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Spindrift

...Stalking The Graphic Arts Industry Since April 2003

News Focus • Opinion
Reviews • Techno-Babble
Attitude

Volume 6, Number 7
11th November, 2008

impatient • *adjective* **1** lacking patience or tolerance. **2** restlessly eager: impatient for change.

Dear Reader,

Kodak is bringing forward its Stream release by three to six months, we were told at Ifra in Amsterdam last week. This may not sound like much, but for a company the size of Kodak, and a technology as innovative as the Stream continuous inkjet press, it's bold indeed.

The Stream technology was introduced at drupa and is Kodak's next generation continuous inkjet press. It is also supposed to be the company's future platform for high speed digital devices, so it's great that the press will be launched in early 2010 rather than late in that year, but can Kodak or the market, really wait that long?

Despite the economic uncertainty, buyers are investing in new digital presses to support new applications, which are starting to out-run new press developments. Consider Screen's installation of a Truepress Jet520 at AlphaGraphics in New York, and Agfa's of the Dotrix DGNews at VASP in Portugal. Both of these sites are owned by newspaper distributors who recognise the opportunities for profit a digital press can bring.

Developers need to be ready to take advantage of rapidly changing technology needs, because application development and new ideas don't sleep. And buyers can't afford to wait. Impatience probably isn't a virtue, but it can be a key driver in technology developments. Let's hope Kodak's beta partners have the patience to wait. Their competitors may not.

As ever,

Laurel, Nessan, Paul and Todd

In This Issue

Wet but definitely not wild

Laurel Brunner has been dodging the rain at the Ifra Expo to find out what's new in the newspaper business. She found a plethora of database-driven publishing solutions and a number of new platesetters and plates as well as processing chemistry, but sadly visitor numbers are down on previous years.

see page 8

The tipping point

Nessan Cleary has been to Inca Digital to see the new Onset S20 in action, just as HP and Vutek have also announced similar machines, all aimed at the screen printing market. But do these giant inkjet devices have what it takes to persuade screen printers to move into digital?

see page 17

Larger colour gamut than ever

Paul Lindström has put the latest set of monitors through their paces and found that the new 1.3 version of the U-DACT certification test is far stricter, which makes for a far more accurate evaluation of the worth of a monitor for colour critical work.

see page 22

Regular Columns

News Focus

Heidelberg has said that it expects a significant downturn in sales and a marked reduction in its operating results for the current financial year (April 1, 2008 to March 31, 2009) compared to last year. As a result Heidelberg is extending its existing programme of cutbacks from €75m up to €180m for the financial year 2009/2010, with further measures for the following year likely to yield total savings of around €200m. For staff, this means shorter working hours and the loss of some 2,500 jobs.

Agfa-Gevaert's third quarter results also show the effects of the economic slowdown. Group sales have fallen 1.7 per cent to €741m, but gross profit has dropped 14.2 per cent, when compared with the same quarter last year. Agfa has said that its gross margin was affected by the high cost of raw materials, one-off elements and adverse mix effects. Agfa's Graphics division recorded a 5.8 per cent drop in net sales compared with the third quarter from last year, and net sales for this year so far are down by 5.1 per cent. Agfa noted the computer to film market has declined, but points out that computer to plate is still growing and that its inkjet sales figures were higher than previous quarters, mainly due to deals that were closed at drupa. However, Agfa Graphics has managed to offset the rising cost of raw materials by reducing its own operating costs.

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Digital Dots Ltd
The Clock Tower • Southover • Spring Lane
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Tel: (44) (0)1435 883565

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Publisher – Laurel Brunner – lb@digitaldots.org
Editor-In-Chief – Nessan Cleary – nc@digitaldots.org
Technical Editor – Paul Lindström – pl@digitaldots.org
Production/Webmaster – Todd Brunner – tb@digitaldots.org
Subscriptions – Helen Moderski – subs@digitaldots.org

Google has abandoned its advertising partnership with fellow search engine Yahoo in order to avoid a protracted legal battle with regulators. The deal involved Google providing some of the advertising around Yahoo's search results. This will come as a blow to the board of Yahoo, which had faced criticism following its rejection of Microsoft's offer to buy the company, and saw the tie-in with Google as a way of placating angry shareholders. It opens the door for Microsoft to make another bid for the company, although it has previously said that it was no longer interested in acquiring Yahoo.

HP has launched a number of new inkjet printers, including a new digital screen printer, the FB7500 (more on this on page 17). HP has also upgraded the TurboJet series with the TJ8550 which is said to be 50 per cent faster with 20 per cent lower costs. There are new inks for the TJ600 which has improved the dot gain characteristics. There's also a 3m wide version of the XP2300, aimed at the billboard and building wrap markets.

Shuttleworth has launched what it claims is the world's first real-time MIS data application for the Microsoft Vista sidebar which runs independently of the printer's MIS. This would allow managers to access their key business information in real time from anywhere in the world via the internet, without needing to be logged into the main system. Joint managing director Paul Deane explains: "The user is able to custom design what type of output tools they would like to use such as graphs, dials, histograms and so forth and specify criteria parameters around specific data so that they are alerted when these parameters are reached."

Bytes Document Solutions has updated its Web2Print solution, Infigo. The latest enhancements provide printers with greater opportunities to create new revenue streams and build customer loyalty from the delivery of personalised business cards, stationery, marketing collateral, customised greetings cards, calendars, photo albums, books, etc., for very little set up or development costs.

Enfocus and **Alwan** have collaborated to develop an automated PDF server. The PDF Standardizer combines the preflighting capabilities of Enfocus PitStop with Alwan's Dynamic Device Link technology to provide out-

of-the-box compliance with ISO 12647 and 15930 colour requirements. Alwan PDF Standardizer will be available in January 2009, through both Enfocus and Alwan's distribution channels. It will be priced at €8000.

Meanwhile, **Enfocus** has launched its own standalone PDF editor, PitStop Extreme, which includes the PitStop preflighting engine and Certified PDF technology. Its features include unlimited zoom, fast switching to outline preview and viewing of separations, transparencies, overprints and total area coverage. It's priced at €2499 and includes a license to use PitStop Professional.

Enfocus has also launched a new website to support its Crossroads initiative for promoting automation in publishing workflows. It aims to provide more education, tools and functionality for partners, customers and consultants of Enfocus Switch automation solutions. www.crossroads-world.com

Callas has updated its pdfToolbox Server to version 4. This builds on the pdfToolbox 4 plug-in that was launched at drupa, with the server version automating features such as PDF correction, page manipulation and preparing PDF presentation or imposition. This also works with Enfocus' Switch automated workflow.

EskoArtwork has released version 2 of its Neo PDF editing tool. This standalone PDF viewer and editor allows users to easily correct both text and object content in multipage PDF files. It can edit virtually anything within the PDF document, including fonts, traps and page boxes. Neo 2.0 now integrates with Enfocus PitStop Professional with the two applications sharing the same database of preflight profiles and action lists.

Extensis has updated its Suitcase Fusion tool for font management. Version 2 boasts a redesigned interface and a complete rewrite of its code base. It provides font activation, outstanding font previews, and advanced corruption checking and repair. It features a Floating Preview which lets users drag-and-drop type previews directly onto a layout for easy comparison and selection.

Global Graphics has released its HXM screening module for the Harlequin RIP to the interactive community at its online store. HXM, which is supplied as a Screening Option upgrade to the Harlequin RIP, uses hybrid screening to improve print quality by increasing the output lines per inch (LPI) at lower resolutions.

Compose Systems has upgraded its Plate Controller solution for job placement for sheetfed offset, web offset and flexographic printing. It integrates into any PDF or 1-bit TIFF workflow, and can help avoid last-stage RIP or trapping errors. Also, critical to the packaging and label industries, Plate Controller supports all shapes of labels, nesting for packaging, and front-to-back synchronisation for precise registration when two-sided printing is required.

Xaar has partnered with Chimigraf, a leading manufacturer of digital inks for the ceramics industry. Dr Jill Woods, Ink Product Manager at Xaar commented: "Digital printing in the ceramics industry is at an early stage but is forecast to grow rapidly with many traditional flexo and screen applications being replaced with flexible and cost-effective digital alternatives."

