Digital Dots

Spindrift

Confuting the Graphic Arts industry since April 2003

Volume 10, Number 1 • 3rd April, 2012

News Focus • Opinion • Reviews • Testing • Interviews • Brain-teasers • Techno-babbling

If all else fails, immortality can always be assured by a spectacular error.
– John Kenneth Galbraith

Dear Reader,

We had hoped to ignore HP's sudden and bizarre decision to merge its PC and Imaging & Printing divisions, but really we cannot. HP's upper echelons and ubermeister Meg Whitman appear to have absolutely no idea of what the Imaging & Printing division actually does. They seem to think that it is all about selling desktop devices to the same people who buy PCs.

If Meg Whitman understood the difference between a printer and a digital press, she would surely understand that this merger is utterly bonkers. She wants a "faster, more streamlined, performance driven HP". What she might get is dysfunctia and culture clash. The competition will of course love every moment of it.

The Imaging & Printing Group is not about desktop printing; professional printing applications require professional knowledge of technology and applications. Sales of machines that cost six figures and more require a different marketing, sales, support, training and R&D model to those that cost three figures and less.

PC sales are falling as computing moves away from the desktop and into the cloud supporting mobile applications. This, combined with the advances the Imaging & Printing division has made, should be golden for HP. Why not dump PCs and support mobile applications to drive pages to high speed professional printing presses?

As ever,

Laurel, Nessan, Paul and Todd

P.S. Our next issue will come to you straight from drupa. We'll publish a couple of days later than usual and we're sure you'll enjoy the results.

In This Issue

drupa Dazzlers

Laurel Brunner has endured the latest round of pre-drupa press briefings to bring you this extended round-up of some of the new things to look for in Düsseldorf. This includes new digital B2 presses as well as the latest workflows and, well, read it for yourself.

see page 14

Sized up – priced down

Paul Lindström has tested three high-end monitors to evaluate their suitability for soft proofing uses and is pleased to find very good results. But surprisingly a number of vendors have abandoned this market space just as it seems to be getting interesting.

see page 20

Less really is more

Nessan Cleary visited Belgian print service provider Symeta to hear about the latest HP Inkjet Web Press, the T410. Symeta has used its T400 to reduce a 32 page offset brochure down to a four-page personalised leaflet, saving print costs and increasing sales.

see page 25

Regular Features & Special Treats

News Focus

HP has shown off its forthcoming B2 Indigo press, the 10000, which can print at speeds of 3,450 sheets per hour in full colour, and up to 4,600 sheets per hour in Enhanced Production Mode. There's a derivative for flexo, the 20000 and another for the folding carton market, the 30000. There's also inline finishing, courtesy of a SmartStacker from Horizon. See p13 for further details

French printer manufacturer **MGI** has announced a new B2 sheetfed inkjet press to be called Alphajet. It's a six-colour machine that also uses UV spot coating technology borrowed from MGI's JetVarnish. It runs at up to 3000 sheets per hour. Resolution is 1200 x 1200 dpi and it takes substrates up to 500gsm.

KBA has developed its own inkjet press, the RotaJet 76. It runs at 150 m/min with a web width up to 780 mm, which translates, to around 3,000 A4 pages/min or 85 million pages per month. It's a four-colour device that uses two arrays of 56 Kyocera inkjet heads each. Resolution is said to be 600 dpi though the heads use variable droplet size. It uses water-based pigment inks.

Impika is to launch a new iPrint eVolution inkjet platform. This is said to be a scaleable solution capable of being updated with future developments. The chassis can take up to four printheads though the standard version comes with just two. Resolution ranges from 360 to 1200 dpi and speed goes up to 125 m/min, though this doubles if you double the number of heads. It can be used with twin engines for duplex printing. Impika have already sold several units to an Australian company.

EFI has a new UV printer, the R3225, a 3.2 metre roll-to-roll model aimed at the entry-level market. It starts at $160,000. It's an eight-colour machine using greyscale heads. It prints at up to 900 sq ft/ hour.

Mutoh has announced a new series, the ValueJet 1638, available in both eco-solvent and aqueous ink versions. These 64ins models feature a staggered dual head setup, offering improved productivity. They boast sellable production quality speeds up to 36 m /h at 720 x 720 dpi. The 1638W model, which uses water-based direct disperse inks, was designed specifically for the sublimation transfer market. Production speeds is up to 65 m /h.

Roland DG has shown off its new Metaza MPX 90M, a desktop impact printer designed to permanently mark barcodes on medical instruments for tracking and traceability. It creates two-dimensional (2D) DataMatrix barcodes and imprints them on the surface of medical instruments, which can then be read with commercially available barcode scanners to trace and track the usage of medical instruments throughout their lifecycle.

Scodix, an Israeli company that produces a digital embossing machine, has evolved its technology with a new inkjet Braille solution. Another new product, the Scodix Rainbow Station delivers inkjet glitter in any colour or transparency in a single pass. There's also a new B2 press that can emboss very thick substrates.

Enfocus has reworked its Switch automated workflow technology for the forthcoming version 11. The existing three editions have been rationalised down to a single edition which users customise to their own needs. At the heart of it is a new multi-purpose Switch Core Engine that can automate the most common, time-consuming tasks faced daily by all publishing production companies. Eight other modules deal with prepress, database and connectivity requirements.

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Xeikon has said that it will show a new print engine at drupa, codenamed Quantum, which will form the basis of all its future products. This is said to combine electrophotography and inkjet and is widely believed to be a form of liquid toner. But in the meantime Xeikon has updated its 8000 series with new 8500, 8600 and 8800 which boast toner optimisation to reduce toner usage by up to 50 percent.

Esko is to launch the next major update to its packaging workflow, Suite 12, at drupa. This integrates several applications into the one package, including ArtiosCAD, ArtPro, PackEdge, DeskPack and Studio. It also allows for structural design in 3D and realistic graphics editing and visualisation of a package in context to speed up the production process. In addition mobile interaction with the workflow is now possible, and with the Internet as a backbone for collaboration and resource sharing, it manages and automates every step of the production workflow.

Dalim will highlight the latest release of its popular customer-facing online production management, ES (Enterprise Solution), at drupa. This boasts a redesigned user interface that makes it easier to access, manage, control, organise, and sort projects and files. This latest version of the ES platform also includes a PDF-enriching option, and an API for easy connectivity with third-party applications.

Enfocus is to launch version 11 of its PitStop Pro program and its accompanying Server version with 'smart preflight and correction'. Essentially this means using metadata such as JDF to adapt the profile used to control the preflight process. This can be completely automated for the Server edition. The new version also offers improved text editing and should ship by May.

Adobe has made a beta version of its forthcoming Photoshop CS6 available via its Adobe Labs website. Key features include new additions to the Content-Aware tools: Content-Aware Patch allows greater control by letting users select and duplicate an area of an image to fill in or "patch" another, and Content-Aware Move lets users select and magically move an object to a new place in the image.

Roxen has released a new tool, Editorial Appliance, which is a customised publishing tool for multi-channel publishing tailored for small and mid-sized media companies. As such it's a lean version of Roxen's powerful Editorial Portal that also contains a built-in OEM version of Adobe InDesign Server, a backup and recovery solution as well as remote management tools. Roxen has already signed up Swedish company Magazin24, which provides localised news in print, online media and television.

Adam Software has bought Van Gennep, a specialist in editorial management and publishing workflows. The two companies formed a strategic alliance in 2010 to integrate digital asset management with editorial workflows for an improved management of multi-channel publishing.

Van Gennep has launched PublishingNOW, which it claims is the world's first complete publishing platform based on a Digital Asset Management (DAM) system. With centralised DAM assets and powerful workflow tools, PublishingNOW promises real efficiency gains for all players involved in publishing cycles for the multi-channel world. It's powered by Adam Software's DAM platform.

Pageflex will show new features at drupa, including Pageflex iWay 6.0 which now lets customers create templates for highly customised documents to include in their iWay web portals. This also now supports multiple languages and currencies while Pageflex 8.0 (which includes all other Pageflex products) has been translated into 10 languages, including Dutch, French, German, Italian, Spanish, Portuguese, Polish, Russian and Chinese.

Callas Software has integrated its pdfToolbox 5 into Helios PDF HandShake UB2 server software for higher performance, simplified PDF preflight inspection, and full compatibility with Adobe Acrobat X. The main advantage is greater automation for hands off PDF creation, preflighting and delivery.

Esko is due to launch a new mid-range cutting table, the Kongsberg XN, to be shown at drupa. Capable of handling the broadest variety of materials, the new table serves all markets from packaging to sign making and displays. In addition, the Kongsberg XN can be used for cutting plates

as part of the Esko Digital Flexo Suite and can handle the heavy materials used for protective packaging.

Presstek reported total revenue of $29.8 million for the last quarter of 2011, compared to $31.1 million in the fourth quarter of 2010, and adjusted EBITDA of -$0.9 million compared to $0.6 million in the prior year fourth quarter. Equipment revenue increased $0.5 million, to $6.0 million, in the fourth quarter of 2011 compared with the same prior year period due to a favourable mix of DI press sales. Consumables revenue totalled $18.1 million in the fourth quarter of 2011 compared with $19.5 million for the same period last year due primarily to reductions in legacy product categories. Service revenue declined $0.3 million in the fourth quarter of 2011 compared to the year ago quarter due to lower contract service and parts revenue.

Manroland's UK subsidiary, which collapsed due to commitments to its pension fund following the failure of its German parent, has now emerged as a new company, Manroland sheetfed UK Ltd. It will stay in the same premises and be headed by Adam Robotham, formerly director of sheetfed sales. It was not included in the Langley deal to buy Manroland's German sheetfed operation.

MGI, the French manufacturer of digital printing and finishing solutions, has acquired majority ownership in German industrial manufacturer Kora-Packmat, makers of wrapping solutions. The two have had a strategic industrial collaboration since 2005 and this acquisition extends MGI's reach into the finishing market.

Xerox is to create secure cloud-based services for the American state of Texas. Under an $848 million, eight-year contract, Xerox will help the Texas Department of Information Resources (DIR) streamline IT operations of state agencies by refreshing technology and combining operations from 28 separate facilities to two centralised data centres. The transformation will reduce the cost of running multiple data centres, and improve security and disaster recovery capabilities.

