Digital Dots

# Spindrift

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

Volume 8, Number 6 • 7th October, 2010

...Intoxicating The Graphic Arts Industry Since April 2003

Money, it turned out, was exactly like sex: you thought of nothing else if you didn't have it and thought of other things if you did.

– James Baldwin in Esquire, May 1961

## Dear Reader,

Two giants of our industry have recently demonstrated two very different approaches to future survival. Firstly, following its acquisition of ACS, Xerox is repositioning itself as a provider of business process services. Meanwhile, Heidelberg has just raised around €420 million through a share issue.

Xerox bought ACS last year for $6.4 billion and has since been working on integrating the business and aligning activities between the two parts. We'll have a full article on all of this next month once we're clear of non-disclosure agreements, but the gist is that business process management is the route to yet further riches for Xerox. Printing is part of the picture, but we are concerned that it may be more afterthought than central premise.

Heidelberg's capital increase looks like very good news for the company and its customers. At least, it does up to a point. Xerox has a free cash flow that has actually increased from $1.2 billion to $1.5 billion despite being in the teeth of recession. But Heidelberg has a massive cash hole, which some of the new money will fill. The company is paying down debt in order to refinance credit lines falling due in 2012. The capital increase will buy Heidelberg time, which it will hopefully use to reinvent its digital position.

It's good news that Heidelberg has strengthened its equity base, but it's not good news that the company still hasn't shared a word on its digital strategy. We understand that talks are ongoing and that Heidelberg is still planning to announce at least one digital partner by the end of the year. Let's hope the wait proves worthwhile.

Enjoy!!

**Laurel, Nessan, Paul and Todd**

## In This Issue

### Four for four-up

*Nessan Cleary looks at the B2 digital printers that were demonstrated at this year's Ipex show and asks is the B2 market ready to go digital? Few of the digital vendors are willing to discuss prices, yet it's clear that they will face significant competition from conventional offset technology.*

**see page 13**

### ERA in disarray

*Laurel Brunner attended a recent meeting of the European Rotogravure Association and found it to be a serious discussion of the problems facing this sector. Over-capacity combined with enthusiastic competition from web offset has left the gravure market with a mountain to climb to stay competitive.*

**see page 17**

### Imposition in the JDF era

*Paul Lindström looks at the challenges facing imposition and the advantages of using JDF to take stripping information direct from the MIS, as demonstrated by Agfa with its Apogee Imposition module.*

**see page 20**

## Regular & Special

# News Focus

**Screen** has launched a faster version of its Truepress Jet 520 inkjet press. The 520ZZ is capable of high quality, variable colour printing at 220 m/min, equivalent to 175,000 A4 pages per hour, almost double the speed of the current fastest 520. It can print up to 4 million pages, for high volume transactional work. Not surprisingly, Ricoh's InfoPrint division has also launched its own version

**Agfa** has launched Apogee 7, which includes live imposition based on job tickets rather than templates, as well as Portal 7 for file uploading, preflighting and softproofing. It also includes a JDF prepress production hub, an ink saving module and the ability to monitor and control an organisation's platesetters.

**Heidelberg** has issued 155,286,868 new shares, generating a capital increase of some €420m, which will be used to repay financial liabilities and strengthen its equity base. CFO Dirk Kaliebe said: "Underpinned by our operating successes and a highly disciplined approach to costs, this will enable us to create the necessary conditions for making Heidelberg profitable again as soon as possible." Allianz SE remains the largest shareholder with around 13.2 percent of the voting rights.

**Spindrift** ISSN 1741-9859

A very special newsletter for Graphic Arts, Prepress, Printing & Publishing Professionals, published ten times a year by:

**Digital Dots Ltd**
**The Clock Tower • Southover • Spring Lane**
**Burwash • East Sussex • TN19 7JB • UK**
**Tel: (44) (0)1435 883565**

**Subscriptions:**
Spindrift is a digital only publication, distributed in Adobe .pdf format. A ten issue subscription costs €190 and can be obtained by going to **www.digitaldots.org** and subscribing. Discount multiple subs are also available.

**Publisher** – Laurel Brunner – **lb@digitaldots.org**
**Editor-In-Chief** – Nessan Cleary – **nc@digitaldots.org**
**Technical Editor** – Paul Lindström – **pl@digitaldots.org**
**Contributor** – Michael Walker – **michael_walker@dial.pipex.com**
**Production/Websites** – Todd Brunner – **tb@digitaldots.org**
**Subscriptions** – Helen Moderski – **subs@digitaldots.org**

**Canon** has updated its UniFlow workflow to v5 to include document scanning and support for electronic documents as well as its usual MFP print functions. It can also be integrated into Helix, Canon's high end CRD workflow.

**Xerox** has a new version of the iGen4, known as EXP, which boasts a larger sheet size (14.33" x 26") and can now produce 120 A4 impressions per minute. It also uses Xerox's FreeFlow workflow for automated web to finish. From 2011, users will be able to convert their iGen4s to the EXP version.

Australian-based **Dubsat** has bought Vio Worldwide. Dubsat is part of the Aus $100+ million turnover Omnilab Media group that specialises in managing and delivering rich media content for the advertising and entertainment industries. Dubsat develops and provides Websend, the core technology driving Vio's successful online AdSEND service.

**Enfocus** has shipped the latest version of its PitStop Pro PDF program. PitStop Pro 10 includes new and improved tools for colour handling, with a wide range of colour management settings. Users can automatically check for ink coverage issues while taking into account transparency, overprint settings, overlapping items and layers. Black Point Compensation is supported when using the Adobe CMM or Little CMS and you can choose the Acrobat settings directly from the PitStop Pro Preference Panel. There's also PitStop Server 10, which can flatten transparencies within PDFs and optimise PDF files. Enfocus has also launched PitStop Workgroup Manager, giving centralised control over multiple standalone copies of PitStop Pro.

**ECRM** has announced the Mako 400, a 4-up platesetter which can image over 25 Speedmaster 74 plates per hour at 2400 dpi, plus an automated version, the Mako 400matic, and the Mako 200, a 2-up platesetter, capable of delivering 34 GTO plates per hour at 2400 dpi. These platesetters use enhanced Gen4 optics, which produce a smaller, harder imaging pixel, and are fully compatible with the new Agfa Azura V plates and other chem-free and lo-chem plate technologies.

**Extensis** has shown off Portfolio Server 9.5, which features a new Web Client with full screen previews, simplified set-up, and support for Adobe SWF as well as converting files to DNG. There's a cut down version, Portfolio Studio, which allows for up to three simultaneous user connections to a single catalogue.

