of the heads were still functioning, after 18 months 44 still worked and, 20 months later there were still 41 left.

Workflow

With 80% press uptime, feeding this press is equally as important as its capacity and performance. The HP Smartstream Ultra Print Server is an HP blade server, scaleable and more of an IT system than a prepress workflow system so it can feed data to the press at the engine's full speed. The ODS server can process 17,500 US Letter (8.5 x 11ins) pages per minute running the HP Exstream platform, which supports PostScript, PDF and AFP/IPDS. This is a single customer communications management platform, managing all aspects of page production from design to delivery. It combines customer relationship management with document production and multi-channel output from a single design. In Jim Lucanish's view HP's purchase of Exstream was "the best buy HP ever made, quite frankly".

The Smartstream workflow is based on PDF, which is suitable for something under half of ODS customers. Most of ODS's input comes from databases which have to be composed on the fly into a page and readied for mailing which means support for AFP-IPDS is mandatory. HP is working with ODS on this and working on its own parallel development of a PDF/VT-1 workflow for variable data.

East of Eden

ODS is expanding to meet new opportunities further afield and opening a 20,000 plus square metre facility in Dallas, Texas. This will be a fully digital plant for "enhanced distribution opportunities" and, according to François

Unveiling the T400 at O'Neil Data Systems. From left to right, James Lucanish (president, O'Neil Data Systems) and HP executives Sumeer Chandra, (VP worldwide strategy and marketing Graphics Solutions Business, HP), Aurelio Maruggi, (VP & General Manager, HP Inkjet High-Speed Production Solutions) Christopher Morgan, (senior vice president, Graphics Solutions Business, HP) and Scott Schiller (director marketing and business development, HP Inkjet High-speed Production Solutions).

Martin, worldwide Graphic Solutions Business marketing director for HP, there should be four new T400s installed alongside a brace of Indigos. The first equipment should be delivered in June and will be operational by August.

ODS is using this growing capacity to provide a range of printing services for clients, many of whom receive from the company financial reports and summaries. A whole other raft of customers uses ODS for what HP calls "production mail", personalised information such as highly customised healthcare plans and summaries produced in vast quantities and mailed direct to end users on behalf of ODS clients.

Maruggi explains: "The number one driver for return on investment for marketing investments is response". So the industry is turning away from mass mailshots to targeted marketing. Instead of using preprinted forms and warehousing them until use, people increasingly print direct onto blank substrates using digital printing technology for quicker turnarounds and waste reduction. Per page prices are lower in ODS's four sectors – healthcare, financial, publishing and marketing – and customers are getting increased responses at improved ROI.

The Rest of Us

It's hard to consider ODS as representative of the industry, but certain industry trends are immutable, such as the need for shorter runs with higher job frequency. HP research suggests that 70% of printers recognise part of this trend, and that over 47% of their publishing customers are looking for multichannel content delivery options. In book publishing, for instance, run length averages are dropping from 3500-7000 to 1-3000 copies per title. With

distribution costs swallowing 7-23% of gross revenues, optimised supply chains are fundamental to profitability.

The move in content creation from static to variable allows a 10-15% premium, for instance, in customised textbooks, but it's only really realisable with a fully automated workflow and optimised distribution models. There still aren't enough printers with the vision and sophistication to fully leverage their workflows and engines yet, but this model is, so far as we can see, the only future for the printing industry.

Next Steps for HP

The massive page volumes demanded by America's gluttonous health care monster are unique to that country. However there are other applications which HP is targeting. For instance it worked with Communisis to produce the print collateral for Barclay's Bank loyalty programme in the UK. This required mailing 259,000 packs per month to scheme members. Printed conventionally the mailing required 56 base artwork variations, 220 plates and 1,632,000 A4 sheets. Printing with a digital press it required a single base artwork, no plates and 408,000 A4 sheets.

Using digital press technology and database management for variable data output saved Communisis and Barclay's 116,000 kg of paper per year and improved paper yield from 16 to 98%. This was of course an extremely IT intensive project with 3,120 trillion variable fields across the entire promotion. But that is the point: leveraged IT and databases improve print's relevance, its environmental impact and its cost effectiveness. Communisis is extending this to other customers, and HP is using this case study to demonstrate what can be achieved.

There are opportunities elsewhere too. HP has defined a universe of 8.2 trillion pages of marketing collateral of which 11% is currently digital. They estimate 24.5 trillion pages of publications material, of which only 1% is currently digital; information prints of 3.4 trillion, with 18% produced digitally and an overall market opportunity of 350 billion pages, with 6% growth in pages from 2010 to 2011 and a 22% growth opportunity in 2012 for the Inkjet Web Press series. This is where the T400 comes in, and why HP is building a broad portfolio, because as

Maruggi puts it: "One size doesn't fit all". A T450 cannot be far behind. A wider format would be well-received in Europe, particularly for book and textbook applications, where there is a potential market that companies such as CPI might want to develop.

This all makes it sound like an easy story to tell but HP has invested hugely and boldly to make its strategy successful. With 95% of pages still printed on analogue presses, the opportunity is indeed enormous. As Maruggi said: "What's happening in the market is a positive transformation for the graphics market."

– Laurel Brunner

On the way to ISO-compliance

More and more printers and publishers worldwide find it very useful to establish quality levels according to ISO-standards, and one of the more proactive players in this field is Heidelberger Druckmaschinen, or just Heidelberg for short.

We have spoken to Bernd Utter, product manager for colour measuring and press control systems, and also responsible for the Heidelberg certification activities - that is, certification according to ISO 12647-2. We wanted his view on what the main challenges are for printers who want to comply with printing standards, and what we can expect from software and hardware on the press side to help the press operators.