News Analysis

Global Graphics

Global Graphics has announced the latest version of its Harlequin Host Renderer, essentially a Harlequin RIP designed specifically for digital print engines. Chief technical officer Martin Bailey says that digital has different requirements from conventional workflows, such as multiple screening options, adding: "The real difference is a huge demand for performance on the digital side."

Bailey highlighted a number of new features including Parallel Pages, which maps processes to different cores so that the RIP can handle multiple functions. He explains: "It means that we can interpret page two while we are still rendering page one. It's a very simple concept, it allows vendors to make better use of multiple core CPUs to get better return on investment." Other examples include separating the processing of transparencies. By keeping all the cores busy Global Graphics can speed up the performance by around 1.3 times. Bailey adds: "It's much easier to manage the cores if you have a more uniform load on each core."

Another new feature is called VariData and refers to optimising the processing of variable data in PDFs. Essentially the system analyses PDFs and distinguishes static elements from variable ones, and then caches them separately. There are two versions offered to OEMs, depending on whether or not they have the technology to recombine the separate caches.

The Harlequin RIP can handle PDF/VT files as well, but Bailey says that although this is a good standard it's not used widely at the moment. In the meantime VariData is a good option.

The Harlequin engines also support multiple file formats, including PDF, PostScript, PPML and JPEG, plus colour management and imposition.

Global Graphics works with other vendors to develop digital front ends, which according to Bailey should include everything that you need to run a press and any associated

Martin Bailey, chief technology officer for Global Graphics.

inline finishing units plus the operator interface. Naturally this also includes the actual RIP that converts the file into a raster that can be sent to the printing engine.

However, there's a constant pressure to reduce the cost of the front end, which Global Graphics has addressed by squeezing every last drop of performance out of the latest multicore CPUs, which can mean having to drive up to 32 separate threads. Bailey says: "If we make the RIP twice as fast they might halve the server and that makes a huge difference in the cost of the DFE." He adds: We support Linux to cut costs even further. We were quite surprised that that makes a huge difference but we have been told by several vendors that they can save tens of thousands of dollars per year on Microsoft licenses."

The Harlequin engine also allows several presses to be run from the same platform and to be controlled from a single front end. However, Bailey also points out that you need multiple RIPS to run the bigger devices because you simply can't get enough data down a single fibre optic

cable. Global Graphics' biggest success so far has been with HP, for both the Indigo and the inkjet web presses. The T400 Inkjet Web Press chews through 15GB of raster data a second to keep it running at engine speed.

However, Global Graphics has not always been succesful in persuading DFE vendors to use its technology. Gary Fry, chief executive officer accepts that the company has sometimes lost focus pursuing a strategy of direct sales but says that he is concentrating on this business now. And Global Graphics appears to be winning the argument when it comes to the new inkjet printers having gained five new customers, representing five new entrants to the inkjet market, though not all of them will be ready to show machines at drupa.

Green Shoots

The working draft of *ISO 16759* for calculating the carbon footprint of print media is due to pass its next stage of evolution, once the latest edits based on comments from the 72 or so members of the working group responsible for 16759 have been made. This will happen in the next week or so, after which there will be another meeting to get the document into final shape before the next vote. This will be to approve it as a draft international standard after which it passes to the ISO peeps in Geneva. They will make sure we have put commas in the right places and spelled everything properly, before finally publishing it as ISO 16759. The journey will have to be continued, if the document doesn't make it through the next round of votes.

***Fujifilm* further reduced the environmental impact of the packaging for its UVivid Flexo JD inks. The package has reduced cardboard and uses a UN-approved metal container that once opened can be securely re-sealed with a ring clamp. Empty containers can be crushed and recycled.**

***HP Indigo's* plant at Kiryat Gat is the first factory in Israel to comply with the Leadership in Energy and Environmental Design (LEED) initiative. This is a US effort that rates buildings according to their design, construction and function, relative to the environment and the local neighbourhood. HP Indigo is a voluntary member of the Israeli government's GHG reduction programme. The plant also has 1,290 square metres of solar panels generating 150,000 kWh of electricity per year.**

***HP Indigo* has significantly reduced the carbon footprint for each HP Indigo 7600 press manufactured in Kiryat Gat, and is offsetting what it can't reduce by purchasing solar panels and investing in environmental initiatives in the local villages.**

***Verdigris* is changing its model to provide more frequent and hopefully timely environmental content. We will be providing publishing partners and project supporters with a weekly blog. This will be posted on the Verdigris website and on the Digital Dots website too. If you would like to use it as well, please let us know! We will continue to produce feature articles, however this will now happen quarterly.**

For more green news, check out The Verdigris Project:

Verdigris

http://verdigrisproject.com

An Interview

An all-in-one workflow solution

Over the years there have been more and more demands added to what can be loosely termed 'workflow solutions'. At the start it was the core PostScript interpretation and rendering that was the main challenge, but as this has become more or less a commodity, including native PDF processing, so other workflow-related tasks have come into focus.

While colour and quality management are said to be important, they haven't always been the top priority, with often only some basic functionality being added, almost as an afterthought. To this we can add automation and JDF options, as well as support for both litho and digital print, and perhaps even variable data printing capability. Often you need to combine several products from a number of vendors to make a complete workflow system covering all bases.

We have looked at a new product, from a new player on the market, tFlow from Tucanna. While this is a new company, the people behind it are in no way beginners in the graphic arts market. We have spoken to Jawdatt Mazassi, formerly of GMG, about the rationale behind this new product.

He told us: "We decided to build a solution from the ground up, instead of trying to patch up existing components, or add bits and pieces here and there. With my background I know that a high level of colour management across devices has to be a key ingredient of a modern workflow solution. Next is proper quality management, meaning preflight. Here we teamed up with Callas, instead of trying to invent the wheel again. But for the user the preflight function is fully integrated in tFlow, in the same user interface as all the other functions. Finally we have output channels for the publishing channels the user decides on, including support of PDF/VT for print-on-demand scenarios, using variable data."

Digital Dots had the opportunity to have a sneak preview of the tFlow system at FESPA recently, and we were impressed with what looks like a coherent user interface. At the core of the system is what Tucanna call Turbine, the 'engine'. Turbine is based on MySQL and supports XML for automation and scripting. Turbine and the FLEX-based user interface (web-based) can, according to Tucanna, be

Jawdatt Mawassi demonstrating how the web-based user interface of the tFlow Workflow System can even be brought up and viewed on a smartphone.

integrated with any existing RIP. This is important, since it's the way to include any printing device, and take control of both preflight and colour management for those devices, including proofing devices.

When it comes to colour management, tFlow also supports ink saving. Preflight profiles are compatible with Callas PDF Toolbox, and since Adobe uses a base version of Callas PDF Toolbox inside Acrobat Pro, preflight profiles in tFlow will also work if exported to Acrobat PDF. The user interface looks quite cool with all the main functions presented in the start-up window.

We asked if tFlow supports JDF, as a mean of automation and integration with MIS systems. Jawdatt Mawassi

The user interface of tFlow is accessed via a web browser. The engine in the tFlow client-server solution is called Turbine, and contains an SQL database which is XML compatible.

replied: "As of today tFlow doesn't support JDF, but the underlying support of XML paves way for a full support for JDF in the near future. We have OEM partners who already use the Turbine engine in their existing RIP systems, and we know that they have this request from many customers."

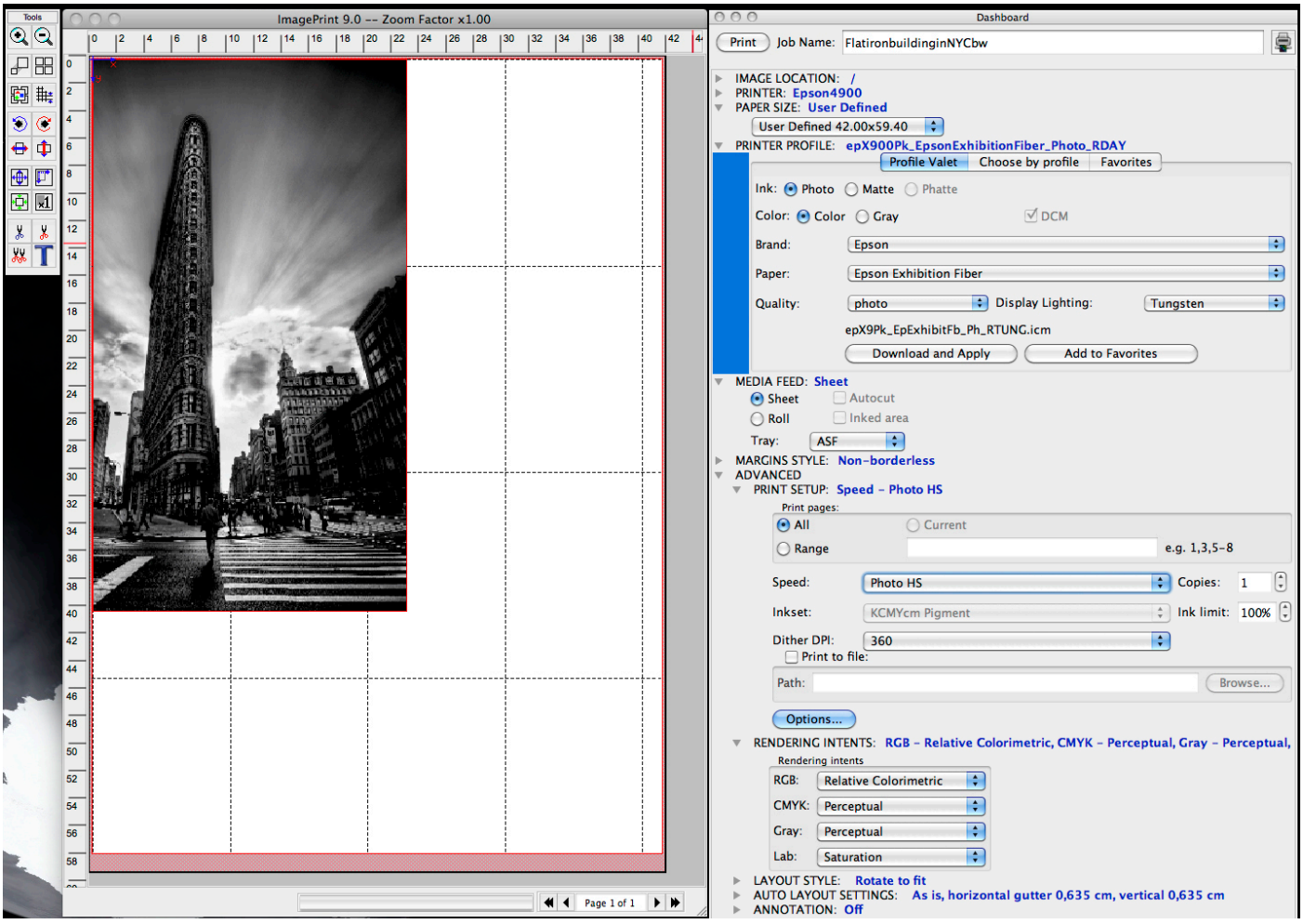
So far so good, and it will be interesting to follow up the introduction of tFlow with some user cases, either from stand alone implementation of tFlow, or integrated into existing RIP systems and workflows system.