Océ has launched a faster version of its Arizona 250 GT. This has rapidly established itself as one of the best selling UV flatbed inkjet printers. The new model, the Arizona 350GT prints at up to 22.2 sqm/hr on rigid media and 17.5 sqm/hr on roll-fed materials, which equates to roughly 60 1.25x2.5m boards in an eight hour shift. It also has a white ink option.

Fujifilm already rebadges the Arizona 250 as its Acuity HD2504, and will be doing the same with the new version, under the name of Acuity Advance.

Sun Chemical in the UK is to distribute the Apollo series of multi-functional UV wide format inkjet printers. These printers cover widths from 1.6m to 3.2m and with a choice of four or six colours, plus white and varnish.

Finally, we'd like to wish many happy returns to **Xerography,** which celebrated its 70th birthday a few weeks ago. The process was invented by Chester Carlson, a scientist and patent attorney who was determined to find a simple way to make copies of documents. The name comes from the Greek words xeros for 'dry' and graphos for 'writing'. The very first xerographic copy is preserved in the Smithsonian Institute, in the USA.

Expandocs

(Casting some extra light on a recent news story)

Quark Eights

Quark introduced its Dynamic Publishing System for automated workflows to web and print earlier this year. At the time it had Quark Server 7 at its heart, but Quark has now released Quark Server 8, along with QPS 8, to create a series of extremely powerful system options ranging from layout with XPress, to workflow with QPS and full on cross channel publishing with the DPS. Together they are key to Quark's growth strategy, particularly for the enterprise space. Occupied by the Fortune 2000 companies, this space is one sector where Quark doesn't compete head-on with Adobe and where it has no baggage. Fortune 2000 companies are not necessarily publishers, but for all of them publishing is a key part of their operations. They are retailing companies, aerospace and financial.

So what's the likelihood of success? It's hard to say, but one thing is certain and that is that Quark is tenacious and determined, and it has an impressive technological armoury. Over the last few years the company has been on a campaign to prove its technical competence and market commitment which seems to be paying off. The company is no longer in pole position when it comes to page layout and design tools, but it is in the rather more attractive position of playing underdog to Adobe's aloof and overly well padded dominatrix in the graphic arts.

Quark's credibility has been rising over the last few months, following the unexpected and well-received introduction of XPress 8 at drupa. We covered XPress 8 in depth in a recent issue (Vol 6 Number 5). Sales are going well and Quark is finding many buyers especially keen on its usability compared to CS4.

QPS 8 & Server 8

Now the company has introduced QPS 8 and Quark Server 8. For QPS 8 the growth opportunities reach across markets, from newspapers to retail. This integrated workflow system has the scope to manage, produce and deliver large volumes of content, and supports collaboration across marketing communications and agencies, a growing trend.

The most important new thing about QPS 8 is its compatibility with XPress 8. Quark is working on additional functions for release in QPS 8.5. QPS 8 benefits from the single global file format introduced for XPress 8 and a new Japanese user interface. Japan is a large and under-served market for Quark and the Japanese interface will also be of interest because of the internationalisation of Japanese companies. The Copydesk 8 authoring tool also shares the XPress code base, which means it also has same user interface and content authoring functionality, plus support for over 30 languages.

The other significant news about QPS 8 is that it now supports Adobe's InDesign and InCopy at the component level so that having a mixed XPress and InDesign environment is no longer a problem. This gives QPS 8 a really breathtaking level of flexibility and means that publishers no longer have to choose between which of the two design programs they use. In addition, the Illustrator support in XPress 8 makes it possible to preview .ai files in QPS 8.

Quark XPress Server 8 also brings global file format support, advanced typography and additional server platform support – Windows 2008 Server and Mac OS 10.5 Leopard– to the mix. It is at the heart of the QPS 8 workflow technology and of Quark's Dynamic Publishing Solution, the basis on which Quark intends to become the global leader in dynamic publishing. QPS is a print orientated workflow system, but DPS is an enterprise workflow system for automated multichannel publishing.

Dynamic Publishing Solution

This enterprise publishing system is about helping companies to optimise their publishing processes. It takes Quark into enterprise and office content management, using XML to manage output-independent workflows based on raw content and XML. Instead of using XML authoring tools which frighten most users, Quark has developed a Word-based XML authoring tool. XML or SGML workflows are nothing new but the DPS hides all

the complexity with Word style sheets. Basically a DITA (Darwin Information Typing Architecture) schema within the XPress Author automatically parses whatever the writer types, to turn it into the correct format, according to the output channel. DITA was developed by IBM and is an OASIS standard. In August Quark acquired Invision, a leading developer of XML technologies for Word, so we expect to see more along these lines. Using XML and DITA, with clever extensions for Word means that DPS can support any XML Schema needed giving the system huge flexibility in document creation, management and output.

Quark has installed a DPS system at one of Ireland's government departments and the US FDA is using it for managing and reviewing drug label submissions. Quark is clearly developing solid XML expertise and experience, assets that could help it match if not trump Adobe's XML efforts.

Say What?

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

This month's Say What award goes to the UK organisation, Press Dispensary, for its masterclass tour on how to write press releases.

According to the press release:

"Course content includes: how to write press releases that generate coverage; identifying company news; the value of good copy; creating headlines and photo captions; avoiding jargon and marketing-speak that offend (sic) journalists; writing spokespersons' quotes; devising a house style; editing copy; how to distribute a release to journalists; how to exploit the boom in online news; the news release in SEO, search engine marketing and direct marketing; and an informative Q&A."

We love the idea of courses about how to write press releases, and have often considered running a similar course for journalists on how to decipher and discard press releases. Joking aside, the course costs £300, and for that sort of money we'll happily turn up and warble on about the secrets behind press releases to anyone daft enough to pay for this sort of thing.

Boomerangs

(Your feedback fed back)

We've received this plea from Paul Sherfield, one of the UK's most energetic drivers towards standards. Please let us all know what you think about this idea of a 'Validation Proof'.

ISO 12647/7- Proofing processes working directly from digital data

Most of the readers of this publication will or should be aware of the above standard.

Using a colour control bar such as the FOGRA Media wedge v3, and a spectrophotometer, it sets a tight standard on which to judge the accuracy of contract digital colour proofs.

Indeed it is now a standard that is being accepted across all areas of the graphic arts in the UK.

However I would be interested in the readers of this publication's views on an addition to this standard, a 'Validation Proof' enabling the proof producer to use a colour laser 'copier' at lesser pass deltaE values.

This 'Validation Proof' is to be specified in the next admendment of ISO 12647/7 standard to wider technical parameters then the current Contract Digital Proof.

Many of the large printing companies in the UK and the BPIF have expressed the view to the ISO TC 130 committee, which controls new additions to ISO standards in this area, that this is an additional proofing standard that will create confusion, and is not needed. However it looks as if it may go ahead!

The very presence of an ISO 'Validation' proof standard, but not for accurate colour in the approval process seems a step backwards in the area of printing standards and control.

One can only surmise on how this is going to be communicated and used by printer's clients!

My view is that it is unnecessary, confusing and will cause mis-communication and costly printer/client commercial issues.

Contract digital proofing is now a fraction of what it cost 10 years ago, and yes, laser/toner-based proofs would be even cheaper, but these should only be used as contract proofs when they can meet the existing standard.

Please let me know your views.

Paul Sherfield
The Missing Horse Consultancy Ltd
paul@missinghorsecons.co.uk

Driftwood

(Useful stuff washin' up on our shores)

The useful paper

One of our favourite journals is The Economist, and in the October issue we read about an interesting use of paper. Dr Elvira Fortunato, Dr Rodrigo Martins and their colleagues at the New University of Lisbon suggest using cellulose when producing transistors.

Transistors, as we know, are switches that employ one electric current to control the passage of another. Linked together on the surfaces of computer chips, they form the 'logic gates' that do the calculations in computers. The researchers built their transistors by coating both sides of a sheet of paper with semiconductors made of oxides of zinc, gallium and indium, rather than silicon.