**Global Graphics** has updated its Harlequin Plus Server RIP to version 8.3. This has extended support for hybrid and digitally modulated screens and expands the number of devices across which PDF retained raster can be deployed, a feature that speeds up variable data processing. Platform support is updated to include Windows 7 and Mac Snow Leopard.

**OneVision** has added new features to its Amendo automatic image enhancement program. This includes the ability to work with native Photoshop .psd and EPS files. It can also now set minimum printing dot values for CMYK images and minimum/maximum dot values for greyscale images as well as checking if the image resolution is higher or lower than a defined preset value.

**X-Rite** has announced XRGA, a way to reduce measurement discrepancies between legacy instruments previously developed by X-Rite and GretagMacbeth. X-Rite claims it will improve inter-model agreement so that users can enjoy high-quality data exchange between sites that use different instrumentation, regardless of their legacy affiliation.

**ICS** has released the new Press Director monitor proofing system, bringing ICS's patented monitor calibration and colour verification technologies to the production pressroom. The application is designed to run on the press console or with a light booth in standalone kiosk installations, and automated proof navigation is supported for press consoles with sliding rail systems.

**Agfa** has announced the addition of permanent and removable self-adhesive grades to its portfolio of Synaps synthetic papers. Synaps is a polyester based material ideal for use on standard offset presses with standard inks. It has an antistatic layer and ink receptive topcoat to facilitate smooth transport and fast drying while using standard offset inks and without the need for powdering.

**EskoArtwork** has opened up its integration with Sun Chemical's SmartColour database to also include GMG's ColorProof. SmartColour is a database of real ink-on-substrate colour results that the EskoArtwork Color Engine uses to calculate spot color overprints.

**Dims** has released an extended version of its Advanced Production Tracking tool. This includes inventory tracking via touch screens and wireless hand held devices, with the use of bar codes and pallet tags for everything from raw materials to finished goods.

**Unibind** has developed a unique binding method called SlideBook, for photo books. Photo prints are anchored inside the 'slide' profile by simply perforating them and securing them on the binding pins. The profile is then closed and slid into a Unibind PhotoBook, where it is fixed and hidden in the cover spine without any special tools.

**EskoArtwork** reports a strong performance during the first half year of 2010. Consolidated revenues for the first half year of 2010 amounted to €84.9 million, an increase of 25% over the first half year of 2009 and an increase of 7% over the same period in 2008. EBITDA for the first half year of 2010 ended at €17.0 million, a 149% improvement over the same period of 2009.

**Fujifilm** has been showing off its new B2 Direct Laser Engraving Flexo CTP System. This eliminates the multiple processing steps (UV exposure, solvent or thermal processing, drying) that are required with existing Laser Ablation Mask (LAM) technologies and leads to higher productivity and better quality plate images.

**Kodak** has introduced two new low chemistry solutions for its newspaper CTP plates. Kodak 1090 Thermal Plate Developer is for the ThermalNews Gold plates, while 206 Violet Plate Developer and 206R Violet Plate Replenisher are for use with the VioletNews Gold plates.

**EskoArtwork** has a new cutting table, the Kongsberg XP Auto, which incorporates automatic loading and unloading and unattended printing. A camera beneath the table allows for sheets to be registered with the print side facing the table. The maximum sheet size is 2310 x 3600 mm.

**Inca Digital** has added a new high speed mode to its wide format Inca Onset S20 flatbed printer, allowing it to print at 310 sqm/hr. The Onset S20 has undergone two speed upgrades since its launch last year to give an overall 24 per cent performance boost: new automation introduced in June gave the first improvement, while the new print mode adds a further 15 per cent.

**HP** announced the HP Designjet Z6200 Photo Printer series with HP Vivid Photo Inks, an eight colour inkset which offers improved scratch resistance, gloss levels and gloss uniformity and a wider colour gamut with deeper blacks than previous HP inks. It boasts a resolution of 2,400 dots per image (dpi) and versatility for indoor applications from line drawings to photographic output to signage. It is also 50 percent faster than its predecessor with speeds up to 140m$^2$/hr (1,500 ft$^2$/hr).

**Illustrator CS5** users can now download a HTML5 pack which supports CSS3 and extends the scalable vector graphics capability in Illustrator, making it easier to design, deliver and optimise content for mobile devices and the Web.

**Xerox** has introduced new software and enhancements to its FreeFlow Accxes print server for indexing, copying and queue management - making it easier and faster to produce documents such as complex engineering renderings and topographical maps.

Xerox has also launched its Mobile Print Solution, which lets mobile professionals easily and securely print e-mails, presentations and other business documents from any smart phone or e-mail-enabled device. It includes a Mobile Express driver that tells roaming workers instantly what printers are available to their laptop for fast printing options.

# News Analysis

Earlier in the year Quark announced a number of initiatives in the cross media and automated publishing spheres and has now built on this with further news from Ifra.

This includes a collaboration with Microsoft to enable corporates and magazine and newspaper groups to be able to share content prior to publishing. Essentially the system joins Microsoft's SharePoint to the Quark Publishing System. SharePoint is a widely used document management platform. It's tightly integrated with Microsoft Office.

From within SharePoint you can see thumbnails of the QPS pages. Users can open pages and change text without actually having QPS on their machines, doing it via a web browser. Users can also export documents from SharePoint in various formats including web or print-ready PDFs, HTML, Flash and JPEG.

Meanwhile QPS users can generate Word files and save these to the SharePoint library where they can then be worked on in Word. Designers can see within a list of files in a palette if any of the related files have been updated, and can apply the updates to the QPS pages.

It's not a cheap system – both QPS and SharePoint are enterprise level products, but it is a very cost-effective way of allowing multiple people within an organisation to collaborate together to quickly produce content.

Quark has also been working on solutions for what it terms, Digital Publishing 2.0. Rainer Heckmann, director of product marketing for Quark, says the big change now is mobile devices: "When you compare what's possible before tablets, we had two ways to publish: print and the Web. But with digital devices like the iPad, they allow you to create a much better user experience because you can control the design as well as the content."

This market is bound to grow as the number of smart phones and tablets increases, with another half dozen tablets due to launch later this year.

Heckmann says another advantage of tablets to publishers is that people expect content on the web to be free: "But even if the content comes through the Web, people do not expect apps and content on tablets to be free."

Tablets are likely to be a highly profitable market for publishers, given that a recent report by Nielsen found that many iPad users, far from being irritated by advertising, were likely to follow the ads and make purchases.

The downside to this is that publishers have to develop the apps in the first place and this can be expensive. Quark has taken three distinct approaches to this. The first is enabling publishers to develop a custom e-reader application, which can be used to automatically repurpose content for a tablet. This is the most flexible way to present that content, but is expensive because it's a customised approach, and because you need to develop a separate app for each platform.