10 years of systematic training

Back in 2001 Heidelberg launched PCM (Print Color Management) service, with the goal of synchronising prepress and press settings in the printing workflow. Often this was done by inviting customers to the Heidelberg Print Academy sites, located not only in Heidelberg's headquarters in Germany, but also in about twenty sites worldwide. Printers are advised to follow a five-step course to optimise the production process. The first step is for the PCM team of press and prepress instructors to analyse the existing work procedures and, together with the staff at the printer site, decide on what steps and what education might be needed before going further. So this is the first step, advice.

The second step is to decide on what standards to adopt, so that the third and fourth steps can be taken, to optimise prepress (CtP) and press settings. Finally, as the end result, the tone values are adjusted to the existing print conditions, an ICC profile for the proofer is generated and the waste at the press is reduced by adopting the CIP4-PPF data accordingly.

Meanwhile, as Heidelberg continued with this training process, in 2005 FOGRA and the German printing federation bvdm started to invite printers to a certification program, based on ISO standards. This is the PSO certification process, a brand name and intellectual property of Fogra and the bvdm, as the basis for their certification according to ISO 12647-2.

"We were asked by clients that had finished our PCM program, and who knew they could print according to ISO 12647-2, if they could get a confirmation", Bernd Utter explains, "We pointed them to the Fogra PSO certification, and some went through that process as well, but others insisted that they would be just as happy if we

Bernd Utter, Product Manager, Prinect and Heidelberg certifications.

could provide some kind of certificate. So in 2008 we launched the Heidelberg certification according to ISO 12647-2, based on the PCM training and evaluation."

He continues: "Our certificate focuses purely on the proofing and printing part, and we never claim that it replaces PSO, which also embraces the prepress workflow with its high demand for colour management and profile handling. But it has been quite successful – by now we have about 30 printers certified worldwide."

We asked Utter how this was taken by, for example, FOGRA, or bvdm, as it could be seen as competing with them? "We have taken this step with the full understanding of both FOGRA and bvdm", explains Utter. "In fact, we are a partner of FOGRA in doing the PSO certification outside German speaking countries (Germany, Austria, Switzerland, Lichtenstein). And again, we make it very clear that our certification doesn't

Heidelberg Print Academy, seen here at the Heidelberg headquarters in Germany, also operates in about twenty sites worldwide.

replace a PSO certification. Any print buyer or customer to a printer can read the documents explaining the scope of the Heidelberg certificate, and will see that it focuses purely on the ISO 12647-7 for proofing, and 12647-2 for printing."

Challenges and opportunities

So what are the main challenges for a printer who wants to successfully be certified to Heidelberg's certification, or PSO, or similar? Utter replies: "Of course you need to learn which parameters have a direct impact of the print process and how to control them. One typical example,

when it comes to practical hands-on, is the challenge how to adjust wet inks to the dry figures of the ISO 12647-2 standard. This includes trying out the correct amount of ink for that particular paper, checking dot gain et cetera. Not least you have to make sure that your ink complies with the ISO 2846-1 standard. And even though it is written on the label sometimes there is a large variation between batches when delivering the printing ink!

"Another thing that can be a challenge is that different spectrophotometers, of different make and age, may yield slightly different measurement values. We have introduced the Heidelberg Netprofiler, based on X-Rite technology, to ensure that a measuring device is recalibrated back to the status in which it was delivered from the factory. And if this status can't be achieved, the software will issue a warning, and the device has to be sent for repair or support. The reference measurement target to be read is valid for one year only, and then it should be renewed. In this way we can intercalibrate high quality spectrophotometers to not differ more than about Delta E 1, which should be accurate enough for real-life quality management."

We wondered if there are any remaining issues with technology or the standards themselves that should be addressed? Utter commented: "While the 12647-2 is quite mature as it is, it's basically the third iteration, I still feel that it could have more specific information about the secondary and tertiary colours. Today a proof can differ quite a lot, especially in the tertiary colours like, for example, browns, even if the proof is within the tolerance of less than Delta E 3 in average. Another thing I'm missing is a tone value table like in the bvdm's MediaStandard or in our Prinect Colour Toolbox.

"When it comes to technology and software, there is still room for improvements, of course. We will introduce a new spectrophotometer to use inside our Prinect Image Control, that contains two sensors – one to read the whole printed image, the whole sheet, and a second sensor that has a polarisation filter that can be switched on and off for measuring the colour control strip. In this way we receive the genuine, un-polarised spectral values to control the press and the printer gets his common densities from the colour bar."

In the Prinect Image Control the printer can analyse L*a*b*-values and densities, both translated from the spectral values. The coming version has two sensors, one without polarisation filter, and a second with a polarisation filter that can be switched on and off.

Utter concludes: "Otherwise I think it's quite clear by now that a printer can benefit hugely, and, of course, its customers, from a certification according to ISO 12647-2. It streamlines the processes, takes out a lot of uncertainty, and replaces it with predictability and consistency."

We at Digital Dots tend to agree with this, and would add that in most cases the staff involved in such a journey often find it rewarding and interesting. When (and if) they are awarded with a certificate, they feel quite pleased about having achieved this. It can be seen as the evidence that the company is serious about staff training and knowledge development, which all must be seen as good things.

– Paul Lindström

XPress yourself

Later this month Quark will start shipping version 9 of its venerable QuarkXPress page layout program. It's 24 years since this program first appeared and for most of that time it's been the only serious tool that professional designers would consider using.