This approach makes the transistors both flexible and cheap to produce. They can be made at room temperature, unlike a silicon chip, and paper is a lot less pricey than electronics-grade silicon. They also seem reliable – Dr Fortunato and Dr Martins tested their prototypes for two months without detecting any fall in performance.

These paper-based chips are not likely to replace silicon in microprocessors any time soon, but could be used in RFID tags (Radio Frequency Identification) on packaging where the cost of the RFID chips is one of the factors preventing their wide-spread adoption. Baggage tags, banknotes, with electronics embedded for security and even postage stamps that can be read by smart franking machines are other possible uses. The article concludes: "Electronics may even come to rely on paper, rather than eliminating it".

Spindocs

(Where the spinner gets spun!)

Net losses turned into member value?

Since Digital Dots is based in the UK we follow closely what is going on in the graphics arts market there. One of the countries most important industry associations is the BPIF, the British Printing Industries Federation. When reading its recently published annual report for the last fiscal year ending March 2008, we were a little puzzled about the disparity in the beginning of the report, and the financial information on the last pages.

In the introduction we can read about the "Value Added Statement", where by "using a methodology developed by the Trade Association Forum, the BPIF added value to members of £144,773,010." But when reading the summary of the accounts we find that the net loss for the year is £1,019,000! While this is a fraction of the added value calculated through the undefined methodology, it's a huge loss of member monies, and a nasty jump on the previous year's £676,000 loss. We are looking into the detailed accounts to better understand the numbers in this, and also learn more about the methodology described by the Trade Association Forum and how it's been applied by the BPIF. But for now this looks to us like a classic example of spin-doctors at work.

Acrobites

(Something to get your teeth into)

MSCE

Microsoft Syndicated Client Experiences is a combination of the Microsoft .NET Framework 3.0 and Windows Presentation Foundation (WPF). Programmers use it to build clever client applications to exploit the web, such as deploying URLs, leveraging Windows. One could suggest

that the Syndicated Client Experiences (SCE) technology is needed to overcome shortcomings in Windows, but that would be mean.

CAN-bus

A Controller Area Network bus is a serial data communications bus that runs at up to 1 megabit per second. Originally developed by Bosch in 1985 for use in cars, this technology is now used in all sorts of applications where highly sophisticated automation is needed. It is used for networking intelligent devices and is also known as ISO 11898.

Wet But Definitely Not Wild

Water. Too much of it and we drown, not enough of it and we can't survive. The same could apply to content, particularly where newspapers are concerned. This year's Ifra in Amsterdam was about water and about content. The water came pouring down from rainy skies and sloshed about in the city's endless canals, and was thematic of the show. The digital order of the day was fluid workflows, with XML and database-fuelled content-independence, data flowing across media and channel neutrality.

There were also some interesting platesetting twists, plus other heavy metal stuff, but all of it was presented to what looked and felt like a much depleted audience. Ifra Expo was not overwhelmed with visitors, which is a pity because there were plenty of innovations and ideas floating about. Here are some of the things that caught our eye.

This year's Ifra in Amsterdam was about water and about content. The water came pouring down from rainy skies and sloshed about in the city's endless canals, and was thematic of the show.

Today's newspaper is indeed a fluid creation, available in print, on the Web, and increasingly, on mobile devices. These developments were all on show at Ifra but it is increasingly clear that it is applications that drive technology development, rather than production efficiencies demanding it. Newspapers have responded to falling circulations by inventing new content-based products based on digital media and by making the product creation process as efficient and automated as possible. Content management systems are at heart clever combinations of database technology and XML, with a dash of Web 2.0 thrown in.

Web 2.0 is a conceptual definition that covers all manner of technologies that support the idea of the network as a platform. The basics include server-supporting client applications, standard messaging techniques, content syndication plus browsers with plug-ins and extensions. The platform is fluid and can be configured to support all sorts of interesting business applications, from social networking à la Facebook, through to content development. For advertising Web 2.0 is an especially powerful platform for new business models, as the old space-based model is struggling to maintain its position in the face of new digitally driven competition.

Newspapers are wrestling with this as they strive to incorporate web customer bases and revenue streams into traditional business models, but we didn't see much along these lines at Ifra. Most advertising developments are about advertising booking, creation and production, with no one really staking out a position to harness advertising and content usage patterns to develop something different and revenue enhancing. For the most part the show was about improvements to old ideas, or greater functionality, quality, reliability and cost effectiveness.

Going with the Flow

Editorial content management is the absolute foundation of a newspaper. But editorial systems have to provide support for multimedia production these days, which is why XML and databases are so important. The power of cross-channel XML and databases gives newspapers channel neutrality for their content and thus huge flexibility in what they do with it.

Web 2.0 technologies can turn readers into contributors, creating enough content to fill oceans of pages and at Ifra there was a worrying surfeit of technologies supporting this so-called 'citizen journalism'. Publishers should remember that this is a contradiction in terms. People read what journalists write because it's written with authority and skill (mostly). Blogs and comment-based content are great as a source of ideas and to help journalists get a feel for the vox populi, but they don't replace properly researched and written stories. They aren't worth the inherent risk, but nonetheless the idea seems to have spawned a whole slew of new ideas for technologists and developers.

Müller Martini sent out loads of invitations for people to come to their stand for a drink and to listen to this excellent band. Once on the stand though no one came to welcome us, offer a drink or tell us about Müller Martini, despite there being plenty of marketing staff on hand. Marketing budget? What budget?

Protec for example has added support for it in Milenium, but with a sensible twist. Stories coming into the system from readers and other citizens are routed to journalists who provide a quality control check on the material. This idea of using journalists as editors may suit some, particularly those who are more interested in managing digital content for print, web, radio and television channel output, rather than writing. Protec has supported radio and television content management for some time, and now includes these channels in the same interface as Milenium editor.

Journalists are indeed expected to be masters of many skills, often including video and photography, so the systems they use must be able to support multiple formats, different workflow patterns and a range of output channels. The system choice ought to be based on the strengths of a developer's skills with Web 2.0 technologies, Unix and XML, database experience and appreciation of newspaper workflows. Selecting a supplier depends on matching the relative merits to the application needs: some newspapers are more internet-driven than others, and so it is with front end system developers.

Fortunately newspapers no longer have to buy everything from a single supplier. Roxen and Escenic are two examples of developers with strong web knowledge, who work closely with front end system developers to build cooperative systems. For example CCI is working with the Globe & Mail in Canada to create a multimedia newsroom for its print and online titles, based on CCI technologies, plus software from Escenic. It is expected to be in full production by next June running on Escenic Content Studio 5.0. This has improved section/index page editing, full restructuring and regrouping of section page layouts, improved image and text editors, with embedded spell checking for text, drag and drop functionality, undo-redo support and roaming user profiles.

Web 2.0 on the Rise

We were very impressed with Roxen when the company debuted at Ifra 2007. Since then, Roxen has come on in leaps and bounds, with a rapidly growing customer base and a team of 30 people. One of the largest Swedish websites for business news, Dagens PS, is now running on Roxen's technology, and Shaw Newspapers in the US is using Roxen Editorial Portal for its 40+ printed publications, and Roxen CMS for its 20+ online publications. Roxen's Australian distributor is also doing well: Advanced Publishing Systems' Page Master is working with Roxen technology to provide outsourced page production for a number of large Australian newspaper publishers, including Fairfax Media. Metro International is now running 12 separate installations of Roxen Editorial Portal in nine countries, having set them up in less than 15 months. And Bonnier has installed Roxen technology at over 25 of its magazine sites.

This has all kept Roxen pretty busy so there was no technology news apart from the fact that the Editorial Portal now has full support for Indesign 3, Indesign Server and XPress 7 and XPress Server 7. Roxen is also working on tools to support layout as well as content-driven workflows. To keep writers happy they are thinking of calling the former reporter-driven workflows. Also in the works are tools to help journalists and editors find stories of a particular size to fill holes on a page.