Quark has also partnered with K-NFB to develop a universal app for its Blio e-reader. This is a one-size-fits-all approach and gives publishers an off-the-shelf product that works with every tablet platform and can be easily sold through the Baker and Taylor Blio store. (We'll be reviewing this in next month's issue.)

The third option works in conjunction with NewsGator's TapLynx Framework to publish materials via an RSS feed and is a simple low cost approach.

What is interesting is that Quark is finally making good on the promise of its XML technology to deliver automated publishing options for a variety of different solutions, and for different kinds of publishers.

# Did You Know?

## X-Rite synchronises its spectros

When doing advanced colour management and high-end quality control, the nightmare is to find that measurements differ substantially when using different brands or models of spectrophotometers. That this can happen has been a well known fact among colour experts for many years – see for example the test of spectrophotometers that Digital Dots performed at the start of this year, published in Spindrift issue 7-8 in January!

While it's possible, but cumbersome, for a printer to build custom translation tables to unify measurements made by different devices, X-Rite has now presented a better solution, which will help the situation, well, at least when using different models within the X-Rite range.

The solution is called XRGA, X-Rite's standard for Graphic Arts. It essentially synchronises measurements made from the two product lines stemming from the former GretagMacbeth and X-Rite before the merger of the two in 2006. Of course the XRGA standard also improves inter-model agreement for the new devices launched after the merger.

X-Rite reports on the testing made with different instruments in a detailed white paper on XRGA. It's a very interesting read, and while the conclusion is that the differences in most cases are relatively small, they are there systematically, and so can be corrected for. When applying the XRGA correction values, X-Rite improves inter-instrument agreement substantially, so that for the high end instruments the variation expressed in ΔE is well below 1 on average (see table).

While this is welcome and much needed, there is still some way to go before a more general solution is reached on inter-instrument agreements. As FOGRA suggested some five years ago in its report *Correction of Colour Measurement Device Errors*, a standardised reference material would help the situation to some extent. As of today each spectrophotometer is calibrated in a slightly different way to another. So, for example, a handheld spectro is calibrated in a different way than an inline or nearline spectro used in a press control system.

| | 530 | | 938 | | 939 | | i1Pro | | SpectroEye | |
|---|---|---|---|---|---|---|---|---|---|---|
| dE*ab | mean | 95% | mean | 95% | mean | 95% | mean | 95% | mean | 95% |
| 938 | 0.27 | 0.48 | | | | | | | | |
| 939 | 0.39 | 0.85 | 0.33 | 0.82 | | | | | | |
| i1Pro | 0.49 | 1.03 | 0.50 | 1.11 | 0.51 | 1.23 | | | | |
| SpectroEye | 0.60 | 1.26 | 0.56 | 1.25 | 0.43 | 0.85 | 0.56 | 1.36 | | |
| Spectrolino | 0.56 | 1.17 | 0.55 | 1.28 | 0.44 | 0.95 | 0.47 | 1.01 | 0.37 | 0.83 |

*X-Rite has developed a standard called XRGA (X-Rite standard for Graphic Arts), which reduces the inter-instrument measuring errors as much as possible. This table shows that in most cases we can reach an error of less than ΔE 1 for the high-end instruments, which should be satisfactory.*

As we found in our own test, the readings from a handheld spectro can differ quite a lot from those of the measurements in the press control system, even with very high-end equipment. This has to be addressed today by the printer himself, but in the future it should ideally be done through some extended cooperation between most of the manufacturers of spectrophotometers for press control.

# Driftwood

## Metadata

If you have a large photo library then it's easy for images to get lost and not being able to find an image when you want it is just as frustrating as not having it in the first place. This applies equally to large newspapers, press agencies and individuals, professionals and consumers.

Some people try to store images in appropriate folders but the problem with this is that many images naturally lend themselves to being filed in several folders. Also, if you drop an image in the wrong folder then it's impossible to find it again.

The best way to search for images is to use the metadata associated with each image, which can include everything from the photography and camera used to take the image, to the location, people shown in the picture, and copyright information. However, metadata works best if the terms used for searching closely match the terms applied to the image. This can be a minor problem for individual photographers who have to remember what phrases they used when they first tagged the image. It's a much bigger problem for libraries where many different people may be tagging each image, and other people will need to be able to search for those images later.

The solution is to define the type of metadata that you add to each image. It's good practice for photographers to get into the habit of tagging their images, preferably closely after taking the image. This is fairly easy for photographers who work for particular organisations, such as newspapers, who will have their own conventions. It's much harder for freelancers who might send images to different organisations, but it's still worth looking at the different types of metadata.

### IPTC

The International Press Telecommunications Council, which was set up in 1965, develops metadata standards for news exchange which are used by most of the world's major news organisations.

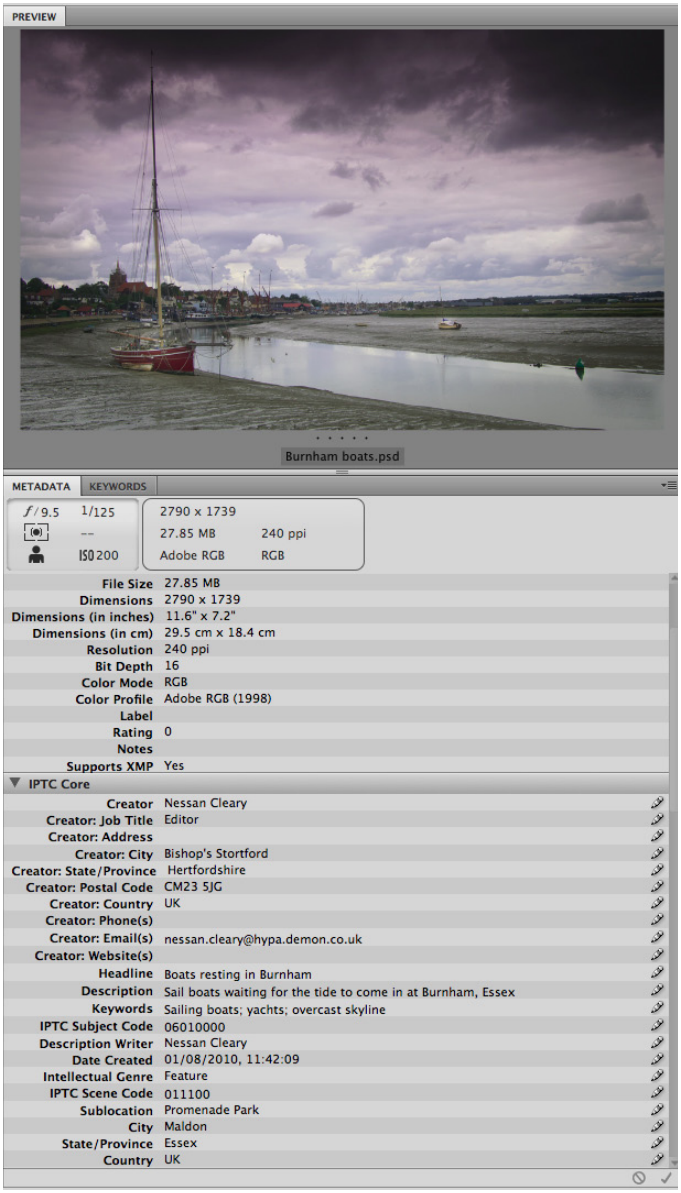
There are a number of different standards but one of the most important is a 1990s project, the IPTC Information Interchange Model or IIM, which broadly defined the kind of criteria to be recorded. Even though Adobe's XMP has largely superceded the IIM, it's properties live on in the IPTC Core schema included within XMP.