A Review

Two Photo RIPs to consider

We at Digital Dots have mainly focused our tests of RIP systems on proofing applications so far, with some excursions into wide gamut and wide format printing. But leaving aside printers and publishers there is a slightly different target group that we haven't really addressed yet, namely photographers. So here we've looked at two

are probably over the top for a single photographer, or digital photo studio. But the ImagePrint RIP from Colorbyte, as well as Mirage from Dinax, have gained a good reputation among photographers. The challenge of printing black and white photos is often underestimated, and both of these RIPs are said to produce excellent result for this. After a couple of weeks testing we too have been convinced – the comeback of b/w photography is much helped with good tools like ImagePrint and Mirage, making the most out of both the photos, and the printers at hand.

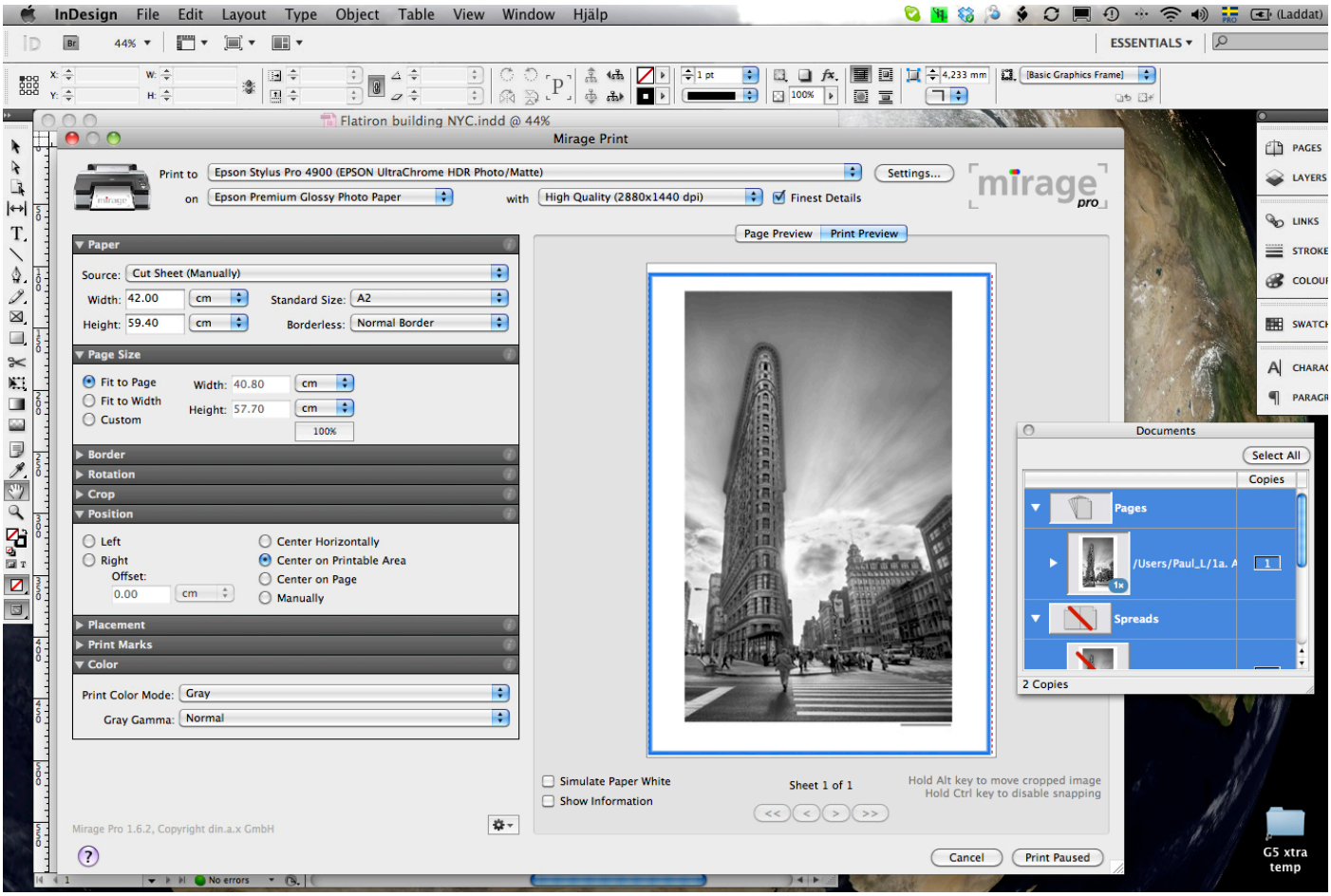


The ImagePrint RIP from ColorByte has a fairly easy to use interface, and the image quality achieved from the pre-made ICC profiles are impressive. The quality of b/w images was especially excellent.

output options that are mainly aimed at professional photographers to try and amend this gap in our reporting.

While the RIP systems we have tested so far do a reasonable job on general photorealistic output, these

The two vendors have one thing in common – they favour the Epson printers. In fact ColorByte has taken its trust in Epson so far that it actually discourages users from trying to calibrate or re-linearise a printer. A well maintained and serviced Epson printer, at least the latest generation



The Mirage RIP from Dinax can either be used directly from within several of the Adobe Creative Suite components, or as a stand-alone application. Here output from within InDesign.

x9-series (4900, 7900 and 9900), are so stable that the user is more likely to mess things up trying to linearise it, or building custom ICC profiles, according to Colorbyte.

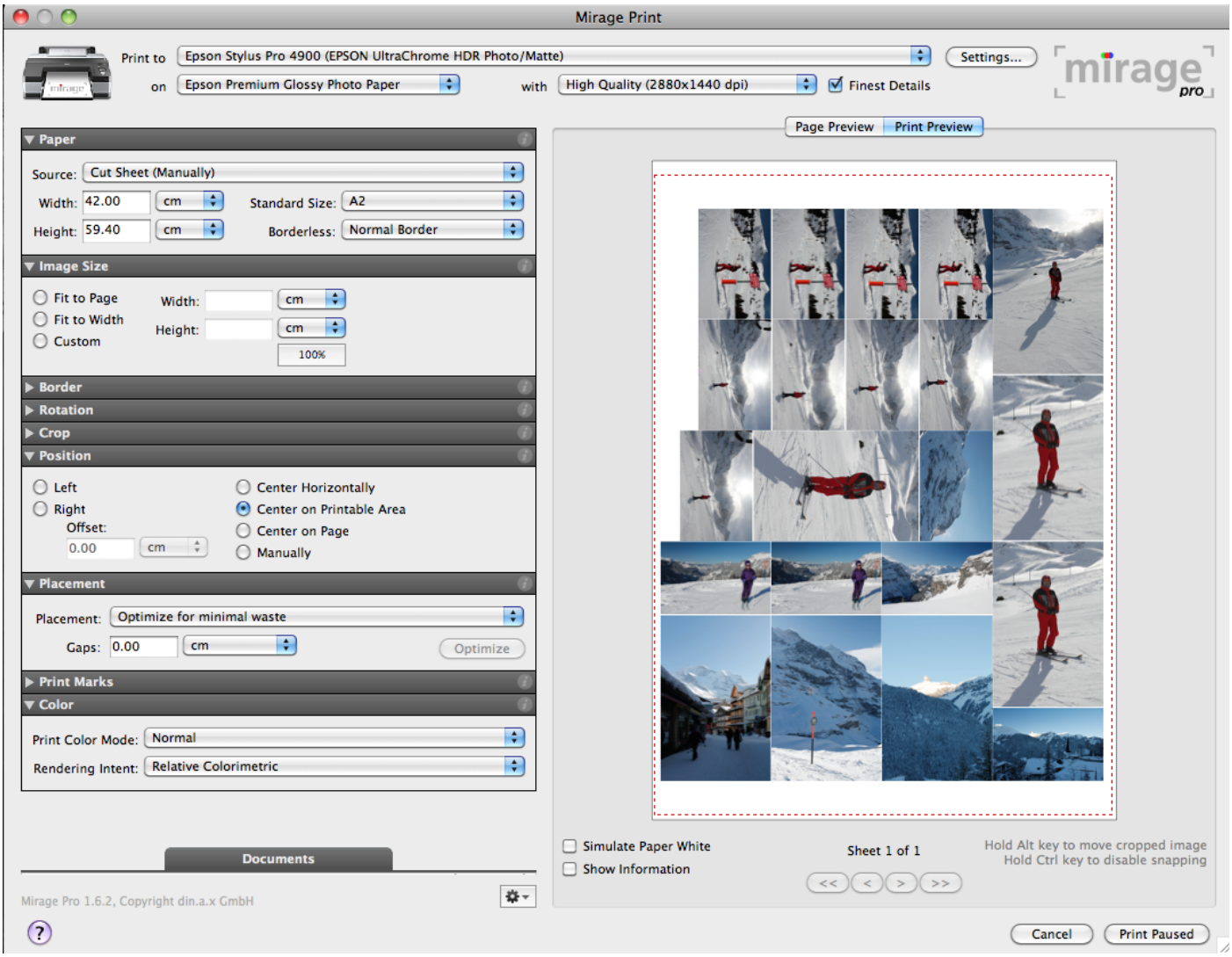
Instead the user is better off sticking to the carefully pre-made ICC profiles from ColorByte that are included in the default set-up after installation of the software. And ColorByte also holds an obvious disregard to the built-in spectrophotometer that is an option for the Epson printers. If you insist on creating your own profiles for a particular paper, ColorByte recommend using a handheld spectrophotometer, and doesn't support the SpectroProofer version of the Epson printers.