Roxen and Escenic are examples of the new breed of newspaper technology developers, using web technologies to supplement traditional front end systems. However there are still plenty of companies who continue to invest in developing front end systems capable of driving any output channel. These systems are now starting to find their way into the field. Eidos Media for example, is working to incorporate Web 2.0 into its Méthode system, especially to support web publishing. Méthode also has a new user interface with ergonomic features to improve productivity, from edition planning to graphic design. Users can configure and save multiple workspaces à la Leopard and a new multi-user facility allows more than one user to work on a single story simultaneously, while maintaining Méthode's single-copy principle, which manages updating, and correction across multiple channels. Dow Jones is one of several companies using this technology to create a channel agnostic newsroom for the Wall Street Journal and other properties. Méthode is expected to be ready to produce print and web content in February 2009.

The alternative to in-house development is acquisition, which has been Atex's preferred route. The company acquired Unisys, developers of the Hermés system which is in use at some large newspapers including the London Times, as well as Polopoly for its web publishing expertise; Atex is still busy integrating these acquisitions. It also previewed an application based on Adobe AIR, a cross-platform runtime environment that effectively does away with conventional browsers. This environment uses Flash, Adobe Flex, HTML, or Ajax, to build rich Internet applications that operate at the desktop application. Atex calls its environment Oxygen and is positioning it as a tool to allow editors to publish to multiple

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content-driven channels. It obviously works anywhere there is internet access.

DTI is making progress with its Liquid Media technology that it acquired last year. It has announced that Madsack in Germany is to install the complete DTI Editorial which includes DTI's Liquid Media for multichannel publishing, at 35 titles supporting over 1000 users.

Tera is another of the major front end system players, heading for the exciting multichannel rapids. Last year the company previewed its Content Management Service Architecture (CMSA) and this year presented the end result. Tera's CMSA defines a content infrastructure for managing data regardless of its format or output path. Based on Web 2.0 internet technologies, the new architecture is Tera's digital foundation, taking it towards a platform that exploits browser and internet technologies. CMSA defines data structures uniformly with a single underlying access and rights management method for maximum flexibility and fluid system expansion for multiple views and format independence.

Gavin Drake, marketing manager for Quark in Europe, plus an adoring fan.

Quark is continuing to grow in gravitas, distancing its corporate self from the Quark of yore. At Ifra, the company announced QPS 8, which through XTensions can support both or either XPress 8 and Indesign in a single workflow system. This includes Quark's CopyDesk and Adobe's InCopy, providing total transparency throughout the workflow, which can be layout or content driven. As far as we are aware, QPS 8 is unique in that it provides component level workflow management collaboration between XPress and Indesign. Users of both or either can work in parallel in a single workflow.

Agfa has updated its Arkitex technology with a version for the new Advantage N platesetter called Arkitex Essential. This entry level package has a constrained feature set, optimised for Advantage N target customers. Arkitex Vantage 1.2 adds multi-site support and third party systems monitoring for proactive real time health monitoring of a system. Arkitex Analyst and Arkitex Pro 1.2 enterprise reporting system for ink savings, work in conjunction with Agfa's Opti-ink ink optimisation software to predict plate and ink usage, hardware status and overall performance trend reporting.

Agfa's Intellitune 1.2 automated image processing now has an interface to front end systems from CCI, Atex and others. It runs under Vista and has direct integration to Photoshop for manual retouching, with tools to display and edit IPTC headers, plus overall improvements on image processing.

Fujifilm has announced a version of its C-Fit image enhancement software for newspapers. This image intelligence software provides automatic analysis and enhancement of RGB images. It uses facial detection and skin smoothing techniques to compare light and dark areas and smooth the tonal transitions. It includes light source recognition to ensure stable image quality across files, with objective and standardised processing rather than subjective manual processing using Photoshop. Fujifilm claims 30 times greater image productivity compared to Photoshop because it takes six seconds to process images in C-Fit instead of 2-3 minutes in Photoshop. This amounts to roughly 600 optimised images per hour.

Computer-to-Plate

Technologies inevitably keep improving and computer-to-plate is no exception. At Ifra we had a few new CTP plates and Agfa introduced a new engine developed in collaboration with Strobbe. Over 1200 of Agfa's 2000+ engines in the newspaper market are violet. Agfa's latest Advantage N platesetter is designed for newspaper and commercial applications. Its design is based on the Polaris, however, this is not a reworking of old technology.

Designed and manufactured in cooperation with Punch Grafix, the Advantage N images with 120 mW violet diodes with completely new optics using a cylindrical mirror to guarantee slow scan registration. Designed for greater imaging quality and reliability, the new optics can zoom and so can support any spot size. It also uses numerous standard parts such as 100 mbs Ethernet, browser-based remote control diagnostics and support, an ETX single board controller for embedded applications and CAN-bus for subsystem and motor controls, so there is less cabling. CAN-bus technology is essentially a single board controller for multiple circuits, which means these platesetters ought to be less expensive than devices with multiple boards and circuitry. It also boasts a new Flexwheel plate positioning, FlexPin registration system, and Power Wedge for automating the Ugra plate control process.

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There are four models ranging in automation from the basic manual Advantage N-M and up. The Advantage N-SA (semi-automatic,) has manual load and automatic unloading and the N-SL is a stack-loading version with the option to manually load a 100 plate cassette. The Advantage N-DL is a direct load model with no manual option for 750 plates online of any size and autoselection of plates for imaging up to 220 plates per hour (pph). The new models replace the Advantage X and NL engines. The M and SA models image 75pph and the SL and DL up to 220pph. The maximum plate size is 1143 x 710 mm and the new machines image at 900 - 2540 dpi, and so are Sublima compatible.

Krause introduced the LS Jet 350, the latest in its highly successful LS Jet series. The LS Jet 350 images with a 160 mW violet laser and has a faster polygon, and a quicker data interface. It images up to 350pph at resolutions from 1,200 to 1,270 dpi.

Following its introduction at drupa, Kodak's Generation News thermal platesetter is now available. Kodak also said that it is working on a new processless plate for newspapers for introduction in 2009, based on its PF-N technology. PF-N is a processless thermal plate for newspapers currently developed on press.

Plates

Agfa's successor to its 91V is the N-92V. It has a run length of 350,000 and improved resolution so it's also suitable for commercial work. Over 20 customers are using the N-92V plate. The N-92VCF is a chemistry-free version of this plate suitable for up to 200,000 impressions and moderate rather than unlimited throughput requirements. This plate is in use at La Presse de la Manche in France and a couple of other sites. Agfa is expanding sales in January when full manufacturing gets underway.

The environment is key to Fujifilm's strategy, so the company is actively developing processless and chemistry-free plates. As expected, Fujifilm introduced its chemistry-free violet plate for newspapers, and rather unexpectedly a new thermal plate for newspapers. The Brillia Pro-VN is a version of the violet Pro V plate. It uses high sensitivity polymerisation technology for similar productivity as conventional processed violet plates, but for newspaper applications. Pro VN has the same sensitivity and productivity as Fujifilm's conventional newspaper plate, the LP-NNW.

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Its finishing unit boasts low replenishment rates for low waste. No developer or replenishment is needed to keep the system chemistry stable and there is no need for washing and gumming thanks to the use of a 'protector fluid'. This fluid, like Agfa's gum, is still classified as hazardous waste under EU rules so Fujifilm still collects it for disposal. The protector fluid has a bath life suitable for 10,000 Berliner plates for up to 4 weeks, a reduction from 3500 litres of waste for 2000 square metres of plates to less than a tenth of that.

The new Pro-VN was shown being imaged on the FFEI Alinte News930 and the Krause LS-JET 350 platesetters. Pro VN is good for up to 200,000 impressions and is compatible with visible light platesetters and the protector fluid for most European plate processors. There are three European beta sites which are expected to have gone live after Ifra. Commercial availability of the Pro VN is in 2009 and the plate is manufactured in Tilburg.

Fujiflm also rather surprised its competition with the introduction of a new thermal plate for newspapers. Fujifilm has developed a new UV ink-tolerant thermal plate for newspapers in line with customer demand. The Brillia LH-NN2 is a second generation thermal plate based on the LH-NN. It is more stable and reliable in processing, with around 30% increased sensitivity. Run length is up to 300,000 and beta trials will be underway at the Nuremberger Nachrichten and other sites in January.

Commercial availability is expected to be by the end of the first quarter 2009. This plate is also manufactured in Europe.