There are a great many IPTC standards, mostly XML-based, for particular applications, including cataloguing news items (NewsML-G2), event information (eventsML-G2) and Sports (SportsML-G2). Most of these use a controlled vocabulary to ensure consistent metadata across different organisations. You can find further details, including the CS3 and CS4 extensions at www.iptc.org

### PRISM

The IPTC may be the best known specification when it comes to metadata but there is another system, the Publishing Requirements for Industry Standard Metadata, or PRISM. This comes from IDEAlliance and is an XML system for aggregating and managing publishing content for magazines. It gives a common standard for anyone involved in content creation to use.

The first version came out in 2001 for printed products and PRISM 2.0 was released in 2008 to cope with cross media publishing. This was updated in 2009 with v2.1




which gained the ability to manage rights and permissions for digital media.

The group has subsequently concentrated on developing metadata fields for encoding images. There's a spec on the website that members of the public can download and comment on, but if you want to have your say, you have to reply by the end of this month.

You can find out more on this at **www.idealliance.org**

## Dublin Core

Yet another standard is the Dublin Core set of metadata elements. It started in 1995 at a workshop hosted by the Online Computer Library Center in Dublin, Ohio, US. It provides a fundamental group of 15 base text fields to describe the physical resources of everything from books to video and image files. It's commonly used in library management and computer science. You can find further information at www.dublincore.org.

## EXIF

Just about all digital cameras now record some data about each picture, including the type of camera, the lens being used, the zoom setting, f-stop and shutter speed and the data and time the picture was taken. The Exchangeable Image File Format borrows its tag structure from the TIFF format but now works with most other formats including JPEG, PSD and RAW files. However, despite its near-universal acceptance no one organisation is responsible for maintaining it.

## XMP

Adobe's eXstensible Metadata Platform has become just about the most common metadata standard for images because of its sheer accessibility, with practically everyone who works with images using Photoshop. It's also used by most of the other Creative Suite programs. Most other image asset management programs also now read XMP metadata though Adobe currently retains control over the specification.

XMP also settles one of the great arguments about metadata – where should it be stored? With XMP you have the option to embed the metadata in a file or to store it in a sidecar file, a separate XML file that is tied to the asset. This makes it easy to add the metadata to all sorts of file formats including RAW files, regardless of whether the format was designed for it.

XMP first appeared in 2001 with the release of Acrobat 5.0. Adobe has worked with the IPTC since 2004, with the initial IPTC core schema for XMP appearing in 2005 as a set of custom panels that can be added to the Creative Suite. The latest iteration includes panels for both CS3 and CS4 versions. The IPTC panels are included in the shipping version of CS5. You can download both the CS3-4

extensions and a PDF with details on how to use the CS5 File Info from the IPTC website.

But beware, there is a bug within Adobe Bridge CS5. You won't be able to see the IPTC Extensions metadata in Bridge, even though you tick the right preferences. It's a little frustrating, but the metadata is there and you can access it through File Info in Photoshop CS5.

## Adding metadata to images

So, there are plenty of standards to define metadata. But the biggest problem with metadata is that it can be extremely tedious to type in a lot of data for all of your images so that it is almost essential to develop a workflow to help you do this. A good place to start is by setting up a metadata template, which Adobe users can find under the Tools menu in Bridge. This can be used for example to set the photographer's name and contact details and any copyright information about the image. You can use different templates for different people, or images that will have different uses.

One of the most useful ways of searching for images is to use keywords. XMP allows you to set up nested keywords so, for example you might have: Nature>Wild life>Birds>Predators. Tagging a picture of an eagle with the 'Predators' keyword automatically fills in all the other keywords in that group so that the eagle picture will also appear in any search for 'Nature'.

The great advantage of these nested keywords is that it allows you to define a vocabulary that suits you, that you will always be able to use to tag and to search for images, and that other people will also be able to follow.

In conclusion, whatever metadata system you do decide on, the key thing is that it must be easy to add the metadata, and it must be consistent enough for anyone who needs to, to be able to find the file quickly, without having to drill through endless searches.

# An Interview

This month we caught up with Theresa Lang, managing director of InfoPrint in the UK, to discuss a slew of announcements from Ricoh and InfoPrint in the run up to Graph Expo.

This includes news that InfoPrint has reorganised its inkjet printers. The original 5000 platform, which is based on Screen's Truepress Jet 520, is now known as the 5000 GP or general purpose and is available in 32, 64 and 128 metres per minute versions. Lang says that this still remains a core offering for the company: "We have 50 per cent market share in the UK colour continuous forms market so it is a very strong platform."

There's now a 5000 MP or multi purpose series, which was running as a mono box at IPEX. It can do MICR as well and runs at 128 metres. From the middle of next year there will be a colour version of this running at 64 metres per second, and customers will have the option to upgrade from mono to colour.

It's physically smaller than the GP model. Lang says: "It only has 20 print heads versus the 40 in the model that we have today so it is a scaled back version and will be a lower cost of entry to address the entry level market and it will be for lower volume customers."

She adds: "Most of our customers today are trying to figure out how they make that leap into colour inkjet and it can be an extreme challenge if end users do not have colour jobs or understand why they would want to go to a plain paper solution."

There's also a high end VP or volume platform, available mid-2011, running at 150 metres per minute and with up to five colours. Lang says: "So this will be for very high volume customers. We are addressing the transactional market but it will also be good for the books and commercial market." She concedes that there may only be a small number of customers for such a machine now but says: "As the market consolidates we see that the volumes will go higher and higher and also as people move from offset to digital this will be an option."