Dinax is less categorical in its approach. It offers support for the SpectroProofer version in the Mirage software, and creating a new ICC profile for a certain paper is fully automated and very easy to do.

ColorByte ImagePrint

Let's focus on ImagePrint from Colorbyte for a moment. This is a stand-alone RIP solution, with some extra features like tiling and paper optimisation. Installation was simple and straightforward, and the user interface is not too complicated to get to grips with. For some terms you need to consult the manual to fully understand, since they are somewhat specific to the Colorbyte way of doing things.

As usual it's important to use exactly the right paper settings, as well as the correct ink set-up. But for all of our test prints, the results were perfectly satisfactory on the first try. The print matched the appearance on our calibrated high-end proofing monitors very well. While we appreciated the 'Shuffle' function in ImagePrint, to optimise the placement of images to save media, the



When printing a range of images in different sizes and formats, JPEG, TIFF or PDF, the paper optimisation function in Mirage is quite handy.

placement was sometimes a bit random, and this function could probably could be somewhat improved.

The same goes for the 'align to grid' function. Even when having images of the exact same size, 15x10 cm, there was a small white gap between some, but not all, of the images. This is very annoying if you have to cut up hundreds of images in a day. But all in all we enjoyed a pleasant acquaintance with the ImagePrint RIP.

Dinax Mirage

We mentioned Mirage in our first test of the Epson Stylus Pro 4900 (see Spindrift 9-2, May 2011), but didn't have time to properly test it then. Finally we had the opportunity to come back to this part of the planned test, and we think it was well worth the trouble. Or actually, it wasn't much trouble at all, since the installation of the software modules (a series of plug-ins to the main components of Adobe Creative Suite), was simple and straightforward.

Mirage can either be used as a standalone product, or integrated in the Output or Export menus in Photoshop, InDesign, Illustrator, or, for that matter, Photoshop Elements. If you want to output a mix of JEPGs, PDFs or TIFFs, you should probably start with the standalone version, but the functionality is very similar if and when you do output directly from, for example, InDesign. When printing many images in one go there is an optimising function, to save media, or you can align the photos to a set grid.

If you have a custom size image, and like to pre-cut the paper for this, it's very easy to set up such a custom paper in the output dialogue, and the printer accepts this paper without any complaints. Again we found that both colour accuracy and tone reproduction were excellent immediately at the first try, and we actually only performed a calibration out of curiosity. The character and appearance of the images didn't change particularly with the new, custom made profiles.

This is a new experience for us, since we normally find that whatever default profiles are provided, the colour accuracy is never spot on, and calibration and linearisation, as well as custom made profiles, are needed to achieve the desired result. Even when calibration is so fast and simple as when having a built-in spectro as with the SpectroProofer version of the Epson 4900, used in our test, it's a relief to not be forced to do such calibration for each and every media.

Conclusions

For high end proofing purposes we still think that custom profiles are needed, and while at least the ImagePrint is supposed to be able to make contract proofs, we think that users are better off with a dedicated proofing RIP system for this type of application. But for all-round photorealistic printing, both ImagePrint and Mirage were very positive experiences, and can both be recommended.

drupa Watch

For a bit of pre drupa fun, check out this video, co-written by our own Laurel Brunner! Here are the lyrics if you want to sing along!

http://www.youtube.com/watch?v=t5BjvA7h3a0

Alternative Drupa 2012 Song

See those shining lights beckoning you
Your future is here
Profit's calling out only for you
And drupa is where the magic's moving

And drupa can help you change your world
It's just for you
Technology will blow your mind
If it's in print, it must be true

See that success, calling to you
It's in your hands
It is where your partners wait for you
With deals on their minds, all the time

'Cause, drupa can help you change your world
It's just for you
And all you need is I.S.O.
One two six four seven dash two

Opportunity, here
Downtown Düsseldorf, here
Fourteen days of print
It's sun shines!

Yes, Drupa can take the hurt away when you're feeling blue Just come to Düsseldorf, my friend We'll figure something out for you

Drupa (achtergrond)

One two six four seven dash one
One two six four seven dash two, three or four
One two six four seven dash five, six, seven or eight
I just can't wait

For drupa

Picture This

You may have to look carefully to see these transparent elephants, which we came across a few days ago at the Sign and Digital show in the UK. Charming though they are (and we've always had a soft spot for elephants), they are working hard, in this case demonstrating the latest CNC router from Pacer and its ability to handle intricate curves.

It's essential to consider the finishing options you need when buying any printer. In the large format world cutting tables have become a vital complement to flatbed printers. Curiously, the cutting tables have gained powerful routing tools, while the routers now sport more delicate cutting blades, but either way, you need to be able to cut through thicker materials, such as this sheet of acrylic. Hopefully, the elephants found a good home at the end of the show.

drupa Dazzlers

The last month saw five major press events, some of which we participated in and some of which we did not. Fortunately those we skipped had little of note, and those we attended were well worth the time and expense.

So this feature is a quick run through of these latest news events, which should also give us some idea of how drupa is likely to pan out. We start with Kodak and its desperate efforts to deflect attention away from its financial situation. Kodak's drupa introductions were buried in an excess of puff that totally ignored the dramas of recent weeks, which was a great pity. The company squandered an excellent opportunity to reassure the trade press, all of whom want to see Kodak's return to health and want to hear concrete plans for implementing the corporate strategy beyond drupa. But it was not to be. Chris Payne director of business to business marketing, said that "our mission is simply to do what we have done for decades and years". Sadly that policy is what led Kodak to its present predicament.

With 75% of revenues coming from digital, Kodak touches every part of the graphic arts supply chain. The ten new introductions at drupa are collectively impressive. There will be:

• The Nexpress's fifth unit can now print gold, neon pink and fluorescent inks, based on the Dimensional coating technology.

• The Prosper 6000XL for books and direct mail. This 300m per minute monster, rated for 160 million A4 pages per month has an ink saving mode for printing with up to 30% less ink and a new inline paper treatment system. It runs 50% faster than the 5000.

• An Image Optimisation roll coating system for "virtually any kind of offset paper that's available on the market", which can yield 10-60% savings in paper costs.

• Sonora XP processless plates for its base of 1600 users of Kodak Thermal Direct technologies and new customers. It was unclear whether Sonora is a completely new technology or a reworked version of Thermal Direct as Kodak gave us conflicting information. Sonora XP is more than twice as fast as Thermal Direct and plates are good for 200,000+ impressions.

• Achieve, a series of four bundled platesetting system options, mainly for emerging markets, starting at $50,000 with a two year contract based on plate volumes required.

• Prinergy 6 for reduced print manufacturing costs across the workflow through less time spent in messing about with files.

• Prosper S30 imprinting system running at 1000 m/min for use on high-speed web offset presses ie newspaper presses. This is in beta at Bild newspaper in Germany.

• Prosper S20 CMYK imprinting system with four heads stitched together to print onto offset shells as they are printed, incurring a 10-15% incremental cost per sheet. The heads are mounted in the finishing line and "stay tuned for sheet fed solutions as well".

• Intelligent Prepress Manager 2.0 for more sophisticated reporting and monitoring of devices in the workflow.

• A collaboration with Timson, a book press manufacturer with 250 installations and until now no digital strategy for its future survival. The new deal is to create the TPress, a monochrome book press with a Timson chassis and materials handling. This is a ground up build that runs at 200 metres per minute imaging 600 x 900 dpi across a 1320mm web and designed for run lengths of up to 3,000, books competing with offset for monthly volumes of 10 million pages (as opposed to the five million pages per month of a Prosper press).

Esko

Esko presented a range of impressive technologies for packaging applications. We expect to see some of this on stands other than Esko's. Potential competitors have wisely recognised that Esko is in a class of its own when it comes to packaging workflows and rather than reinvent the wheel, they work with Esko. Relationships

Esko's edge in the packaging market continues to get sharper and sharper. The company is the partner of choice for pretty much all of the new players trying to edge their way into the packaging market. The new Store Visualiser tool keeps Esko well ahead of these efforts and will be vital for designers and packaging front end system developers.

with other participants in the packaging supply chain have positioned Esko to maximise sales of its Kongsberg cutting table. Expect to drool over the following:

• Suite 12 (they skipped 11) integrates more up and downstream processes within the packaging supply chain and includes WebCentre 12, Esko's very sophisticated online approvals system. Suite 12 has a new process management system, dazzling 3D rendering and scenes tools for presenting all packaging assets in context, with full lighting control. There is a dynamic content engine for managing content for packages online so fewer errors and touches to each job. Esko's Automation Engine handles all prepress and platemaking functions as well as artwork creation linking design layouts to content automatically. This is seriously cool stuff that has to be seen to be fully appreciated.

• Esko has 70% of the digital flexo market with 400 installations, striving to outdo flexography and gravure for packaging. The new CDI Spark 4835 is fully automatic and now has a digital back exposure for imaging and curing in a single environment. It supports different dot shapes and Esko has developed Pixel Plus screening enhancement for its partners.

• A preview of the HD Flexo plate that can have flat and round-topped dots on a single plate.

• A new Kongsberg cutting table with up to four tooling heads for cutting material up to 25mm thick, so it's suitable for both packaging and signmaking. Multicut provides very high powered finishing with a 2.5kW powered spindle (instead of 1kW), water cooling and up to 8mm diameter bits. This milling tool looks to be devastatingly effective.