Kodak needs to get on with this as processless plates are rising up many newspapers' agendas, because of the cost savings they afford and the need to improve the newspaper's green credentials for advertisers and readers. Kodak had no further news on plates but is expected to announce a cooperation with PrintCity shortly for its Ultra Wide Web project (see below).

Digital Newsprint

It's been a painfully slow business but we are starting to see a glimmer of progress in digital newsprint. Two important installations, Agfa's VASP installation in Portugal and Screen's sale of the Truepress Jet520 to Newsworld Corporation, were presented at Ifra. The Truepress Jet520 will be installed at AlphaGraphics in New Jersey, to print the Daily Mail and Mail On Sunday for the New York area starting in January 2009. The press and a dedicated Hunkeler finishing system will be installed at AlphaGraphics' facilities next month.

Screen brought its Truepress Jet520 to Ifra.

VASP is a newspaper distributor which has installed a Dotrix DGNews digital press to support roaming readers. This includes travellers, expatriates, immigrants in large centres of population and remote areas. The press can also produce newspapers for remote small communities or be used to trial new publications, for example, print runs of less than 5,000 daily. The Dotrix DGNews inkjet has a Xaar greyscale head and uses UV ink to print on 48gsm newsprint. Agfa has standardised on this paper rather than 45gsm because of the added process latitude it gives them, however, it adds to a newspaper's costs. The Dotrix DGNews prints a 63cm width and speed is rising to an anticipated 32 metres per minute by next year with complete finishing. VASP has been printing newspapers on this press since August and is now up to 1845 newspaper titles daily, with the press running for 10 hours per night.

VASP focuses on broadsheets for its local market which also includes Brazil's national daily, El Globo. This is an interesting business model which could make considerable sense. Newspaper distributors face rather less risk with an investment into a digital press than the newspaper publishers do: there's no investment in copies that might not sell, the distributors control their own stocks, they can offer what they like to local readers and control costs better.

Digital newsprint is also better for the environment because it simplifies logistics and far less transport is required, although printing with UV inks

isn't particularly green. VASP's business model has considerable scope for growth and the company is building agreements with more publishers to print their titles on a revenue sharing basis. Agfa says that it needs to sell ten machines per year to sustain itself in the digital newsprint business. One down, nine to go!

According to Bertrand Decoux, managing director of Kodak for Europe and Africa, CTP is still the top priority for Kodak's Ifra visitors, but nonetheless the company is also talking to distributors of newspapers as well as newspaper publishers. Stream's introduction has been brought forward by 3-6 months for introduction early in 2010. This is because of high interest from the market. Most of the brainwork has been done and Kodak is now working "to bring the printhead to be live and to be where we want it to be". This is about head durability, lifespan and MTBF, which is key as Stream uses a smaller number of heads than competitors such as HP, so there is less scope for head redundancy and the need for greater reliability. Decoux commented: "Innovation with Stream is mostly coming from innovations in materials science" adding that there will be two Stream configurations, with one optimised for graphic arts for direct mail and collateral and the other for transactional work and emerging new transactional applications.

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The Creo Print on Demand Solutions Group is working on a dedicated APPE 2.0-based front end for Stream in tandem with Intimate, a Danish developer of IPDS software which Kodak recently acquired. Kodak's biggest challenge, and that of its competitors such as Xerox, HP and Océ, is to prepare the market for these seriously high throughput digital presses. We expect 2009 to be the year for this as developers start to target printers and print buyers to work on cooperative application development. For Kodak, its Unified Workflow will be the starting point for crossmedia production companies, managing output to Nexpress and Stream, or to plate.

Interesting Software Trends

Newspaper publishers are starting to exploit the natural synergies across media, with mobile applications intrinsic to the business model, at least once publishers work out what that should be. There are many small developers working in this area, but Materna is a typical example. The company also wins our vote for the most misleading company name, having nothing to do with Babygrows or pregnancy-wear. Materna offers mobile content solutions for newspapers including the obvious such as WAP-news and SMS/MMS alerts, plus mobile TV and a news portfolio of over 140 channels. The company offers news portals for delivery to mobile phones, to help newspapers develop alternative revenue streams that compliment web and print publishing.

NStein is a relative newcomer to the newspaper industry, having arrived via its acquisition of Picdar earlier this year. NStein was founded in Canada to do research and development into semantic techniques for content analysis. With a client base in defence, NStein's software algo-

rithm is designed to extract meaning from text. It uses a combination of linguistic tools analysing morphemes, which are the building blocks of words, the roots and affixes, plus syntactic analysis which looks at the job a word does in a sentence. It compares text components and functions to taxonomies, which define the relationships of morphemes, and syntactic functions to one another. More on this next month.

The rest

There were some interesting gimmicks such as Memostick from WRH Marketing in Switzerland. On behalf of advertisers, newspapers can use web-based templates to book and produce custom designed stick-on notes, via the Memostick eShop. The sticky notes can be stuck on the front page as 'ad stickers'. Over 18,000 newspapers are using Memostick notes.

PrintCity announced a research project to look at cost-effectiveness and quality in wide web applications.

This was gimmicky but not as gimmicky as Knowledge View's introduction of the term "pubsumer". Nothing to do with horsebrasses and pints of bitter, although that might be where they were when they came up with the term. Knowledge View develops content management tools, for managing content from many sources and delivering it to its point of use. The pubsumer is a reader who is the content consumer and publisher. Given the difficulty of delivering advertising in this context, we don't think there's much of a business model there.

PrintCity has announced a new research project, an ultra wide web project akin to its VAPON initiative. The Value Added Printing of Newspapers was about improving the cost effectiveness and quality of newspaper printing. It assessed all economic, production and operational factors influencing newspaper printing. The ultra wide project will essentially do the same thing, but for wide web applications, ie newspaper and magazine printing.

Conclusions

This was a slightly smaller Ifra Expo than last year, with fewer exhibitors, smaller stands and a drop in visitor numbers at 8800. The recent floods of bad economic news were the obvious reason for the poor attendance, but this shouldn't be a reason for newspaper publishers not to visit tradeshows. If anything they should be looking for new ideas and getting a handle on what developers are up to, so they really ought to make it a priority. It's a false economy to think you can be on the edge of innovation without participating in industry events. But maybe we're missing something?

– Laurel Brunner

The tipping point

We've known for some years now that the fastest growing sector in the print industry is large format inkjet. Most of the growth in the last couple of years has been at the lower end of the market, with vendors rushing to bring out smaller, cheaper UV flatbeds suitable for the small sign shop. However, this month we've seen the emergence of a new sector, aimed both at the top end of the digital print segment, and in particular, to take a slice out of the screen printing market.

Many of the manufacturers involved in making large, and particularly, grand format UV inkjet printers have looked to the screen printing sector as having both the volumes and the ability to pay for very large printers. But digital printers have not had anything like the kind of speed of a screen printing press, and the running costs have been considerably higher. However, Inca Digital, EFI and HP have all now shown off digital screen printing machines which they claim do push the cross over point from screen printing in favour of these digital machines.

The baby Onset has the same 3.2 x 1.6m bed as the original and can produce 50 sheets/hour.

All have quoted prices in the region of €1m but there is likely to be some flexibility, as Udi Nachmany, product manager for HP Scitex, says: "We have our own ink which gives us some flexibility and the ink will be cheaper on average than our other products. It's not going to be as cheap as screen printing inks, but when you look at the whole package, the total cost per sheet which includes the whole footprint of the machine in terms of space, electricity and the operators you need to run it, then you get a tool that really enables a very high crossover even though the ink is more expensive than a screen printing ink."

And it's not just screen printers that these machines are aimed at, as Ken van Horn, product marketing manager for EFI, says: "We are targeting those digital printers that have reached a glass ceiling for the speeds that they are running. They need more productivity out of the printers than they currently have. So printers that are buying multiple UV printers are good candidates for it. Also screen printers that are looking for the next device to bring into their shops, looking for a way to replace analogue or complement what they currently have, looking for the variability that they can get from a digital system, the digital economics that come with a UV printer."