But is productivity and volume enough when there are printers such as the Kodak Prosper which promise higher quality imaging? Lang says that InfoPrint is really focussed on transactional work, but adds: "It does have capability for books and it will compete but when we would go to

a book application we would have to be sure that it met the requirement for our product and would walk away if it didn't. But there are many book applications that the quality, the price point and the speed is right."

Price is important in the transactional market, with most customers opting for dye rather than pigment inks. Lang says: "If you can use the right paper, from Mitsubishi, Ziegler or similar, then you can get the quality that most customers need with the dye based solution."

Ricoh has also just announced a new electrophotographic printer, the C901 graphic arts edition, which builds on the C900. It uses a new chemical toner with a new fusing

engine that allows it to hit its full rated speed of 90 A4 pages per minute even with the heavier stocks up to 300gsm in duplex mode.

InfoPrint will sell this alongside Ricoh. However, there are no plans for an AFP version of the C901, although InfoPrint will continue to sell the C900 AFP.

InfoPrint has also announced a new business continuity service. Lang says that for InfoPrint's market the software is just as important as the hardware: "Our customers look to us to have a complete solution so this is just a service offering to give our customers redundancy from a workflow perspective from the servers. It can be onsite, offsite, one of our sites, but it's not the print that we are managing the continuity of, it's the actual server and the generation of the data to the printer."

InfoPrint also offers customers an environmental consultancy service. Lang explains: "There's a lot of customers who are trying to show themselves as green to their end user customers and they want to publicise that to their customers. We come up with measurable targets with the customers so they can use that to promote it to their customers."

Since June, InfoPrint has been a wholly owned subsidiary of Ricoh. Lang says that the two organisations work well together: "There are no real boundaries, we work together with Ricoh and we meet on a regular basis and talk about what we are doing and we don't run into each other."

Rather she says that the two companies have different target markets: "We start with a customer who's transaction based, who's mission critical and they will start on the other side on customers in graphic arts and CRDs. When we do have some cross over we have a board to decide which is the best company to go forward with that opportunity based on relationship, solution capabilities."

Lang concludes: "There's a big market out there and we know where our strengths are and we need to focus on our strengths and not just try and be everything to everybody."

# Heroes & Zeros

## Zero

**Jasper Scott, Director of Manufacturing, IPC Media**
**Well known for his excellent bass guitar playing and sterling efforts at the Periodical Publishers Association, Mr Scott recently let us all down big time.**

**Part of the PPA's work has been to develop a carbon calculator, which its members use to measure the carbon impact of their titles. This work has been expensive, time consuming and largely inconclusive. However that is the nature of groundbreaking work and inconclusiveness provides a guide as to what happens next. So how sad that when asked to speak at an industry event about what publishers expect from the printing industry in this regard, he described carbon footprinting as a waste of time and money. Fortunately most of the audience had already dozed off.**

## Hero

**Steve Jobs for getting so many people to stop using the idiotic term 'e-reader', and to opt instead for 'iPad'. As a word it's only marginally less daft, but its currency speaks volumes about Apple's ability to tap into the mainstream at super hyper speeds.**

# Green Shoots

*KBA* has announced a carbon calculator, which it is offering in collaboration with ClimatePartner, a German climate consultancy. The calculator lurks behind a KBA firewall on its site but it is claimed to provide printers with a service for calculating GHG emissions for their production runs. They can then offset their emissions through offsetting, which is where ClimatePartner comes into the picture.

Europe achieved a world record level of paper recycling in 2009, according to the *European Recovered Paper Council (ERPC)'s* latest report. The original commitment to reach 66% has already been trounced, with the rate reaching 72.2% for 2009 with 58 million tonnes of paper recycled.

For more green news, check out The Verdigris Project:

Verdigris

http://verdigrisproject.com

*PaperCo* has joined the Prince (Charles)'s Mayday network. This group of over 3000 businesses in the UK shares ideas to encourage businesses to work towards a sustainable future. The group shares methods of monitoring, measuring and reducing its carbon footprints. PaperCo's $CO_2$ emissions in 2007 were around 14,791 tonnes annually and the company wants to get that number down to 10,410 tonnes by 2020.

According to *The Times* of London, the government is easing the requirements of the Carbon Reduction Commitment. This means that thousands of companies will not be penalised for not complying with a government scheme designed to reduce the carbon emissions of businesses. It seems that government honchos are scared that businesses will revolt because of the requirement's complexity. Its rules are also being reviewed which will likely result in a rise in the number of exemptions. Companies engaged in activities that require large amounts of electricity are supposed to report their consumption, and from next year will have to buy permits based on their expected annual consumption.

Over the next two years the *Brazilian* government plans to spend $200 million on reducing environmental damage and deforestation in the country's huge savannah region.

# Four choices for four-up

**We saw a number of B2 digital presses at IPEX, but are these machines really ready to compete against traditional B2 litho?**

Up until now, most digital printers have been small format devices, typically taking a maximum sheet size slightly larger than SRA3. Most vendors have agreed that there's no need for anything larger because most digital jobs tend to be short run work. But at IPEX we saw three new sheetfed digital presses working on the B2 format. These devices, from Presstek, Fujifilm and Screen, each take a very different approach to the market. But is this just a natural progression to a larger format, or does it mark a step change in the capability of digital print technology?

There's plenty of competition from other B2 devices. For starters it is worth noting that Xeikon has sold B2 digital printers for some time, but the Xeikon is a roll-fed device and these new machines are sheetfed, which gives a lot more flexibility in choosing the right substrate for a job.

And then of course there are the conventional offset presses which, faced with stiff competition from digital devices, have reduced makeready times down to just three minutes in some cases, as well as improved their overall productivity. As a result, most B2 offset presses can handle runs as low as 500 and up to 100,000 and higher. Moreover, they are fast, capable of printing at least 15,000 sheets an hour, up to 18,000sph in some cases.

Offset presses can also handle a very wide range of media, offer a huge colour gamut and the ability to do spot printing, and various special effects such as foiling. Five colours, often with perfector, is now more popular than four colour, and most printers opt for a coater so that as the prints leaves the press they are dry and ready for finishing.

But although an offset press can handle short runs, it's not really suitable for a lot of short run work because it needs a separate CtP step capable of churning out plates fast enough to keep the press running.