• Enfocus with its 135,000 Pitstop licenses worldwide (75% of the preflighting market) will introduce Pitstop 11 for smart preflighting, using variable preflight checking. It uses hot folders and integrates to MIS, CRM and so on through Switch.

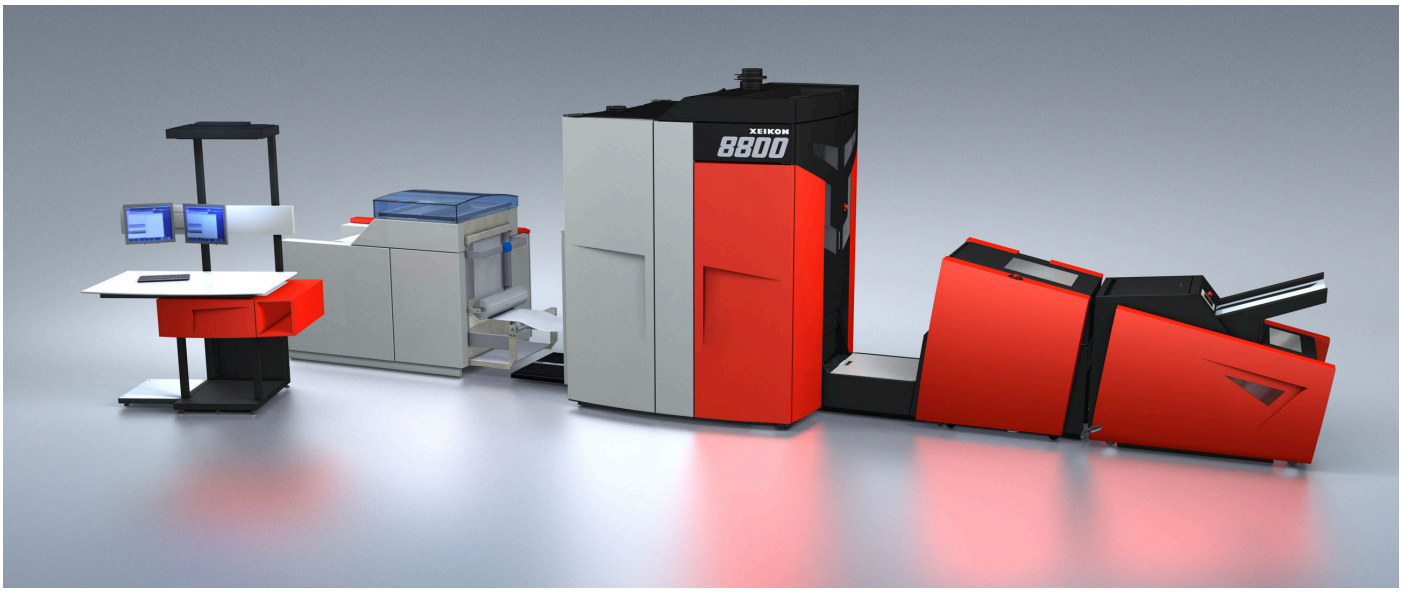
There are over 135,000 Pitstop licenses worldwide which gives Enfocus a staggering 75% share of the market. Smart preflighting is coming in the version to be presented at drupa.

• Switch 4 is a completely new à la carte technology with four modular options, so it should be easier to buy and implement.

Xeikon

We have described Xeikon as the AC Cobra of the digital printing market, but it's growing market position takes it out of that kind of niche more into Porsche Boxter territory. Xeikon is launching some impressive new kit at drupa:

• Thermoflexx (the extra X is for Xeikon), recently acquired from Kodak, is to be positioned as a tool for



This is a schematic of the new Xeikon 8800. Quite a beast, whose beauty you can admire at drupa but not before.

getting into digital production, via flexo or by combining flexo and digital. Xeikon is also now a reseller of Kodak's Prinergy.

• The most exciting product news from Xeikon is its new duplex portfolio, the Xeikon 8000 series: 8500 (replacing the 5000), 8600 (replacing the 6000), and the 8800 (replacing the 8000). The new models are substantially quicker at 160, 195 and 225 ppm respectively. There is also a new "toner optimisation mode" for printers who want to offer their customers a cheaper price.

• Even more interesting than the new engines is the technology demonstration of Quantum. This is a liquid toner based printing technology for very high quality output at about three times the speed of the new 8800. We understand the technology was developed over many years in Australia and Xeikon has taken it on. Definitely one to watch.

Chili Publishing

The web space drives digital printing and although established developers are active, there is still room for newcomers. Chili Publish is a young company of web developers working with a range of partners who add value to Chili's core online editing engine.

• Chili Publisher is a workflow application that is a plug-in to a web browser. This is amazing technology that simplifies the nasty complexities of online document layout with elegance and ease. It's a $45,000 license and well worth it for unlimited use. Perfect for OEM'ing too.

HP Indigo

By far the noisiest, if not the largest presence at drupa will be HP. It's mammoth reach covers everything from high-speed inkjet to wide format, all of which will be on show in Düsseldorf. The big news is a totally new Indigo platform designed for B2 output, but there is a lot more including Enhanced Production Mode (EPM), essentially a sophisticated colour management technology that achieves full rich blacks but only prints CMY. EPM reduces colour gamut by 10% mainly in the shadows. Just printing CMY probably makes a run more expensive since CMY inks are more expensive, however it provides a substantial throughput boost estimated at around 33%. The print samples we saw looked impressive (well they would), but we have some lingering questions about how the EPM works in practice.

• Indigo 10000 based on the new Series 4 platform, is the long awaited B2 engine with a totally new head. It prints seven colours to a 75 x 53 cm sheet, 65 to 400 gsm (2500 substrates certified), with auto duplexing, multi-source feeders (two or more drawers and palette loading). Series 4 presses have additional cylinders to print two B2 sheets at once, imaging a complete width with a single laser scanning unit. This comprises 28 lasers processing 2000

megapixels per second (about 400 iPhone images per second), with no data stitching. A "different type of lens" sits above the photoconductor to ensure that the laser spot, reflected in a mirror and defracted, is accurate across the width of the sheet. A movable spectrophotometer aids colour control on press and the duplex vision system ensures uniform colour calibration.

The image area is 2.5 times that of SRA3 and of the 7600, so provides four times the imposition efficiency. This press prints 3450 simplex colour sheets or 4600 with EPM per hour or 2.2 million B2 sheets per month. Over 400 engineers have put their blood, sweat and tears into this press to ensure its lateral stability, productivity, quality and so on. According to Alon Bar-Shany Vice President and General Manager of HP Indigo, "it takes us to the heart of the offset market" so we expect the base technology will surely run much quicker once the technology has had a chance to bed down in the market.

The DFE is the HP SmartStream Production Pro version 5 with up to 30% faster RIP'ing to run the press at rated speed. This technology will drive up to eight devices and load balancing algorithms allow jobs to stream to different engines, in addition to job splitting across RIPs. It is due later this year.

The 10000 is due to start beta testing later this summer with 20-30 engines in the testing programme, before general availability next year.

• HP Indigo 20000 a roll fed (10µ films) version of the 10000 technology for flexible packaging and labels with inline priming stations and one shot imaging. It prints 45 metres per minute across a 762mm width, and workflow management incorporates Esko technology.

• HP Indigo 30000 is the same technology but closer to the 10000 and designed for producing folding cartons with up to seven colours, on up to 600µ substrates at a rate of 4600 pages per hour with EPM and Esko workflow.

• HP Indigo 7600 is the company's first carbon neutral engine (see Green Shoots). It supports all manner of clever stuff such as water marking and gloss effects using transparent ink, as well as raised print through printing the transparent ink in 15 to 50 layers to a 50µ height. This takes a minute to print five A4s but it is a high value application, with one click charge per layer. This press can also produce textured effects using a preprinted mould, using yellow ink to create the mould because it has the best mechanical properties, printing up to 500 layers to mimic embossing. A special paper is used to create the mould but the printing can be to all sorts of papers. It runs at 120 or 160 ppm in EPM.

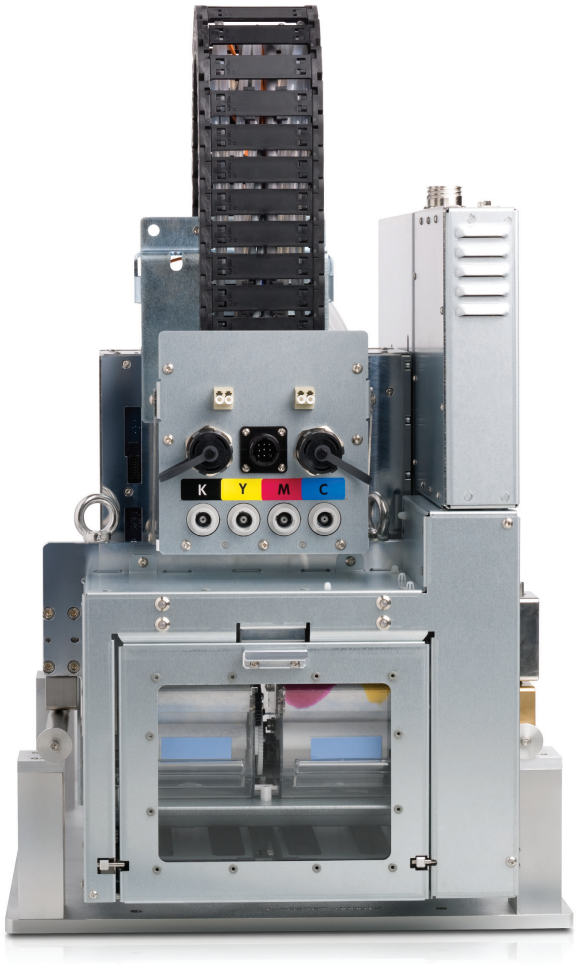
The massive HP Indigo 10000 is HP Indigo's first B2 press. It weighs 11 metric tonnes and the frame alone is three tonnes. The drums account for another 300 kilos, and the additional raised platform provides even more stability for this impressive engine.

• HP Indigo w7250 is a twin engine web one-shot model, complete with an inline priming unit, that runs at 30 m/m or 40 m/m in EPM.