But for the last ten years QuarkXPress has been on the losing end of a battle with Adobe, which first proved that InDesign was an equally serious design tool and then used the collective power of the Creative Suite to give Quark a comprehensive kicking. Most people felt that QuarkXPress 8 would be a make or break release and, fortunately Quark rose to the challenge. It isn't the all-singing all-dancing everything but the kitchen sink approach of the Creative Suite. Instead it offers print

designers the possibility of also designing web pages and interactive Flash elements in a single, relatively nimble package. For a while it would even play more nicely with Photoshop than InDesign, until CS5 caught-up.

QuarkXPress 9 goes a step further by positioning itself as a low cost platform for digital publishing. For now this means that it can export files to ePub or the Blio eReader. The ePub standard is a fairly blunt way of representing a book designed for print into a digital format, but it is almost universal, being compatible with most portable devices, apart from the Kindle. Blio is one of several

eReader's that can offer a much richer eBook experience. As yet, there's no particular standard, but Blio has built up a substantial library and is now powering quite a lot of the new online bookstores that are starting to appear, from the likes of Toshiba and Dell. For now Blio only runs on Windows but there's a Blio app on the way for both iOS and Android, as well as Mac OS X.

Ebooks and digital media tend to have a far more structured approach than the freewheeling layout that most magazine designers are used to in order to cope with the smaller screens of these devices. So, one of the major new features of QuarkXPress 9 is Reflow, which lets designers add the necessary sequential structure. An eBook can only be a single document so Reflow lets you extract pages to an eReader and define whereabouts the illustrations and their captions go.

However, using Reflow can be a rather laborious process. Reflow tagging means that you do have to go through and manually tag every element to say what items you want and what order they go in. Once you've grabbed the elements you then have to go back and add the actual tags to say what is a headline or a chapter header.

The plan is that QuarkXPress will eventually support app publishing to devices such as the Apple iPad. Quark has already released an App Studio for QPS, and there's a design service for QuarkXPress desktop users (see review on p6). There should be an App Studio XTension built in to QuarkXPress 9, but that won't be ready for another three months, when Quark will release a free 9.1 update. With this you'll be able to design and test apps, and then upload them to the App Store (once you've signed up for an Apple developer ID). Clearly it would have been better to have included this right from the start, but we can see Quark's point that there was no need to hold back the entire upgrade for a single feature that not everyone will use. No doubt we'll return to this in a few months' time.