Baby Onset

Inca Digital has already had some success in this market, having launched its giant Onset printer last year. This costs around €1.8m and is aimed at big screen printers producing more than 5000m²/hr. Inca has now announced a smaller version, the Onset S20. This has the same 3.2 x 1.6m bed size but can print 52 sheets per hour, or 2500m² per day, which Inca defines as being two shifts. Much of the architecture is based on proven technology from Inca's Turbo flatbed.

This baby Onset is designed to fill the gap between the Turbo Plus and the Onset. Inca's managing director Bill Baxter says: "What we are doing is smoothing out the product range. Someone running more than 5000m²/day needs an Onset, but someone running 2500m²/day needs more than two Turbos."

This Inca Onset S20 can produce 50 beds per hour.

Inca also expects many customers to opt for the S20 over the Turbo. Baxter says: "I think the level of quality will force Turbo users to upgrade because the quality will be demanded by their customers."

The S20 uses the same printheads as the Onset, the S-class from Fujifilm Dimatix, and running at roughly the same drop size at 28 picolitres. The S20 is able to tolerate quite a high number of nozzle failures and users can map between nozzles in the event of a nozzle failure in order to put off the need to change printheads until a scheduled maintenance break. Project manager Phil Smith adds: "We have shrunk the printhead down to a module so that one head can be changed relatively easily. This will make it cheaper to keep all the printheads working well."

There's a choice of four or six colours, though Baxter expects that most customers will opt for the six colour machine. This then gives a further choice between having two white channels, light cyan and light magenta, or Sericol's Ultratone inkset which includes orange and violet. There are 26 printheads per colour, with each head having 128 nozzles. The native resolution of these heads is 50dpi, but the actual resolution of the print depends on the number of passes, with 12 passes delivering roughly 300dpi.

The curing is via standard mercury lamps, which are water-cooled. There are UV lamps both sides of the printheads so that the S20 is also capable of bi-directional printing, which is roughly 50 per cent faster, but isn't suitable for images that are going to be viewed close-up. Smith says: "It's

much harder to get the drop placement accuracy from both directions but the differences would be small, although text would be blurred."

Operators can also choose between gloss or satin finishes. Heather Kendle, Inca's marketing manager, explains: "We use less ink in gloss mode because it bumps the colour up so the amount of ink goes down quite dramatically." However the gloss level does depend on how much ink is laid down so you can get a fairly uneven gloss effect, though this can be countered by printing to a glossy substrate. The gloss also takes about five per cent longer.

Inca has worked with the lamp manufacturers, GEW, to develop lamps with built in shutters to better control the power, which allows the operator to vary the gloss level, as Smith explains: "We print with a lower UV power so the ink hasn't really cured so we get a shiny tip to the tops of the ink drops and then we can select the number of passes afterwards to cure it with the lamps". This could play havoc with device profiles and colour management!

The printer is designed to be controlled by a single operator, and the speed is obviously down to how fast he can load the media. Inca is still working on a 3/4 autoloader, which involves an operator manually loading the media onto a preload table, with an autoloader then simultaneously picking up a printed sheet from the bed and removing it, while also grabbing the next sheet from the preload table and depositing it on the bed.

HP Scitex

HP has also been showing off a digital screen printer, the FB7500. This uses the same printhead array as HP's TurboJet, but using the new X2 printheads. These heads have a native resolution of 100dpi but depending on the number of passes the printer can achieve 400 or 500dpi. Nachmany explains: "We can play around with the number of passes, the quality that we want to reach and also if we want to use uni- or bi-directional printing. The fastest mode, called the Express mode, which runs at 95 full beds per hour, is a 300 x 400dpi mode, bi-directional two pass, and the highest quality mode is the uni-directional 500 x 500dpi four pass mode. That's 26 full beds, or 140m²/hr.

This FB7500 from HP Scitex comes with a 3/4 autoloader as standard.

This is being launched as a six colour machine, but it has eight channels and HP is planning to introduce white ink and varnish. Nachmany says that HP is looking into spot colours: "The real question is does orange and violet give you a higher coverage of the Pantone colour chart or not and so far from what we have seen it's not significant." He adds: "Spot colours are a bigger challenge, and for inkjet I don't think the technol-

ogy is there yet. Orange and violet is an interim step which everyone is looking at."

There are 62 print heads per colour, each with 128 nozzles. The heads produce a fairly large 42 picolitre drop size, but as Nachmany explains: "We prefer this drop size rather than a smaller one because screen printing applications have a lot of solids and you need to cover a lot of solid areas at high speeds and achieve the quality and we think bigger drops give you a better ability to do this. Six colours get a lot of the details in the skin tone and grey balance to offset this." He continues: "Basically the ink is glossy so it's a very nice finish and you can also play around with the curing and have a matte mode.

The printheads are relatively inexpensive (at around €650) and can easily be replaced one at a time. Nachmany explains: "It's a user replaceable head but there's a lot of tools on the machine to help you avoid replacing a printhead, such as nozzle compensation tools and an automatic maintenance routine to help get the ink flowing through the nozzles so you can do a lot to prolong that period if you are missing a nozzle or two."

EFI has shown off this Vutek DS8300 which claims a top speed of 557sqm/hr.

Nachmany adds: "Unlike digital machines, screen printers do not like to rely on the vendors too much. The people operating the presses are very mechanically savvy and they know how to fix most of the things that go wrong so we want to incorporate that into a machine that goes into screen printers".

The DS series

EFI has also targeted this market with its DS8300, which has a bed size of 2.4 x 1.6m and takes media up to 5.08cm thick. EFI is quoting a speed of 557m²/hr for this machine. Van Horn says: "We have an optional media handling system. Without that we expect that an operator would probably be able to feed about 50 boards per hour. The media handling system doubles that to 100 boards per hour."

EFI won't disclose who makes the printheads, other than to say that it is a mainstream printhead that has been used outside of the wide format area, but not in wide or super wide format. EFI is using a fixed droplet size, but won't confirm what size. Resolution is said to be 600dpi rising up to 1200dpi, and van Horn says that EFI is targeting a quality level with the ability to read 8-point text.

However, EFI does manufacture the inks itself, through its Inkware subsidiary, which is the third largest ink manufacturer in the world. Van Horn says: "The inks are developed specifically for the speed that the DS8300 is able to accomplish." It has eight ink channels, which gives users the choice of two sets of CMYK or CMYK plus light cyan, light magenta, light

yellow and light black. EFI is also planning to offer white ink and clear varnish as an option. The inks themselves have a slightly matte finish so the clear varnish is necessary for those looking for a glossy finish, and doesn't incur any speed penalty.

The curing is via high intensity UV lamps, which are necessary to cure at higher speeds. Van Horn explains: "One of the issues we were running into was being able to have enough wattage and enough power to cure as printers get faster and faster. We've come up with different ways of running power to the UV lamps to make them as efficient as possible to be able to cure at high speeds." This of course also generates a lot of heat, but van Horn says: "We are targeting a wide variety of media. We can cure to things like foamcore, Coroplast, and sheet-fed medias haven't been a real issue for us because we've been able to evacuate a lot of that heat. We have an individual chamber just to evacuate heat off of the lamps so that you don't have a huge issue with heat building up under them."

Conclusion

It's difficult to really compare these machines since none of them have yet started their beta testing. All of them claim that the quoted speeds are for saleable prints, though of course there's no way of quantifying what they mean by this. We have seen the prints from the S20 and they did look pretty good.

The cost of all of these machines is broadly similar. EFI has quoted just under €1m for the machine itself, or €1.2m with the sheet feeder. HP says the FB7500 will be around €1m including the autoloader. The Onset S20 will cost €880,000, for the six colour version, but without the autoloader. And of course all these vendors will negotiate on ink prices, especially given that these are high volume printers. Interestingly, both HP and Inca have been fairly dismissive of the Vutek machine, but both clearly have a healthy respect for each other's models. We think that Inca will probably have to include the autoloader in its price to bring it in line with the HP, and that Vutek will probably have to lower its prices to undercut the other two.

It remains to be seen whether or not these printers will have the speed and running costs necessary to attract screen printers, or whether or not there is enough market share to support all three of these vendors. But both HP and Vutek are adamant that these are the first of a long line of digital screen printers, while Inca has already had considerable success in selling both its Turbo and the original Onset into screen printers.