HP Inkjet Web Press

Since introduction in 2008 HP has installed over 60 of its Inkjet Web Presses (IWP) and printed over ten billion pages, 2.5 billion in the last three months. Most installations are running PDF workflows and many customers are using these presses for commercial applications.

• The T230 Inkjet Web Press is a 100% faster version (122 m/m) of the T200 (when printing colour) with a new head that prints round, rather than sausage shaped dots for more consistent quality and faster printing. The head has a new chip that controls droplets "in a breakthrough for thermal inkjet". The press uses larger (than what?) gamut inks with smoother highlights and durability. These inks have reduced VOCs and are more readily deinkable, especially on coated substrates, than the previous ones.



The HP imprinting module is now being sold alongside HP's Inkjet Web presses.

• T360 and T410 Inkjet Web Presses print 25% faster in mono than their predecessors at 244 m/m.

• There is also a new inline coater developed with Epic and running at up to 244 metres per minute with matt and gloss prints working with UV and aqueous inks.

HP Specialty Printing Systems

• Specialty Printing Systems is now integrated with the Inkjet Web Press division to move it away from OEM to direct sales. Over 100 HP Print Modules have been deployed over the last four years, primarily to customers with their own engineering teams for installing it. HP now has a version that doesn't need such a team, positioning HP to better compete with Kodak which dominates this sector.

• There's a new 4.25ins head that prints at 800 feet/minute for web applications and is available in mono or full colour versions. Up to five heads can be stitched together across a 20" width (Kodak can stitch up to four together, and runs at 100m/m). This is a natural progression for HP, which already has several customers, lined up for the technology. The new heads are qualified for dye inks, but HP is working on pigment inks too with a modified recipe of the inks used in the Inkjet Web Press, replacing the ink fixer component. A two module system costs $600,000 complete, four colours is $1.1 million. Running costs are about 50% of this per year.

HP Scitex

• Available for the HP Scitex FB7600/7500 is a new white ink kit. It adds two heads for the white layer and a circulating pump to keep the white ink from clogging and the press running at full speed. It can be installed on existing engines, of which there are over 100 giving HP Scitex a 62% market share.

• HP is selling the Hostert automatic loader for stack to stack operation for roll fed and rigid media on the FB7600/7500.

HP Smartstream Production Analyser

• HP Smartstream Production Analyser is another very impressive new development that analyses cost, maintenance and operator productivity for all types of accounts. It provides real time and historical information and runs on the web, which is a first for Scitex. The dashboard shows each machine's productivity with a 6, 12, or 24 hour view, provides comparative and relative reports, comparing data to HP benchmark data gathered from its entire installed base of engines worldwide. A bit Big Brothery, but a tool that could provide a considerable aid to the sign and display market's productivity and beyond. It presupposes that HP's PrintCare technology is also running and costs $4000 per printer for an annual license. A single press 90 day trial period is available on the web. We expect to see links to MIS and other business systems in version 2 or 3 and Production Analyser will

include the HP Scitex Latex machines as part of the HP integration strategy for SmartStream.

HP Production Centre

• HP Production Centre is a dashboard workflow controller for short run jobs, using JDF and optimised for Indigos and IWPs, but device independent, so it works with offset presses or "God forbid a Xerox device". We understand this technology will be added to all HP digital printing workflow systems.

Fujifilm

Fujifilm has also previewed some of its highlights for drupa, one of which is especially impressive, but which will likely be buried in news about the iron.

• XMF ColourPath is a new cloud-based colour management system for setting up and monitoring devices to ensure that they meet target colour values. This means that printing companies can set up their presses across locations to meet the requirements of specific customers or to match the values in the ISO 12647 series. It includes profiling tools and has two components: XMF ColourPath Sync and ColourPath Organiser which reside in the cloud and provide all device profiling and print production workflow management, including colour alignment across engines. It is browser based so there is no need for client software and it runs independent of a prepress production workflow system.

XMF ColourPath is a derivative of the Taskero production monitoring technology previewed at drupa in 2008, however it has evolved into something much more powerful, having benefited from a €10 million investment from Fujifilm over the last twelve months. XMF now includes improved 3D proofing, better MIS connectivity and obviously support for mobile devices, including HTML5, iOS and Android.

• Fujifilm is expanding its single pass inkjet portfolio on the basis of its Jetpress 720 technology, introduced in 2008. This is a sheet-fed B2 digital press that costs €1.5 million and there are nine of these engines installed, with seven in Japan and one each in Canada and the US.

• Jetpress 2800 is a modified version of the Jetpress for folding carton printing which, along with a partnership with Esko, takes Fujifilm into packaging. The engines use Fujifilm's Samba heads, which have been further developed over the last couple of years to be more stable and reliable.

• RAPIC (Rapid Coagulation Technology is a primer for the Jetpress for printing on carton substrates.

• Vividia is a new high performance ink for all Fujifilm inkjet engines excluding wide format devices. This is a water based ink available in pigment, dye and UV versions

• Flenelex DLE is not a medicine for digestive disorders but a new flexo plate system due for launch at drupa with availability shortly thereafter. It comprises the Direct Laser Engraving platesetter and WV-1 plates, and is part of Fujifilm's strategy to become the world's number one printing plate supplier.

So, this has turned into a rather longer article than we expected, however we hope this list of highlights will give you a reasonable starting point for planning your journey around the halls. We will be there for the first half of the show and look forward to running into you. Check out our blog for onsite drupa commentary.

– Laurel Brunner

Sized up – priced down

Our new round of monitor tests show that the development of high quality LED back lit monitors isn't taking off as expected, and several vendors seem to have pulled out of the market.

But the good thing is that the remaining vendors offer very good proofing monitors at reasonable prices. Among the vendors that seem to have withdrawn from the market for high-end monitors for colour accurate softproofing are Apple, HP, LaCie and Samsung. HP and LaCie still offer older models that should be fit for purpose, but have no newer models on offer.

Samsung had an XL-series on the market for a while, but those LED models turned out to quickly deteriorate, starting to show heavy banding within a year. When brand new they passed our testing criteria, albeit with a quite small margin, and showing a fairly high level of non-uniformity (see Spindrift 5-10 from 2008), but we didn't expect them to age so rapidly, and so ungracefully. Then again, they were cheap!

When it comes to Apple the situation is different. We believe the Cinema Display monitors have the potential to be classified into the high-end group, but for quite a while now Apple hasn't support a full hardware-based calibration. So we have to conclude that Cinema Displays can't be calibrated to the high standard expected for colour critical work. A shame really, but there we are.

That means that at the moment we are left with three vendors that continue to develop products for this specific market, high quality softproofing: Eizo, NEC and Quato. This test includes two 27ins monitors, one from Eizo and one from NEC, plus a Wide Gamut 24ins monitor from Quato.

Previous tests have focused on calibration to D50 viewing conditions, but this time we also test calibration to D65, which is common for outdoor photography, and also matches the specification of Adobe RGB fairly well. The colour gamut of a monitor is also likely to be slightly larger at 6500K, or anywhere close to the native white point of the panel used in the monitor. So when we present the colour gamut achieved for the monitor, we now list both at D50 and D65 in the table.

There are five main criteria to look at in a monitor for colour critical work, like image retouching and colour accurate softproofing. The first is of course to ensure that the monitor has a large enough colour gamut so that it can match the printing condition you want to proof. A quite common belief is that more or less any monitor can achieve this, since the RGB colour space is so much larger than that of printing.

This is not necessarily true, since many monitors barely reach sRGB, which in itself is a fairly small colour gamut. Even Adobe RGB just barely covers the primaries for CMYK, and since the primaries for a monitor are RGB, the monitor has to mix those primaries to create

The Eizo CG275W monitor has a built-in colorimeter which makes calibration a totally hands free and automated procedure. The ColorNavigator calibration software has a validation function, but it doesn't offer any reference to the relevant ISO standards.

the secondary colours. For a monitor, CMY are the secondaries, and the mix the monitor is forced to make doesn't necessarily reach the actual colour of the printing inks, being Cyan, Magenta and Yellow for the colorants. This leads to the conclusion that a high-end monitor for quality softproofing needs to reach Adobe RGB, and preferably with some margin to spare.

The second criteria is for the monitor to have high enough brightness and contrast, to match the viewing condition in a viewing booth. Ideally the monitor should have

close to 700 cd/m² to have the equivalent brightness of a viewing booth set to the recommended 2000 lux (2000 ±500 lux) according to the ISO 3664 standard. Since most LCDs have a fairly high luminance (brightness), this is not much of a problem today, but very few reach the 700 cd/m² that you actually need, so a compromise is to set the viewing booth to a lower level, of, let's say 600 lux, which is what you have in normal office environment.

The only monitor, to our knowledge, to offer 700 cd/m² is the Quato Proof View 700 (see Spindrift 8-4 from 2010 to read a review). When comparing prints or proofs side by side in a viewing booth, and on the monitor, you need a hood to screen off incoming light onto the screen. Professional softproofing monitors always come with such a hood, and we highly recommend that you use it.

The third, and possibly most critical aspect, is to be able to do a full hardware-based calibration. This is a term that seems to be widely misunderstood, since it is often compared with what is sometimes called software-based calibration. In reality we, of course, always use software of some kind to perform the calibration, and hardware-based calibration doesn't only mean that we use a measuring device in the calibration process. Most of all it means that the hardware for the monitor can be full controlled by the calibrating software, so there's no need for manual intervention from the operator, once the settings have been decided on. The calibration should also be made with 10- or 12-bit signal processing, to achieve a smooth gradual tone reproduction, and high level of accuracy. This in turn means that you have to use a DVI cable, or even better, the Display Port. A VGA cable doesn't suffice, since it operates at 8-bit signal mode.