Working in style

Style sheets started off as a handy way for designers to format chunks of text to the same style without having to manually go through each formatting option for every text box. Over the years Quark has built a lot of extra functionality into the Style sheets.
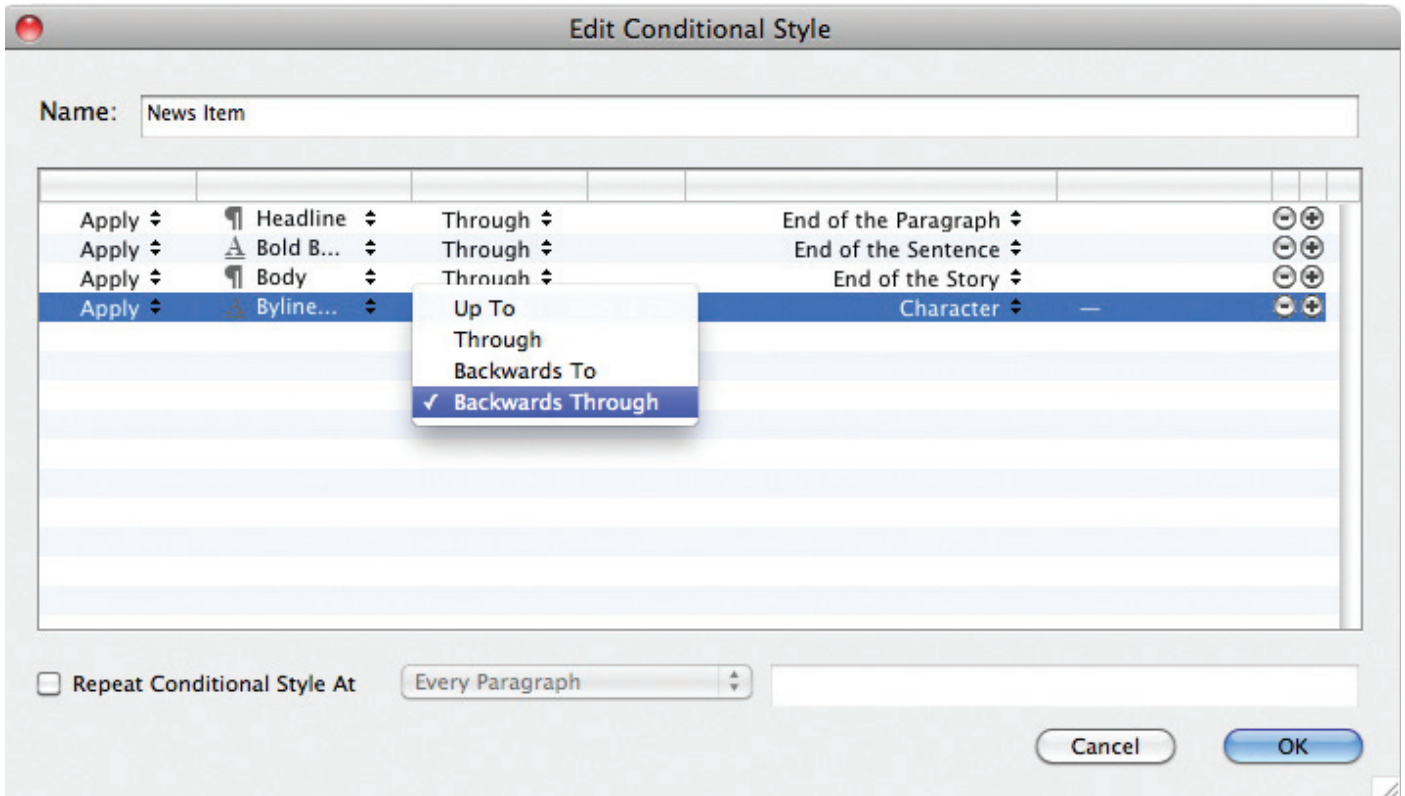
Above: *The new Conditional Styles feature brings a powerful level of automation to QuarkXPress.* Below: *Use Callouts to tie one element, such as this caption, to another, such as its associated picture.*
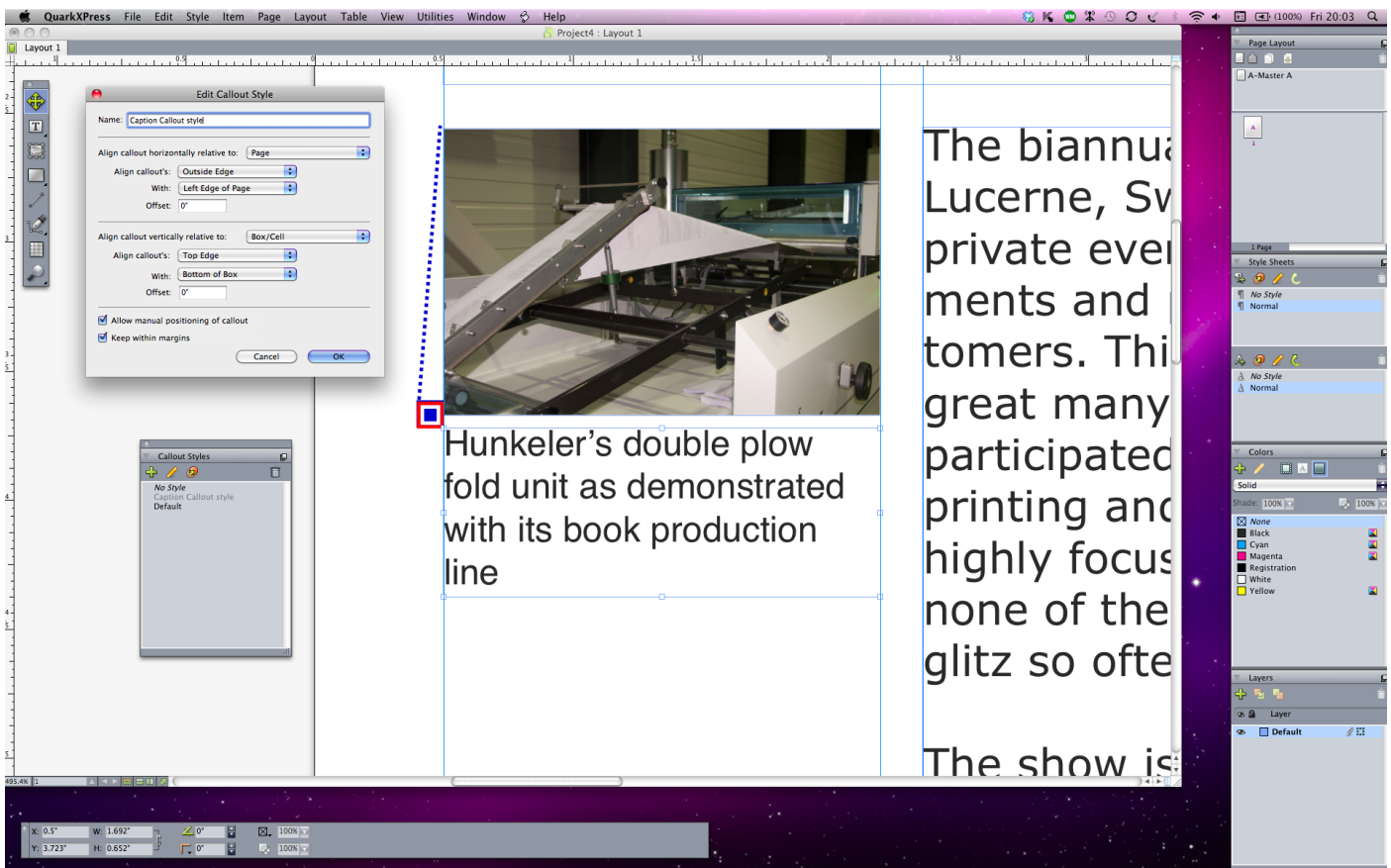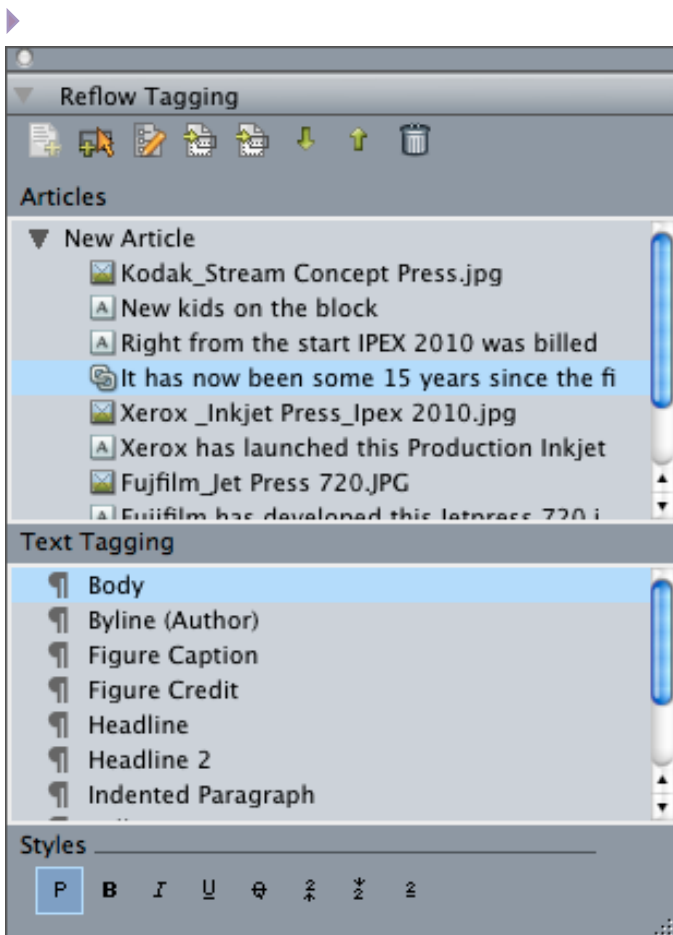
The new Reflow editor helps restructure Quark's traditional free-wheeling approach to design into the more pedantic format necessary for ePub and the Blio eReader.