## Presstek 75DI

Presstek's DI presses offer a good halfway house between litho and digital devices. Essentially, they combine a platesetter complete with chemistry-free plates, and a waterless press. The 75DI uses Presstek's ProFire digital plates, which come on a roll of 23 full size plates. It accepts sheets from 279 x 200mm up to 788 x 600mm, and prints in landscape format. Resolution is 2,540dpi and it will handle 300 lpi with stochastic screening. With

*Presstek has brought its DI technology to B2 with the 75DI.*

a maximum print speed of 16,000 sheets per hour it can keep up with a conventional offset press. It's available in four to ten colour configurations, and with an optional coater,

Mark Sullivan, Presstek's director of digital printing, says: "We are targeting our machine at general commercial and short run packaging and that's where we had the interest from. They were the people advising us as we were putting the machine together."

One of the main complaints against the Presstek system is that the plates are only available from Presstek, which has fought a vigorous patent battle through the courts with other manufacturers. Of course, this may be less of an issue if the other digital printers, which mostly have a single source of ink, are accepted in the marketplace.

The Presstek plates are expensive, but Sullivan claims that the plates are competitive if you compare the total cost of using the plate, and not just the raw plate prices, saying: "With a separate platesetter it's 25 minutes to make a set of plates, including processing time for five plates, and you have labour and overheads and electric involved in

that". The 75DI has a makeready time of six minutes, but that includes two minutes to make the plates.

The 75DI was demonstrated at IPEX and should be commercially available by the end of this year. The prices start at around $850,000 or around €615,000.

## Fujifilm Jetpress 720

While Presstek's is a hybrid technology, Fujifilm's Jetpress 720 is a thoroughly digital device. Graham Leeson, marketing manager for Fujifilm, says that the Jetpress is "fairly and squarely aimed in the gap between current


*Fujifilm demonstrated its JetPress 720 at this year's IPEX.*

digital technologies, where above a certain volume it isn't particularly cost effective, and where offset is not ideal for producing very short runs."

The Jetpress uses Samba printheads, developed by Fujifilm's subsidiary, Dimatix. It's a long life printhead capable of resolution of 1,200 x 1,200 dpi with four levels of grey scale. It uses water-based inks but also relies on anti-curling and anti-coagulant additives to prevent paper curl and dot gain. It can print to standard coated paper so that there's no need to hold separate stock for the digital press. It takes papers from 542 x 382mm to 750 x 530mm, with a 720 x 520 printable area, and from 100 to 300gsm.

The press is capable of 180 A4 pages per minute or 2,700 B2 sheets per hour, which is a respectable speed in digital terms, but laughably slow compared with offset. Leeson says: "We see it selling to B2 offset printers as they've got all the finishing kit, rather than investing in another offset press. But we have had interest from existing digital printers who have positioned themselves as digital and wouldn't consider anything other than that, but want to grow the applications they can offer."

The main weakness of the Jetpress is that it will only print to a single side, which rules out a lot of variable data work, one of the main arguments in favour of a digital press. However, Leeson points out that in reality variable data only accounts for about 15-20 per cent of digital printing: "We recognise that variable data capability is important but it's not going to stop us selling this machine for quite a number of applications."

Fujifilm is clearly looking at adding a perfecting capability at some point in the future but Leeson believes that for now most B2 printers will be happy to work and turn. The Jetpress is currently in beta testing with the first commercial sales expected in the first half of next year. Fujifilm won't comment on prices or running costs but we believe it's likely to be in the region of €1.2m

## Screen Truepress Jet SX

In some ways the Jet SX is the only truly digital press covered here, as both the 75DI and the Jetpress are not really capable of variable data and as such are really aimed at the conventional short run print market. But the Jet SX

*Brian Filler, managing director of Screen in the UK, shows off the Truepress Jet SX.*

is a fully capable digital printer, able to churn out duplex variable data sheet after sheet.

The Jet SX uses Epson printheads with a resolution of up to 1440dpi. It prints at 1620 simplex B2 sheets per hour, or 810 duplex, equivalent to 108 A4 pages per minute.

*George Clarke, managing director of Heidelberg UK.*

At IPEX, Screen quoted prices of around €1.2m, more than double the cost of buying an existing toner printer, some of which are faster than the SX. That said, Screen has yet to quote ink prices or run lengths and it may be that the SX can offer a more attractive running cost than some of the toner printers. Brian Filler, managing director of Screen in the UK believes that the main selling point will be the image quality.

## Run lengths

As well as these digital presses, there have been persistent rumours that Heidelberg will bring the Anicolor system to the B2 format, with many expecting to see this before the end of this year. However, George Clarke, MD of Heidelberg UK says that there are no plans for an imminent B2 Anicolor launch, largely because the existing Speedmaster 74 range is meeting market expectations.

This of course begs the question, what exactly does the B2 market expect? Clarke says versatility is the biggest single factor for most B2 printers: "They tend to do anything and everything and its that ability that's really valuable so one minute you have to do something with ridiculous solids and the next you have to print onto very lightweight stock and so on."

This would suggest that reliability is also high on the agenda, and that many printers may favour conventional presses over new technology. On balance, most printers are fairly conservative and prefer to see a digital technology that closely mimics the offset process. So, they might be willing to accept digital in the smaller formats but it may be harder to sell it into the workhorse B2 market.

The other big factor is run lengths. People tend to quote average run lengths but in reality most printers are faced with a lot of short run jobs mixed in with several much longer runs, and they need to be able to cope with both.

Sullivan says of the 75DI: "We can show profitability from 500 to 20,000 sheets." Fujifilm on the other hand is quoting between 500 and 2000 sheets. Leeson says: "I think the market for very short runs – 50s to 100s – is enormous and that's where the quality is all over the place. Up to 70 per cent of the market is over 200 but under 2000 and so our figures suggest that's a really big market."

It should also be pointed out that we've only considered B2 format printers but these B2 digital devices will also be competing against smaller format roll-fed machines such as the Indigo w7200, which has proven that there is a market for higher run length digital printing. If this market demands variable data then this would play very much into Screen's hands, providing its running costs are low enough.

Finally, it's worth considering the issue of print quality, with all the options we've looked at here claiming to offer better images than the current toner-based digital printers. Leeson says: "I still think that quality is key, particularly in the short run brochure type of market. At least, in the eyes of printers, although their customers might accept different quality. But it is important to printers to

differentiate themselves in terms of quality, and they see the potential for that despite the fact that there has been a bit of a dumbing down from their customers."

On balance, while all of these B2 digital presses will probably sell in high enough numbers to justify themselves, it's unlikely that they'll sell in really huge numbers. But these should be seen as technology platforms, and as that technology improves so we will see digital take off in the B2 market. But in the meantime, a cursory glance over the likely running costs would indicate that there's still plenty of life left in the market for conventional offset presses.