A fourth point to investigate is the uniformity of the monitor, so the colour reproduction across the whole monitor surface is stable and reliable. The fifth criteria, often overlooked, is that the appearance of the colours has to be independent of the viewing angle you use. It seems that only panels using the IPS (In-Plane Switching) technology offer true view angle independency, and to no surprise this pushes up the price significantly. All in all you have to be prepared to pay substantially more for a monitor of this calibre, but we would definitely argue that it is well worth the price. One failed printing project

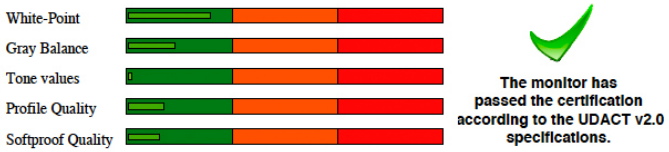
The NEC SpectraView Reference-series uses the SpectraView Profiler software for calibration. It has a validation function, but it doesn't offer any reference to the relevant ISO standards.

Quato offer back-lit monitors, like the IP 240 LED, which combines large colour gamut with very accurate colour and uniformity over the whole screen. The calibration software iColor validation function includes a version of the U-DACT validation tool.

will cost you much, much more, if you go for cheaper alternatives!

The tested monitors

We have already tested the first self-calibrating monitor from Eizo, the ColorEdge CG245W (see Spindrift 8-10 from 2011 for review), and now we've tested its bigger brother, the CG275. Like the CG245W it contains a little



The U-DACT validation software from UGRA evaluates a series of criteria to judge if a monitor qualifies for high-end softproofing according to ISO 12646. The higher colour deviation for any part of the test, the closer to the 'No Pass' market (the orange field in the middle). As long as all the separate tests stay within the green field, the monitor passes the test.

built-in colorimeter that flips up when the operator asks for a re-calibration or validation. We like this built-in calibrator – it's amazing how quickly you get used to the convenience of doing a calibration hands-free.

If there is anything that Eizo could improve it would be the validation process offered by the ColorNavigator calibration software. It gives the user a clue as to whether the monitor is within tolerances or not, but the report is quite difficult to interpret, and it has no connection to the relevant ISO standards printers and publishers may want to conform to. For validation we recommend Eizo to include something similar to U-DACT, which we use in our testing (see below 'How the testing was done').

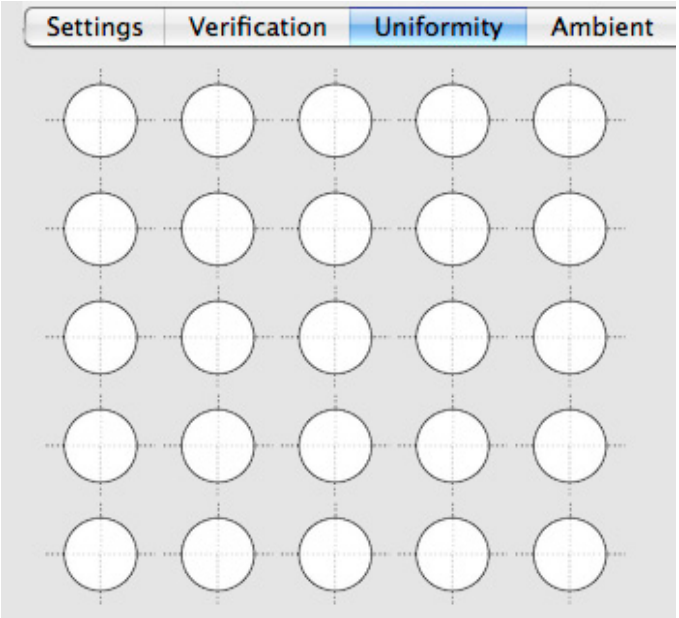
NEC, one of the main players when it comes to high-end softproofing, has a range of monitors on offer. We tested the 27ins model called SpectraView Reference 271. It has IPS panels, which mean very little sensitivity to whatever angle you view the picture on your screen, and support of Display Port, which we needed in order to get the monitor up to the full resolution of 2560x1440 maintaining 10-bit per channel signal processing. The calibration software SpectraView Profiler includes a validation procedure, but as with the Eizo software, it doesn't give a clear indication of compliance to the relevant ISO standards.

Quato have worked hard to find ways to control temperature and stabilise back-lit panels to obtain good uniformity over the whole surface. The IP 240 LED monitor uses a luminance and white point stabilizer to keep the monitor within tolerances over time and to compensate for temperature changes. Quato was the first to include the U-DACT verification tool in its calibration software, and the software accepts most of the common measuring devices on the market.

Quato provides its own version of the X-Rite DTP 94, called Silver Haze Pro, since it has found this to work best on LCD monitors, and to have high enough accuracy. However, Quato has been forced to adjust the measurements to the very high gamut produced with the LED back-lit panels. Not all measuring devices are compatible with LED back-lit monitors.

How the test was done

We tested four of the five main criteria using U-DACT v 2.0, the UGRA analysis tool while view angle sensitivity is tested through visual evaluation of a test form we've developed. We give marks between 1 and 5, where 3 means acceptable view angle sensitivity, and 5 means the



One factor that is sometimes overlooked when selecting a monitor for softproofing, is whether it is uniform or not. The U-DACT validation tool measures 25 different patches across the whole surface of the monitor, and calculate the average tone value differences, as well as reporting what measurement had the maximum tone difference.

Fig 1 – Test results: Colour gamut

Model	Total colours at D50	Total colours at D65	% of Adobe RGB at D50	% of Adobe RGB at D65
Adobe RGB 1998		1330000		100
Eizo CG275W	1259000	1294000	95	97
NEC SV271	1327000	1333000	100	100
Quato IP 240 LED	1382000	1422000	104	107

Fig 2 – Test results: U-DACT validation and view angle

Model	Multi Color	ISO 12647-2*	Uniformity (av)	Uniformity (max)	View angle (1-5)
Eizo CG275W	No	Yes	2%	6%	5
NEC SV271	Yes	Yes	1%	4%	5
Quato IP 240 LED	Yes	Yes	1%	5%	5

* ISO 12647-2 Offset printing on coated paper

Fig 3 – Specifications and approx price

Model	Screen size (inch)	Resolution	Price EU (approx)*
Eizo CG275W	27	2560x1440	1700
NEC SV271	27	2560x1440	1500
Quato IP240 LED	24	1920x1200	2000

*VAT excluded

colours and tone values don't change their appearance even if you move sideways or up and down in front of the monitor.

Uniformity over the surface is important, and is measured by U-DACT at 25 different points on the monitor. The ISO 12646 standard for displays for softproofing doesn't demand a fixed tolerance for this, but recommends that it shouldn't be over 10% variation on average. We think this is a bit too generous, and would recommend that the tone variation over the surface should be below 5% on average for serious colour accurate proofing. Since we only calibrate and check one point of the monitor, it's important that the rest of the monitor surface shows colours very close to this measured and calibrated part of the monitor.

The colour gamut is calculated using the Chromix ColorThink Pro software, where the total number of colours is extracted from the ICC profile. The calculation is based on the fact that the human eye can't register colours with a colour difference smaller than 1 ΔE. While we in theory should get more than 16 million colours in a 24-bit RGB image (and billions with 12, 14 or 16-bit signal processing per channel), in reality the human perception can only register around 2.5 million colours. Two of the monitors in this test, the NEC SV 271 and the Quato IP 240 LED, both reach the colour gamut of Adobe RGB, or beyond. This gives them headroom to also include the printable colour gamut of ISO 12647-2 on glossy paper, among the largest colour gamuts for CMYK-based offset printing. Monitors at or above the gamut of Adobe RGB will also do well when doing softproofing of spot colours and multicolour printing.

The results in numbers

Our test results are summarised in the charts above. For colour gamut we use Adobe RGB as the reference, and the Adobe RGB has a white point close to 6500 K, and uses a gamma of about 2.2.

We now seem to have only three manufacturers of high end proofing monitors on the market: Eizo, NEC and Quato. But all of those three have developed excellent monitors including software that really does the job –

performing hardware-based calibration up to a very high standard. The use of IPS panels and support for Display Port is part of this winning concept.

For general softproofing purposes of process colours (CMYK) this can now be regarded as a mature technology. But when it comes to correctly proofing spot colours, the monitor needs to be at, or a bit above, the colour gamut of Adobe RGB. Not all of the monitors tested qualified to that level.

– Paul Lindström

Less really is more

HP has just announced updates to its inkjet web presses and we've been to Belgian printer Symeta, one of the first European installations of a T400.

Despite their size and cost, installations of T-series inkjet presses are becoming almost commonplace. Nonetheless, given that this drupa is likely to be hailed as the 'inkjet' drupa, much as the last one was, we thought it would be useful to remind ourselves of just what makes a successful inkjet installation.

Symeta is a subsidiary of the Colruyt Group, Belgium's largest food retail supplier. Symeta has an annual turnover of €50.55 million, with around 300 employees. It has recently rationalised from five sites down to just two, including a new site at Sint Pieters Leew, which houses the T400 press as well as a T200 and assorted other printers including an HP Indigo 7500.

Symeta has recently expanded to take on external clients. Philip D'Honge, chairman of the board at Symeta, says that Symeta's aim is to "get the right message to the right person at the right time." He explains: "Each of us receives several tons of stuff so there's a battle for the attention of the customer. The use of one to one customisation can help us do that. But if you have the funds you can buy a press but you shouldn't bother if you haven't got the data to work with the press. So it's more than simply buying the press, it's a whole business shift that you have to go through."

D'Honge says that for this reason buying the T400 was a much bigger step than Symeta had first appreciated, one that forced both the staff at Symeta to re-evaluate their approach and the customers to rethink their campaigns. He continues: "It's converting the clients to look at their business at another level. The organisation has to be replaced to run this new technology."

Symeta has already used the T400 to run a successful campaign for its parent company, Colruyt, which has some 218 shops mainly in food retail but also including its own petrol stations.

Bart van Roost, marketing manager for Colruyt, says: "In food retail the main communication is still paper and although this is changing it will remain the main communication for some time." In 2008 Colruyt launched its Extra loyalty card, which is used by some three million customers. These customers were sent a 32 page offset printed booklet containing all the special offers and discounts. But the loyalty card also gave Colruyt a lot of information about these customers, and Symeta has now used the T400 to replace this booklet with a four-page leaflet personalised for each customer. Van Roost

Philip D'Honge, chairman of the board at Symeta.

explains: "We give the customers the right promotions so they get an easy to prepare shopping list and we waste less paper." The personalised offers were integrated to that leaflet while other promotions that were not relevant could still be found in the store. So far the leaflet has been sent to some 1.6 million customers, with Van Roost adding: "We cannot do relevant offers for people who do not come very often into our stores."