For this release, Quark has added powerful automation with a new Conditional styles feature. This is a system for creating behaviours that automatically apply style sheets based on text patterns. Once you apply the behaviour it automatically updates as you change the text or the style sheet. However, it's a paragraph style function and each paragraph can only have one.

Quark has also tidied up the potential for local formatting to conflict with the style sheets. In previous versions you had a straightforward choice of either keeping or losing all of the formatting changes that you made while editing a page. But now you can choose some local formatting based on type, so for example, you could opt to keep all the bold instances.

Version 9 also sees the long overdue introduction of bullets and numbering, accessed via new dialog boxes for bullet numbering and Outline styles. An Outline style is the wrapper around the whole thing but you can then drill down to set styles for bullets and numbers. It's been designed to work with Asian characters and languages that work vertically or back to front. It's also compatible with Word for both import and export.

New tools

Quark has finally added a Story editor, which previously was only in Copydesk. This now shows the text independent of the layout, which makes it easier to carry out any further editing.

Another new feature is Callouts, which Dan Logan, Quark's technical product manager, describes as "anchored objects on steroids". It is a simple yet powerful tool that ties objects together. You could link an image to its caption so that as the image is moved around the page, the caption follows it.

The anchored object doesn't have to be in the text box but can be anywhere on the page. So, for example, you could set a callout anchor to a paragraph of text for a picture. Then if the text reflows to a different page when it is edited, the picture will move with it.

You can control the behaviour of the Callout through the Callout Settings dialogue box, or you can set up a Callout style and then simply apply that style as with any other style sheet. The Callout Settings allow you to define how the object aligns vertically and horizontally.

Amongst the most useful of the new features is Cloner, an extremely flexible tool that lets you copy chunks of a layout or whole pages to other pages or even other files. This is particularly useful for repurposing content as you can copy the content, complete with any tags, from one layout type to another, giving you, for example, both the horizontal and vertical layouts that you need to create an iPad app.