Both the S20 and the FB7500 should come to market by next Easter, with the DS8300 a few months later, by the summer.

– **Nessan Cleary**

Larger colour gamut than ever

Our second round of monitor testing this year confirms just how intense the development of monitors is at the moment. A whole range of high-gamut LED backlit monitors has hit the market, and several qualify for high-end softproofing when tested.

Among the newcomers are the HP Dreamcolor series, bundled with calibration software and hardware (a HP-branded version of the X-Rite Display 2 spectrophotometer). The U-DACT (Ugra Display Analysis and Certification Test) verification software is beginning to be recognised in the market, and both LaCie and Quato now include it in their software.

But a large colour gamut and high contrast ratio is not the only criteria for a high-end softproofing monitor. Accurate calibration, uniform colour reproduction across the monitor surface and stable colours independent of viewing angle are other important criteria. Not all of the monitors suggested by vendors as suitable for use in colour critical applications meet all of those demands.

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Evolving technologies

It's only a few years ago that LCD monitors were introduced to the market, and in the beginning they were not considered suitable for high-end graphic arts production, mainly because of poor performance in regard to the angle at which the image could be viewed. Another problem was that the existing range of measuring devices wasn't always capable of correctly calibrating LCD monitors, and there are still some considerations to be made when choosing the best calibrator – both software and hardware – to calibrate and verify the monitor.

A hasty conclusion would be to prefer spectrophotometers to colorimeters, but some of the older spectrophotometers may yield a worse result than when using a colorimeter designed for that particular type of monitor. One of the most popular measuring devices is the X-Rite EyeOne Display 2, bundled with monitors from the likes of HP, LaCie and Samsung. Quato, on the other hand, still prefers the older X-Rite DTP94 (at some point sold as Monaco Optix Pro) since it has found it to be more accurate and X-Rite continues to manufacture new ones for it.

The new monitors in general use LED as the backlit light source to achieve larger colour gamut and higher contrast, and also to reach higher luminance levels. But this technology is implemented in several different ways, and one of the challenges is to control the temperature in the monitor, and compensate for non-uniformity.

Another challenge is to offer stable and accurate colour regardless of viewing angle. Here, the monitors with IPS (In-Plane Switching) panel

technology in general perform better than monitors with VA technology (Vertical Alignment, either MVA or PVA). But both technologies perform much better than the old TN (Twisted Nematic) technology. And all of these panel technologies continue to be improved. We are most certainly about to see even better performance regarding view angle stability in the near future.

What to look for in a monitor

There are four major requirements for a monitor to be suitable for high-end softproofing. First of all, it should be possible to perform hardware calibration. This does not only mean that you use a measuring device, but that the calibration software actually can control the monitor directly, not only the graphics card. The control can be through a DVI-cable, or through a separate USB-cable. The way that the DVI interface is used for calibration is not entirely standardised, neither on Mac OS nor on Windows, so it may or may not work to satisfaction depending on which graphics card you have in your computer.

The HP DreamColor series is marketed to produce "billions of colours" since it uses 10-bit per channels signal processing. In reality the human perception can't detect more than around 3 million different colours (tone values), but it is of importance that the signal processing is done with at least 10-bit colour depth per channel.

Using a separate USB-cable connected to the monitor makes for faster calibration, and sometimes a more reliable one too. The calibration should use more than eight bits per colour channel in this important phase, preferably 16-bit handling of the input data, and at least 10-bit data in the resulting output to the monitor. The principle is the same as when dealing with high-end scanners and digital cameras – in order to provide correct final 8-bit colour data (typically sRGB, Adobe RGB or separated CMYK image files), the signal processing should be 10-bit or higher per channel.

Secondly the monitor should be fitted with a hood to minimize the influence of ambient light (a serious high-end monitor vendor should provide this option).

Thirdly, the calibration software should offer a means of verifying the calibration, including testing the final ICC-profile that is generated. This should include the possibility to evaluate if a monitor conforms to the ISO 12646 softproofing standard, as far as it can be evaluated with standard spectrophotometers and colorimeters. One stand-alone software for this is the U-DACT (Ugra Display Analysis and Certification Tool), but GCS offers the ORIS Certified Monitor software which can do the same thing in a similar way. The Color Solution software basICColor also includes functions to verify the monitor. In a quality managed production environment it's important to be able to verify the colour critical devices, and a monitor used for softproofing is definitely among those devices.

The LaCie 700-series use LED as the backlit light source, so reach a high colour gamut. The LaCie 724 passes the new and stricter U-DACT verification test.

Last but not least, it's very important that a high-end softproofing monitor is very insensitive as to what viewing angle you look at the screen. There shouldn't be a large hue shift in the picture just because you move your head somewhat.

The tested monitors

In the previous round we tested monitors from Apple, Eizo, LaCie, NEC and Samsung, and for this issue we've followed up with monitors from HP, Quato and ViewSonic, and including some new models from LaCie and Samsung.

Hewlett Packard is the newcomer in this category with the Dreamcolor series, and we tested the LP2480zx, a 24ins LED backlit LCD with an IPS technology panel from LG. It's obvious that this monitor is mainly aimed at video and 3D animation editing, since there are no presets in the software for dedicated graphic arts production. Presets like Rec. 601 and Rec. 709 are video- and HD TV-settings, and reveal the cooperation HP has had with DreamWorks Animation in designing this monitor. We failed to make the monitor pass verification tests for some parts of the ISO 12646 standard, even though we not only used the U-DACT software but also the ORIS 'Certified Monitor' software and checked uniformity using the BabelColor software. The accuracy of the white point wasn't precise enough, and the non-uniformity was another problem.

It didn't help matters that the HP version of the measuring device wasn't recognized as a normal X-Rite EyeOne Display 2, and the HP calibration software didn't accept any other device for calibration. We recommend HP to open up the calibration software to the most common calibrators on the market, and provide UGRA with information about its hardware so that it can be recognised by the U-DACT software. The non-uniformity is perhaps more difficult to tackle, but other vendors use technology to adjust the panels in hardware, to obtain better uniformity over the surface. Despite this, the monitor has the potential to join the exclusive group of high-end soft proofing monitors with some modifications and improvements to software and hardware.

LaCie has introduced the 700-series of LED backlit LCDs, and we tested the 724 model. The calibration software performs hardware calibration and a new feature is the included U-DACT verification of ISO 12646 compliance. The calibration software 'Blue Eye Pro PE' (where PE stands for Proofing Edition) accepts most of the measuring devices on the market, rather than just the LaCie version of the X-Rite EyeOne Display 2. LaCie, like Eizo, use Samsung panels with S-PVA technology, so the monitor is slightly sensitive to view angle. But the LaCie 724 monitor passed the U-DACT test, and we congratulate LaCie on having made a good choice in deciding to include this verification tool in the software, and to open up the software for measuring devices other than its own.

Quato have worked hard to find ways to control temperature and stabilise backlit panels to obtain good uniformity over the whole surface. The new IP 262e monitor uses a luminance and whitepoint stabilizer to keep the monitor within tolerances over time and compensate for temperature changes. Quato use an S-IPS panel, so it has a low viewing angle dependency. Quato was the first to include the U-DACT verification tool in its calibration software, and the software accepts most of the common

Samsung SyncMaster XL30 (below) and XL24 (above) are the latest two monitors in the XL-series. They both pass the older, more generous U-DACT test, but not the stricter version 1.3 of this verification tool.

measuring devices on the market. Quato provides its own version of the X-Rite DTP94, called Silver Haze Pro, since it has found this to work best on LCD monitors, and to a have high enough accuracy. Quato may be the lesser-known vendor on the market, but it offers dedicated softproofing monitors for demanding colour critical work.

Samsung debuted its LED backlit technology with the XL20 20ins model, tested in our previous round. This time we looked at and tested the larger models XL24 and XL30. The S-PVA panel technology has a slight tendency for view angle dependency, but is much improved over the old PVA technology. While the monitors pass the older U-DACT version 1.2 test, the stricter tolerance levels of U-DACT version 1.3 tripped up the XL24 and XL30. The white point and grey balance calibration doesn't seem to be accurate enough, although the colour gamut is large enough for high-end softproofing. If Samsung can improve the software to obtain better uniformity and accuracy, these monitors might pass the ISO 12646 aligned verification test in the stricter U-DACT 1.3.