Nonetheless, this represents a considerable saving in paper alone, as Van Roost notes: "If you are not sustainable you can't control your costs and therefore your profits."

It's a theme echoed by D'Honge who says that sustainability used to be a marketing message but now it is something that we all have to do. He adds: "There's a lot of efficiency to be generated using this new type of technology. But you have to know the business of your customer to make them more efficient."

This in turn means thinking of customers as partners, an outlook that D'Honge recognised in the way that HP approached Symeta. He commented: "We didn't choose HP for this technology. We chose them because of the talks that we had, the team partnership, and engaging with a real partnership made sense. Aurelio spent a day, rather than an hour, looking around to understand our business and help us develop our business. The business of HP is not just selling the press, it's helping us to transform the business of our clients."

The T410

HP has recently announced upgrades to its Inkjet Web Press, which sees new versions, the T360 for its 762mm press and the wider T410 for wider 1067mm platform. Essentially, the monochrome speed goes up to 800 feet per minute, though colour remains the same at 600 fpm.

The extra speed is achieved through new A50 inks and A51 printheads. Frank Drogo, director of research and development for HP, says that there have been a number of improvements to the heads: "We changed some of the dimensions of the ink chamber so that we can refill the head much faster." He adds: "As the ink ejects from the firing chamber it goes through a nozzle. We changed the shape of the nozzle to make more of an hourglass shape. When the drop exits the nozzle you have the main drop and a fairly long tail and this combines with the main drop before it hits the paper."

This makes for a rounder drop leading to sharper text so that the paper can be moved through the machine at higher speeds. So far this only affects the black colour, but since all the heads have the same features there's no reason why this higher speed can't be across the board for colour as well.

The new inks have a slightly wider colour gamut, mainly in the red and magenta area. Drogo explains: "We changed the red pigments so that we can get brighter more saturated reds." The inks have been reformulated slightly so that this is most apparent on uncoated papers, where Drogo estimates that the colour gamut could be as much as 30 percent wider. He adds that since coated papers tend to keep most of the ink on the media surface the colour gamut is about the same, albeit that the reds are slightly improved.

Aurelio Maruggi, general manager of HP's high speed inkjet division.

Existing presses can be upgraded to the new specifications. Maruggi says: "Our strategy has always been to

protect the investment so each customer is offered the opportunity with minimal prices to convert their presses to newer specifications. These are production tools and they are large investments and we want to maintain that investment." Thus O'Neill Data Systems, which bought the first T300 upgraded that to the T350 and will upgrade that machine again to the T360.

In addition, HP has also upgraded its entry level model to the T230, which is twice as fast as the older T200 and now runs at up to 122 metres per minute mono or colour.

HP has also announced new glossy stocks using its ColorPro technology targeted at the direct mail and publishing markets. This is already available in the States and should ship in Europe shortly.

Maruggi also announced a new inline coater, the Epic Webcoat 350, a 30ins device though he hinted that a 42ins model would follow later. This can add either a UV or aqueous coating, with a fairly fast changeover between

One half of the T410 as installed at Symata's Sint-Pieters-Leeuw plant.

the two. This is designed for the direct mail market and will allow customers to play with the finish of their documents as well as improving the rub resistance.

The new printheads also form the basis of new C500 print modules. Each module contains four channels. These have been specifically designed for easy integration to presses and finishing lines, where they can be used to add variable data. They're available in mono or colour, and since the mono modules simply disable three of the print channels, they can easily be upgraded to colour.

Up to five of these heads can be stitched together giving a 20ins width. For now they use dye inks, but HP is working on pigment inks, which will be a derivative of those used in the T-series printers. Print speed is up to 500fpm in 600 x 300dpi. The print modules have automated start up, which takes around 10 minutes, and automatic maintenance that takes around five minutes. Printheads can be changed in situ with automatic alignment.

They come with a server that accepts multiple formats. The server can run up to 10 modules in simplex or five duplex. There's an ink supply station, which can be located up to 30 metres away with an optional remote ink transfer system.

Finally, HP has also addressed issues with its supply chain to get parts and inks to customers faster.

Inkjet as mainstream

Aurelio Maruggi says that this drupa will demonstrate that inkjet has become a mainstream technology. Maruggi says: "Our customers have printed more than nine billion pages and we are adding almost a billion pages per month and this gives a sense that inkjet is a real production tool to drive transformation to digital." (Indeed, since we visited Symeta in early March this figure has now risen to 10 billion pages printed.) Maruggi adds: "The majority of these pages have been incremental. There's been some migration from offset but the majority of these customers have been able to attract new business and new customers."

HP has now sold more than 60 of its T series printers, with several customers having bought multiple units, including O'Neill Data Systems and CPI which each have six presses. This figure also includes those presses sold by Pitney Bowes, all in the transactional market, which Maruggi estimates as being more than 20 percent of the total.

It's worth noting that five billion of these pages have come from publishers, according to Maruggi. He says that HP has worked with publishers to help them adapt their business models and particularly their supply chains, which the smaller publishers are also now starting to adopt. "It provides flexibility in terms of how many books

they have to print and this has become reality and isn't an option any longer."

But he admits that much of the vision came from CPI, saying: "There has been a continual execution of this vision and CPI is now reaping the full benefit of this."

Maruggi says that apart from publishing, the big growth areas lie in packaging and direct mail. He estimates that there are 75 trillion pages printed worldwide, saying: "The number of pages being printed will fall but the technology shift makes it more relevant for the remaining portion that will still be printed."

Manel Martinez, vice president and general manager of HP's Graphic Solutions business, says that the continuing growth of digital printing is driven by an increasing amount of content from sources such as Facebook, greater use of the Web leading to more mobile technologies and the continuing shift from analogue to digital output. He says that the graphic arts accounts for more than 90 percent of all printed pages, and of this, more than 90 percent is still printed conventionally, adding: "Which is why HP is still focussed on investing in this area. We are continuing to drive the transformation from analog to digital. It's a huge opportunity that we can go after."

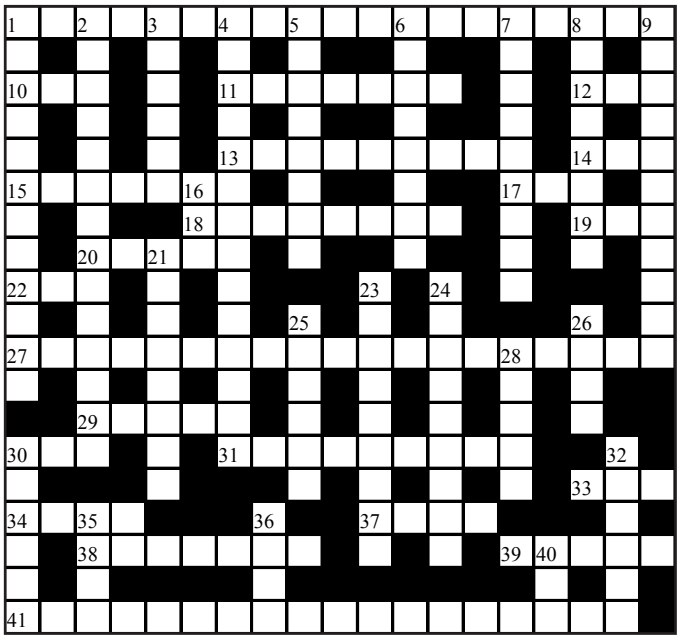
And this of course is also the reason why we are seeing so many high speed inkjet printers being announced in the run up to drupa. Make no mistake, this is going to be the big story in printing for the next decade and for now HP appears to be in pole position.

– Nessan Cleary

X-word Puzzle

Number 36*

With drupa hard and fast upon us this puzzle should help you sharpen your senses and get the little grey cells bouncing. If not, you are just too cool for words, or drupa is passing you by. Not sure if that is a good thing or a bad thing. Probably a bit of both.



Across

1. Technology, not hard, but specific to a particular environment. (11, 8)

10. Rochester Institute of Technology (3)

11. Relief alphabet for reading. (7)

12. Small to Medium Enterprise. (3)

13. A sheet has one of these, with a matched pair and two longer partners. (5, 4)

14. Look-up Tables (3)

15. Makes possible. (7)

17. Supplier Known Unit. (3)

18. Positioned. (8)

19. One more than one? (3)

20. To exhaust or where the waste goes down? (5)

22. Health, Safety and Environment. (3)

27. Placement, attributes of software make it easier. (11, 8)

29. A test? (5)

30. One reason to work is to get some of this. (3)

31. One who lags behind. (9)

33. What you use to mark an XML instruction. (3)

34. 2.57 cm (4)

37. In print, in conversation, in colour or in music it's everything. (4)

38. If it's too fine it won't print properly. (7)

39. Not large. (5)

41. A process of addressing and marking, with many systems on offer at packaging shows. (9, 9)

Down

1. The basis of successful cooperations. (12)

2. Without enough of this the black will be substandard. (7, 7)

3. Show, expose or divulge. (6)

4. Used to create a raised effect. (9, 5)

5. Not digital. (8)

6. The male of the species closing deals. (8)

7. Venue for pressing the flesh and seeing kit. (9)

8. Not just a vodka, but unequivocal. (8)

9. At the heart of all things prepress, print, distribution and access. (11)

16. Electronically Stored Information (3)

21. Just not something. (8)

23. Toner that might have sand or gravel in it? (9)

24. It might be long or short, but it always involves at least one unit. (9)

25. A numbering system akin to decimal or hexadecimal but much simpler. (6)

26. Not false. (4)

28. The place not here. (5)

30. Wild. Original and a loud scream? (6)

32. Unavoidable connectors in a digital workflow. (6)

35. In business it's a cartel, something exclusive one joins. (4)

36. At least one of these is a means to exercise the press. (1, 3)

40. Management buy-out. (3)

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

Number 35 – Answers

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