Quark has included the Linkster XTension, a surprisingly useful tool, mainly for controlling how you unlink text boxes. So, for example, you can unlink a long text chain and have the text stay in its place, without reflowing as you edit the text boxes. There are four options that let you tailor which boxes remain linked together while others are unlinked. You can also use it to link selected text
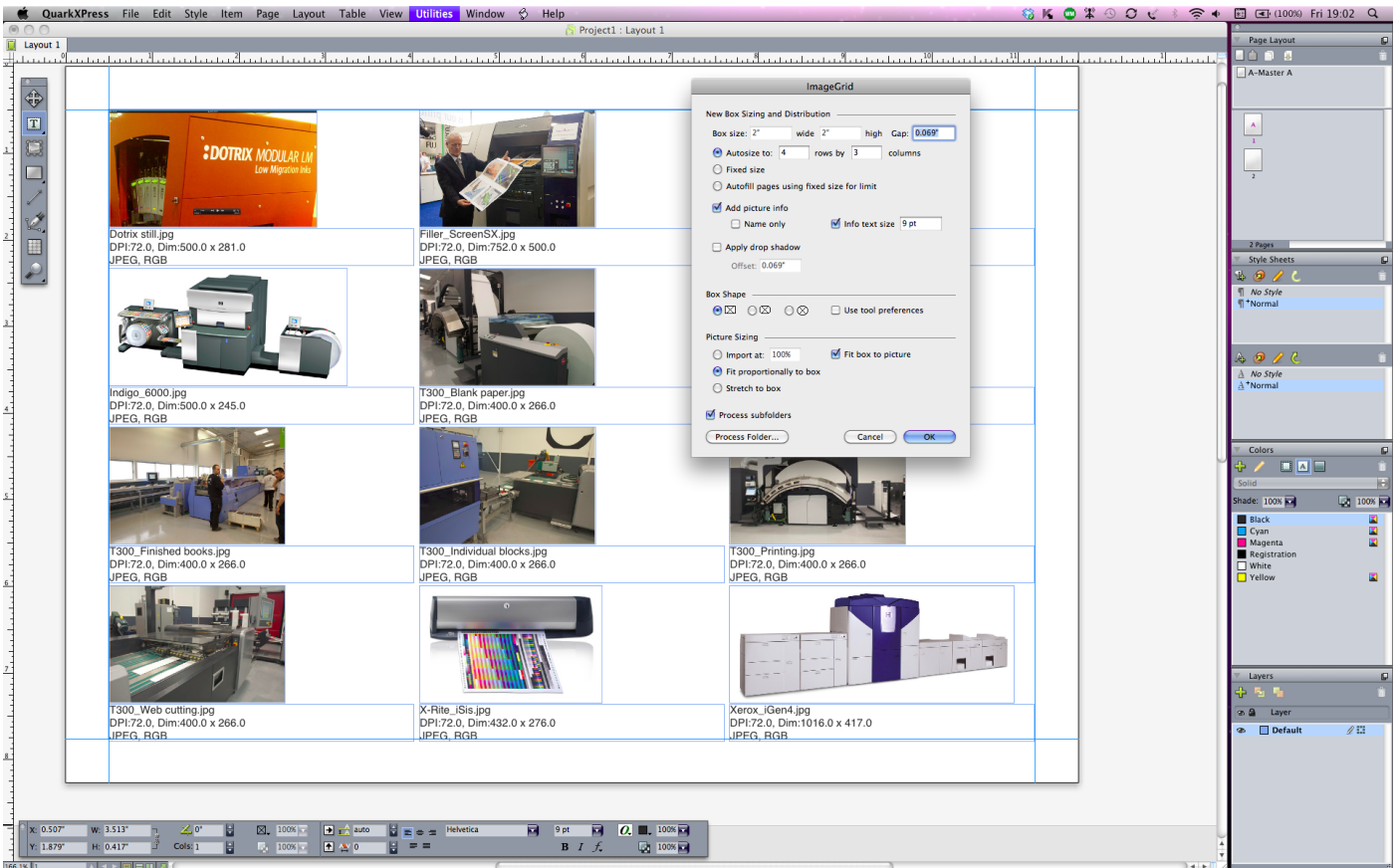
Above: *Image Grid offers a quick and easy way to put together a table of images.* Below: *The new ShapeMaker tool is a quick but effective way to make different shapes for text and picture boxes.*
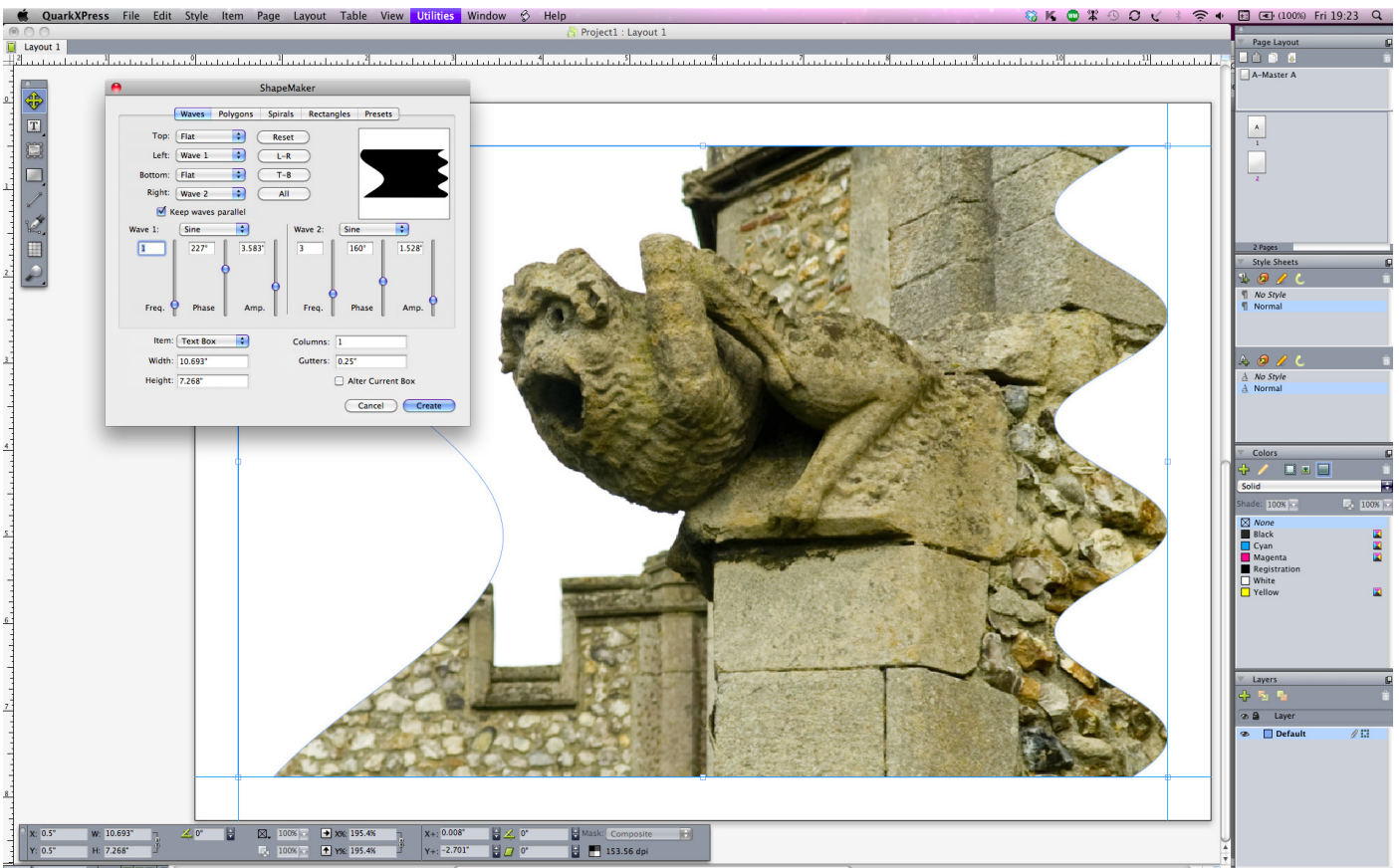
boxes together, or all the text boxes within a document, at a stroke without bothering to select anything. It's simple enough once you learn the meaning behind the cryptic symbols for each option, but it really could have benefited from a better explanation.