***– Nessan Cleary***

# ERA in disarray

**The European Rotogravure Association's annual shindig took place recently in Zurich, Switzerland. And a very sober affair it was too.**

The gravure industry has long enjoyed a prosperous existence behind some very high walls, but those walls are now starting to crumble. There is 25-30% overcapacity in the sector and prices for gravure printing have


*Mr. Bernd Rose of Schlott Group and ERA President Nikolaus Broschek (left) who chaired the conference.*

disintegrated over the last few years. Surprise, surprise, volumes are falling and the sector is under increasing pressure from upstart competing technologies – in gravure's case web offset.

This should come as no great shock for we live in a world where print runs are falling and competition from digital processes are eroding all traditional print sectors. Yet the gravure business has somehow remained immune, but no longer.

This event began on a sombre note, with speaker after speaker calling for capacity reductions in order to mitigate downward pressure on prices. Bernd Rose, CEO of the Schlott Group, one of the biggest gravure printers in Europe, observed that "with few exceptions companies are making losses and suffering cuts". He believes that business management must change and that the "industry needs to focus on selling its technical services and stop cutting prices in order to get the volumes … lower prices spread rapidly through an industry and tend to drag other prices down with them … the damage is immense for us and our customers".

It all sounds horribly familiar. Publications gravure printers are conducting a futile price war much as was happening in the commercial print sector a few years ago. Inevitably this war will lead to the demise of many players. It's already happened in the US. According to Bill Martin of the Gravure Association of America, in the 1980s there were 18 gravure printers in the US but following Quad Graphics acquisition of Worldcolor in July there are now two.

For Herr Rose, gravure printers should consider the sector's achievements over the last thirty years: not a lot it seems, especially when confronting the snarling face of web offset. According to Rose: "Gravure is competitive and offers much that web offset cannot offer for the future … industry consolidation is one element of the way forward, but it does not release us from the problems".

The problems gravure faces are not dissimilar to those facing commercial print and until recently, the paper industry, namely excess on all fronts. Paper companies have had to redress their business practices and reduce capacity to bring it inline with falling print volumes and paper demand. The paper industry has consolidated and reinvented itself to become far more efficient and conservative: over 30% of European energy comes from biomass, much of it sourced from the paper industry. Today the no to low growth patterns of recent years are starting to shift into more positive figures in Europe and the US, with steady rising demand in emerging markets, especially China.

Direct to press technology has created a whole new dimension to commercial print, a sector which is once again thriving. Clearly the gravure industry must get a sharpish move on with its reinvention, if it is to survive. Jyrki Ovaska, president of UPM's magazine paper division warned: "Optimism in the gravure industry or the paper industry can be detrimental, particularly if you don't want to accept where you are."

But this is a problem that won't be easily solved from inside. Web offset presses are now available in wider formats, something that was an obvious development direction for that sector. Gravure didn't seem to notice

*Mr. Barry Hibbert of Polestar.*

what was happening at the time, although it is finally waking up. In an impassioned plea to his colleagues, Rose summed up the crisis facing this business: "We must search for a new direction for this industry otherwise it will evaporate".

The technology still has the edge when it comes to size, unit costs and efficiencies, however, times have changed. Today's four metre presses give gravure an advantage still, but such presses require annual print volumes of 150,000 tonnes. So is the advantage of size really relevant or useful in the on-demand short run world?

It's both relevant and useful, but not in all the markets gravure has served: packaging, product printing and publications printing. The latter category has already suffered hugely from the disintermediation of content that is the legacy of digital processes and content delivery. And publications printing is where the collapse in gravure is mostly occurring, but it's been heralded for years, ever since prepress efficiencies starting bringing down print's unit costs. Short run colour digital presses steal work from the sheet fed offset sector which in turn captures market share from web, which looks at gravure's customers for new business.

Rose had a warning for developers working in the gravure sector as well: "If things go on as they are, gravure printers cannot expect their suppliers to continue to invest in technology development". His sentiments were echoed from the floor. Barry Hibbert, CEO of Polestar in the UK, wanted to know "why are we keeping capacity open? In the long term we are destroying our industry". Rotosmeet's CEO John Caris pointed out: "None of us can do this ourselves, but it is the way we have to go." Yes, indeed. However it may be too late for the publications gravure sector to reinvent itself, particularly since such reinventions usually occur in response to market pressure, not through talking shops.

The problem is that the world outside is changing so very quickly. Arndt Groth, founder of Adconion Media Group, an online advertising and marketing services company, cited some interesting figures from Barclay's Capital. Adconion was founded five years ago and with 420 employees in 17 countries reaches over 400 million people. According to Barclay's Capital, the worldwide


*Mr. Jyrki Ovaska of UPM.*

ad spend between 2009 and 2014 is projected to rise from a total of $55.20 to $90.74 billion. Projections for internet-based revenues are ultimately meaningless in a commercial environment that has no fixed anchor, but these numbers are at least meaningful insofar as they are huge and getting bigger. What can a traditional printing company, gravure or otherwise, hope to do to combat them?

Probably the best answer is to keep focused on providing the services customers expect. We heard little at this

*Dr. Giancarlo Cerutti presenting the Aurora concept of Cerutti.*

conference of media integration, of financial models that calculate cost per response, using cross media content delivery, but that has to be the way forward. Printers must encourage imaginations to use different media to get direct responses to messages in the form of product purchases. At least the packaging gravure printers have no need to worry: packaging is de facto immune to competition from the Internet, which serves only to drive volumes in this context.

The gravure industry is far from dead yet. Dr Giancarlo Cerutti of Cerutti presses and Max Rid of Heliograph Holdings presented the new Aurora press and associated cylinder engraving. This press has its origins with Cerutti and KBA, the gravure division of which Cerutti acquired in 2007. Aurora is a new gravure press for publications printing that has a reduced cost of investment and unit cost. In the words of Dr. Cerutti it ushers in "a new era for gravure with a web width of between two and three metres, depending on investment".

Designed for magazines and catalogue printing, Aurora leverages Cerutti's and KBA's rotogravure and flexo expertise. It has various mechanical innovations such as independent motors for each print unit, doing away with the mechanical lineshaft and print unit compensators, with register control by cylinder phasing instead. This translates into lower operational and job changeover costs, and quicker changeovers: only one hour! The press is also energy efficient and has a maximum capacity of 3 x 48 pages which can be printed at up to 60,000 revolutions per hour, although 51,000 is the official figure.

What makes this press special is that it is also suitable for 4-32 page signatures, printing over 168,000 copies per hour. The productivity improvement compared to existing gravure printing averages is claimed to be 21%, with a 33% reduction in start-up waste (only 2,000 cycle revolutions). Cerutti has also optimised the drying hoods to cut energy consumption by 12% and this press needs only three to four people to run it instead of four to five. It also costs 23% less than the average price of a gravure press in Italy, so overall it is competitive with offset. According to Cerutti's research, a print run of 250,000 copies of a 96 page A4 document costs 8% less than traditional gravure when printed web offset. When printed on the Aurora press, the reduction is 15%. The first installation will be at Abril printers in São Paulo, Brazil.