Quato has finally launched a backlit monitor on the market, the IP262e, which combines large colour gamut with very accurate colour and uniformity over the whole screen.

ViewSonic is the underdog in this test, but brought in because we wanted to check out how its VLED 221wm LED backlit monitor would compare to much higher priced competitors. ViewSonic promotes its OptiColor technology, as 'ideal for graphics production', so it would seem to offer a wide gamut monitor for soft proofing at low price here. But when tested against our four main criteria, listed above, the ViewSonic monitor comes up short in all of them. ViewSonic doesn't offer hardware calibration, doesn't provide dedicated software for calibration and profiling, and so doesn't offer any means to verify the calibration.

While it might be possible to calibrate the monitor by third party software (and we have tried several, including ORIS Certified Monitor as well as Color Solution basICColor Display and others) the view angle sensitivity is too high for the monitor to be suitable for high-end colour critical softproofing. ViewSonic Europe has wisely tuned down the marketing rather than pushing the monitor as suitable for high-end graphic arts production, but in other markets around the world ViewSonic still woos the graphic arts. But this is not to say that the VLED221wm is a bad monitor – it's a surprisingly low priced LED backlit monitor with rich colours and good performance for other types of applications other than colour critical softproofing.

ViewSonic offers a very low priced LED backlit monitor with the ViewSonic VLED221wm. But it's very sensitive to view angle, and doesn't pass the U-DACT verification tool for high-end softproofing according to ISO 12646.

How the test was made

We tested three of the four main criteria using the UGRA analysis tool U-DACT, while view angle sensitivity was tested through visual evaluation. 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 smaller colour difference than that of 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 2.5-3 million

colours. The monitors in this test all reach a larger colour gamut than Adobe RGB (for the total volume), and typically reach around 1.4 million colours. 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.

By far the most popular measuring device for vendors to bundle with a high-end proofing monitor is the X-Rite Display 2 colorimeter.

The results in numbers

Since the previous test early this year the U-DACT software has raised the tolerance level for ISO 12646 aligned compliance. To be able to compare this new test to the previous one we needed to test both with the older version 1.2 and the new, stricter, version 1.3. In the next round we will only use version 1.3, since the old version of U-DACT was too generous, and allowed monitors with a visual non-uniformity and poor tone gradation to pass the test. Among the monitors we plan for the next test are the forthcoming Apple Cinema Displays equipped with LED backlit technology.

Fig 1

Test results; Colour gamut and view angle			
Model	**Total Colours**	**% of Adobe RGB**	**View angle (1-5)**
Adobe RGB 1998	1,306,820	100	
HP Dreamcolor LP2480zx	1,436,000	110	4.5
La Cie 724	1,441,000	110	4
Samsung SyncMaster XL24	1,379,000	106	4
Samsung SyncMaster XL30	1,355,000	104	4
Quato IP262e	1,363,000	104	4.5
ViewSonic VLED221wm	1,277,000	98	2.5

The uniformity over the surface is important, and should be adjusted both over time and because of changes in temperature. The LED backlit LCDs present new challenges here, even if they offer a large colour gamut.

Fig 2

U-DACT test of softproofing capacity				
Model	**Multi Colour proofing**	**U-DACT 1.2**	**U-DACT 1.3**	**Uniformity**
HP Dreamcolor LP2480zx	yes	yes	no	medium
La Cie 724	yes	yes	yes	good
Samsung SyncMaster XL24	yes	yes	no	medium
Samsung SyncMaster XL30	yes	yes	no	medium
Quato IP262e	yes	yes	yes	high
ViewSonic VLED221wm	yes	yes	no	medium

Fig 3

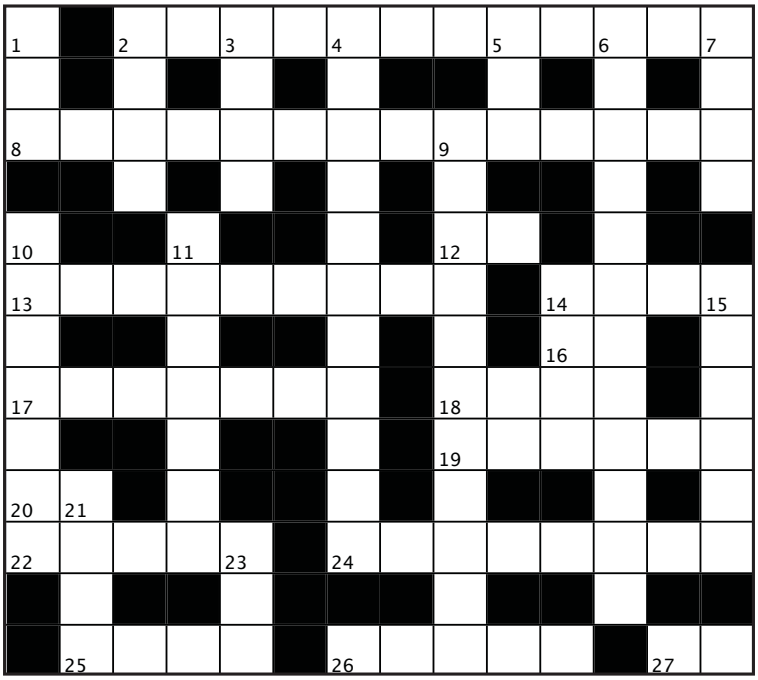
Specifications and approx. price			
Model	**Screen size (inch)**	**Resolution**	**Price EU (approx)***
HP Dreamcolor LP2480zx	24	1920x1200	2,300
La Cie 724	24	1920x1200	1,600
Samsung SyncMaster XL24	24	1920x1200	1,400
Samsung SyncMaster XL30	30	2560x1600	3,000
Quato IP262e	26	1920x1200	2,700
ViewSonic VLED221wm	22	1680x1050	350
*VAT excluded			

We now have a range of wide gamut monitors on the market, and one would think that most of them would be suitable for high-end softproofing. But it's important to realise that in order to achieve an accurate result the monitor needs to be hardware calibrated, and to have very uniform colours over the whole panel. And it should be very insensitive to the view angle of the operator relative to the screen. As we have found in this test, several vendors still need to improve the performance on this.

– **Paul Lindström**

Graphic Arts Crossword Puzzle Number 13

If you get stuck, go to the **IGAEF** website for some hints. For those of you that really get lost, answers will be in the next issue of Spindrift. **The answers for the previous puzzle are on the next page.**



Across

2. Using one of these can make all the difference, getting words to fit. (7,5)

8. Why so many pages are so hard to read. (4, 10)

12. In the year of our lord. (2)

13. A little mark that adds a hint to pronunciation. (9)

14. To get caught or create a place where two printing inks meet. (4)

16. Either? (2)

17. Catches our eye and commits us. (7)

18. The opposite of coarse. (4)

19. How the Verso pages are generally numbered. (6)

20. Typeset short. (2)

22. Too little copy. (5)

24. Priced not to erase smiles? (8)

25. Paper starts here. (4)

26 and 27. The one who gets through to the end does this. (5,2)

Down

1. Where on the page the header should go. (3)

2. Sounds like a negative, but it's really a positive if you get the meaning. (4)

3. A measure, a basis for advertising cost, a regular charge. (4)

4. Where most colour corrections and retouching take place. (2, 9)

5. For, in Latin? (3)

6. A place where documents can get stuck, waiting for content approval. (2, 4, 6)

7. Big boys like to play with these. Some women play with men on the same basis. (4)

9. Generous, full of heart we compete to win this. It's not kind? (8, 3)

10. Without them, newspapers go broke. (7)

11. A blemish on the plate, looks like one of these up close. (1, 6)

14. Without one, there could be no value increase. (4)

15. Measure with these and you can't go wrong. (6)

21. A place to buy things, or produce print …? (4)

23. The same as 1. (3)

Answers for Graphic Arts Crossword Puzzle Number 12

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

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