There's a new Shapemaker utility for creating oddly-shaped boxes. You define the box, for example, as a picture or text box, and can choose from a range of shapes,
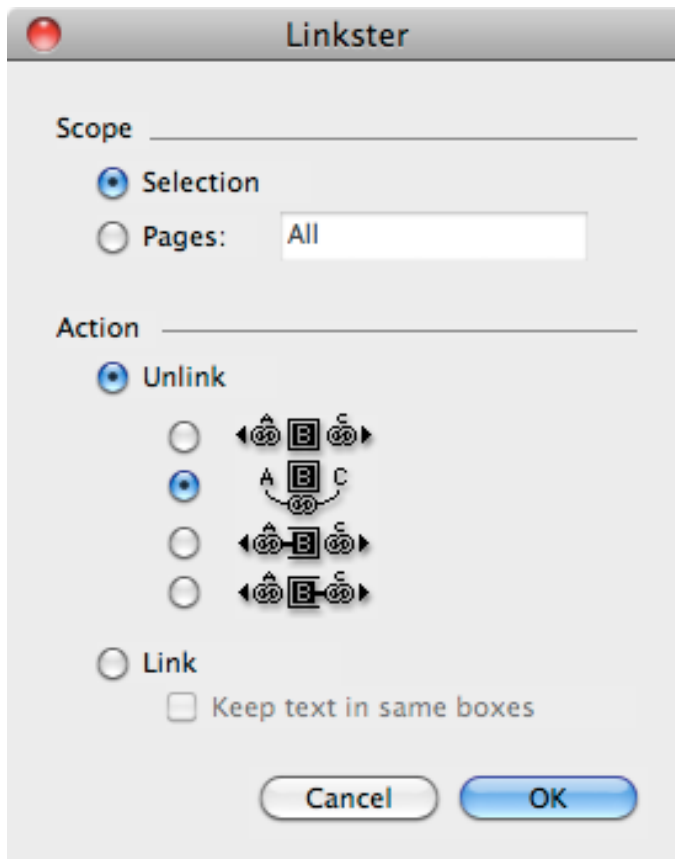
Linkster adds intelligent options for linking, and more importantly unlinking, text boxes, controlling how the text reflows

including rectangles with rounded corners, all the way up to wacky shapes, like polygons or spirals. There are quite a few options for making the shape, and even a preview, but once you've created the box you can't go back to the Shapemaker tool to alter it. That said, you can reshape the box on the page by dragging the corners, just as you can with any regular box.

There's a new Image Grid facility, which automatically assembles images onto a grid complete with a caption beneath each image. The caption is taken from the Picture Info and gives information such as the name of the file,

the resolution and the colour space. You can choose to show just the file name, or no information, but this particular feature would be better if you could customise the metadata more precisely. So, for example, this would be a great feature for putting together a catalogue but it might be better to have the product name and price rather than just the file name.

Quark has made a nice addition to the way it handles Tables with a new Table Break dialog box. As the name implies, this lets you break tables by defining them by the box that they are in, so that when you reflow that box the table breaks into another box and reflows with the container box. Just to round this off, you can also make a label for a header row, such as '2010 sales figures continued' and this can run across pages so that when the table reflows to another page, the title automatically flows with it.

It's also possible now to import the XLSX format, which Excel has been using for the last couple of years, directly into Quark tables.

Another useful time saver is that it's now possible to lock the proportions to maintain aspect ratios of boxes. This works both when you draw a box with a mouse or set the box size by typing its coordinates. By default it is turned on for picture boxes because Quark assumes that very few pictures will want non-proportional scaling.

Finally, this release also sees Quark dropping support for Power PC Macs, and for OS X 10.4 Tiger, needing at least OS 10.5.8, though it will support the upcoming Lion OS due out later this summer. Windows users will need XP, Vista or Windows 7. It also needs at least 1GB RAM and 2GB hard drive space.

It's also worth noting that these days QuarkXPress covers a range of products, including Quark Publishing System, Quark Server and add-ons such as Copydesk, all of which will move to version 9 at the same time. Equally, all language versions will be updated at the same time.

Conclusion

There are a number of things that Quark could do better. The main problem is an almost complete lack of any

▶

previews anywhere so that you have to keep shuttling backwards and forwards from page to dialogue box to adjust settings. This is in stark contrast with InDesign, and we can only hope that Quark's engineers have already started working on this for version 10.

Once they've sorted out the missing App publishing feature, that is. Granted, it's not a major issue, but if Quark is hoping to persuade users to upgrade, or even switch from InDesign, then it would have been a lot neater to ensure that one of the major innovations was actually included from the start.

Another problem is a generally poor and unintuitive interface design. Use of tool-tips or a context-sensitive help panel would have made it much easier to get to grips with some of the new features. Hopefully, by the time we get to version 10 Quark will have hired an InDesign user tasked with nothing else other than making it easier to use QuarkXPress.

That said, QuarkXPress users are used to these issues, and there is a lot within version 9 to recommend it. Firstly, the idea that you can develop your own apps and eBooks without having to pay for or learn another software package, or deal with any coding, and without having to go through an expensive software-as-a-service option, really ought to be a game-changer. This is exactly the sort of thing that small to medium-sized publishers, who make up the backbone of Quark's customer base, have been calling out for. It lets publishers and authors tap into a lucrative market with very little outlay and we have no doubt that for a great many people this alone will make this version a worthwhile investment.

Many of the other enhancements are more subtle but taken together they do add up to make QuarkXPress 9 easier and faster to work with than earlier versions. The added automation from the conditional style sheets and the callouts are particularly welcome with Cloner and Linkster proving to be more useful than expected.

Moreover, Quark is a lot more flexible in its dealings with customers than it has been in the past. The pricing for the new version, and its upgrades, remains the same as before,

at €1349 for the full version and €399 for an upgrade. Anyone who bought version 8 from the 1st of January up until the time that QuarkXPress 9 arrives at the end of April will automatically qualify for a free upgrade.

Quark itself is also more self-assured than it has been in recent years, no longer quite on the back foot, playing catch-up with InDesign. These days Quark has become a major player in the enterprise publishing sector through its server and XML authoring solutions, and has successfully won corporate and government contracts for document handling. All of which should hopefully mean that Quark itself will be around for quite a while to come, and that it will continue to develop the QuarkXPress platform.

– Nessan Cleary

Quiz

Keeping up to date with the latest developments in computing is as important as keeping up with digital prepress. It is difficult to keep abreast in a world where the norm seems to be information overload. There are moves afoot to help us manage information and data, some of which could have a profound influence on graphic arts production and the wider publishing. See how you get on with our latest General Digital Knowledge Quiz

1. Which of the following expressions best describes Cloud computing?
(a) Read only digital processing
(b) Digital resources provided via a digital network
(c) Device independent computing
(d) Accessible services from ISPs

2. How big is a Brontobyte?
(a) Don't be silly, you made that up
(b) 42 bytes
(c) 1,000,000,000,000,000,000,000,000,000 bytes
(d) Somewhere in between a Geopbyte and a Callibyte

3. What is the difference between Flash and C++?
(a) One is open source software and the other a revenue generator
(b) One is an environment and the other a tool for providing instructions
(c) There is no difference
(d) They are both programming languages

4. How many RIPs are there in a digital front end?
(a) One
(b) As many as required to keep the print engine running
(c) As many as the IT people want
(d) Two, for redundancy

5. What is Drupal?
(a) An open source content management technology
(b) A web programming language
(c) A new IT hall being planned for drupa 2012
(d) An Ajax web environment

6. How many colours can a CMYK offset press print?
(a) There is no limit
(b) About 400,000
(c) Four
(d) Over 500,000

7. What does SAAS stand for?
(a) Simple ASCI Asic String
(b) Stop Asking Asinine Stuff
(c) Software As A Service
(d) Solid Applications Access Service

8. Which of the following is another word for printhead?
(a) Jet
(b) Nozzle
(c) Leader
(d) Pen

9. How many iterations are there of PDF/VT
(a) None because it hasn't been published yet
(b) One
(c) Three
(d) Two

10. What does AFP/IPDS stand for?
(a) Advanced Function Printer/Intelligent Printer Data Stream
(b) Additive Forum Processing/Information Process Data Server
(c) Attended Flow Plexus/Intelligent Pulse Driver Security
(d) Applications For Print/Integer Pole Digital Set

11. How many angles are there in a binary printer?
(a) It depends on the printer holistics
(b) Variable data values, according to the ASIC requirements
(c) You really did make this one up
(d) Four

12. What is the difference between liquid toner and ordinary toner?
(a) None
(b) One is liquid and the other solid
(c) The liquid toner is only liquid when heated to 340°C
(d) Ordinary toner is colourless

▶

13. Where in the workflow should preflight checking occur?

(a) When plates are being imaged

(b) During the workflow set up

(c) When a file is received for production

(d) On a customer's website

14. What is the best way to improve efficiency and reduce errors?

(a) Automate processes

(b) Implement binary interfaces

(c) Set up a dedicated quality control department

(d) Enforce strict customer controls

15. Which of these file formats works best in print?

(a) PDF/X-7c

(b) GIF

(c) PNG

(d) JPEG

So how well did you do? You get four points for each correct answer for a maximum of 60.

Answers

1. - b

2. - c

3. - b

4. - b

5. - a

6. - c

7. - c

8. - d

9. - d

10. - a

11. - c

12. - a

13. - c

14. - a

15. - d

If you scored 0-10 you are definitely in the wrong job! Reskill, retrain or retire.

A score of 11-20 suggests you want to be into digital prepress but that other distractions keep you from focusing. Start fixing that problem now, because the industry is undergoing major upheaval and you just might get left behind.

If your score is 21-30 you probably get a bit confused sometimes, so perhaps you should be keeping more up to date with the industry. This isn't a rubbish score, but you could certainly do better.

Getting somewhere around 31-50 is pretty much what one would expect from such clever readers as ours. It suggests that you are well informed about technology developments in the graphic arts and the wider IT market. Well done!

If you've scored 51-60 you've probably cheated. Or maybe we should hire you to do these quizzes for us! Well done indeed.

X-word Puzzle

Number 28 – Answers

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