A new press technology will not alone save the gravure printing industry. Players in this sector need to wake up to the possibilities the Internet and digital data processing and delivery afford. It's time for these printers to engage proactively with their customers to develop new ideas for cross media content delivery, to help them to exploit very long run printing in tandem with the digital on-demand environment that is the reality of today's media and of today's media consumers. As Rose said: "If necessary, we need to live with a reduction in volumes … the time for strategic pricing and spitefulness is over."

***– Laurel Brunner***

# Imposition in the JDF era

**For home- or small office users the term imposition, if known at all, mainly refers to trying to create a booklet directly on the colour laser printer.**

Even such a reasonably easy task often tests the patience of the brave candidate, and does not always yield the expected result. Imagine then the challenges for a printer, managing many types of output devices, print substrates and postpress options.

While the Job Definition Format, or JDF, can help a long way, there are still pieces in the workflow puzzle that need to come in the right place, especially if you try to build a fast and automated workflow, including a web2print solution.

## The challenges

Without going too much into details about imposition, there are some obvious challenges for the "stripper" to consider (a stripper was the older term for the repro operator who was in charge of laying out pages correctly on the sheet/signature). These challenges include: format, number of pages, thickness of paper, grain direction of paper, finishing related information like fold register, trim marks, gutter grind-off margins et cetera. For colour quality management the right types of colour bars need to be included, and in the correct places on the sheet.

While most of the modern RIP systems have a module for imposition, there are still some standalone solutions on the market. If we leave out the semi-professional solutions for booklet production on laser printers, veterans like Dynagram, Farrukh, Quite and Ultimate are still around. A classic within imposition is PREPS, once a standalone solution from ScenicSoft, but acquired in 2002 by Creo, and now part of the Kodak Unified Workflow RIP system.

Many of the imposition systems use templates to determine the imposition, and it's a challenge to integrate those templates in a workflow where the basic imposition is already planned in the MIS. In order to be able to calculate a correct price for a quote, most of the production specifics need to be in place.

So, at least in theory, the imposition plan that is the basis for the quote, should also be used in actual production, downstream. This handover of critical information from the MIS to the prepress production system calls for a very well defined set of commands in the JDF dataflow. Enter the different activities within CIP4, the guardians and developers of the XML-based production format JDF.

## Interoperability and JDF-compliant systems

In order to specify what an MIS does in regard to imposition, (or stripping as it is also called in the JDF vocabulary, and what it should not do, there are four general scenarios described in the ICS documents (Interoperability Conformance Specification) that define parameters for JDF-based imposition.

The first one is manual stripping, which, as the name suggests, is the least advanced in terms of interchange of parameters.

The next two are Stripping Imposition Method and Detailed-Layout Imposition Method where the first indicates that the MIS initiates the imposition parameters, but with a lower level of details, and the other that the imposition software used supplies the more detailed layout details for the imposition.

The fourth method is the Detailed Layout with Metastripping. This last method is the one that enables a fully automated workflow.

Actually, there is a fifth way to do imposition in a JDF-compliant workflow, if you don't use an MIS, or at least don't do much imposition in the MIS, and that is to let the layout software define stripping parameters. But to do imposition in the layout software, or via a plug-in to Acrobat, does not lend itself very well to automation.

Anyone interested in a fully automated workflow should check which systems have a good representation in the CIP4 'Connectivity Matrix', a status report updated regularly and available on the CIP4 web site. While it's

possible to make your own solutions using general XML and custom programming, it's likely that you will save yourself a lot of work and time if you can find a ready made off-the-shelf solution from among the JDF-compliant products. Long term maintenance and development might also be more expensive, if relying solely on internal resources.

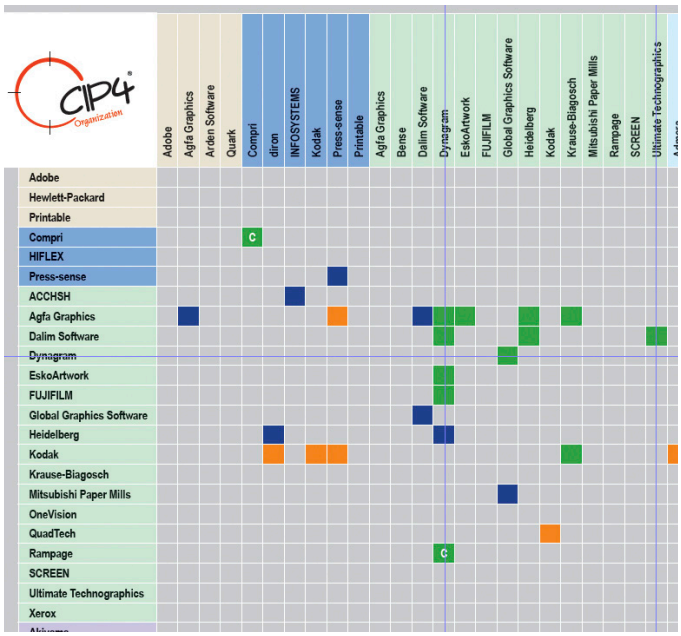
## Imposition and Web2Print

Web2Print is on the rise, and rightfully so. Just as we are all used to being able to book our flights and hotels online and even print out boarding cards beforehand, so print buyers appreciate being able to order standardised printed matter quickly and without the need to 'phone up and go through a manual process. But for this to work a streamlined and automated imposition solution is needed to reduce both the administrative time and the manual steps that would otherwise be needed in a Web2Print solution. This calls for a tight integration of the Web2Print system and the MIS, and in turn the prepress RIP system.

Again, there are good reasons to look into which systems have a good record of successful interoperability conformance in the JDF Connectivity Matrix, since there is a greater likelihood that those systems can be successfully linked in the workflow. The prepress link, of course, also needs strong colour management for automated repro, as well as quality assurance for high quality production, for example, checking documents against defined standards like ISO 12647-compliant printing, and PDF/X-compliant PDFs. Before the pages are put through the imposition module, they should be preflighted, and if necessary, colour converted to a set standard.

## New ideas on imposition

While you might think that a task like imposition is so fundamental that any issues should be fully resolved by now, there is obviously still room for improvement. One of the somewhat unexpected news items from the IPEX show earlier this year was the announcement from Agfa that it had developed a completely new imposition module for the Apogee RIP system, now in version 7. The Apogee Impose module has abandoned the classical way



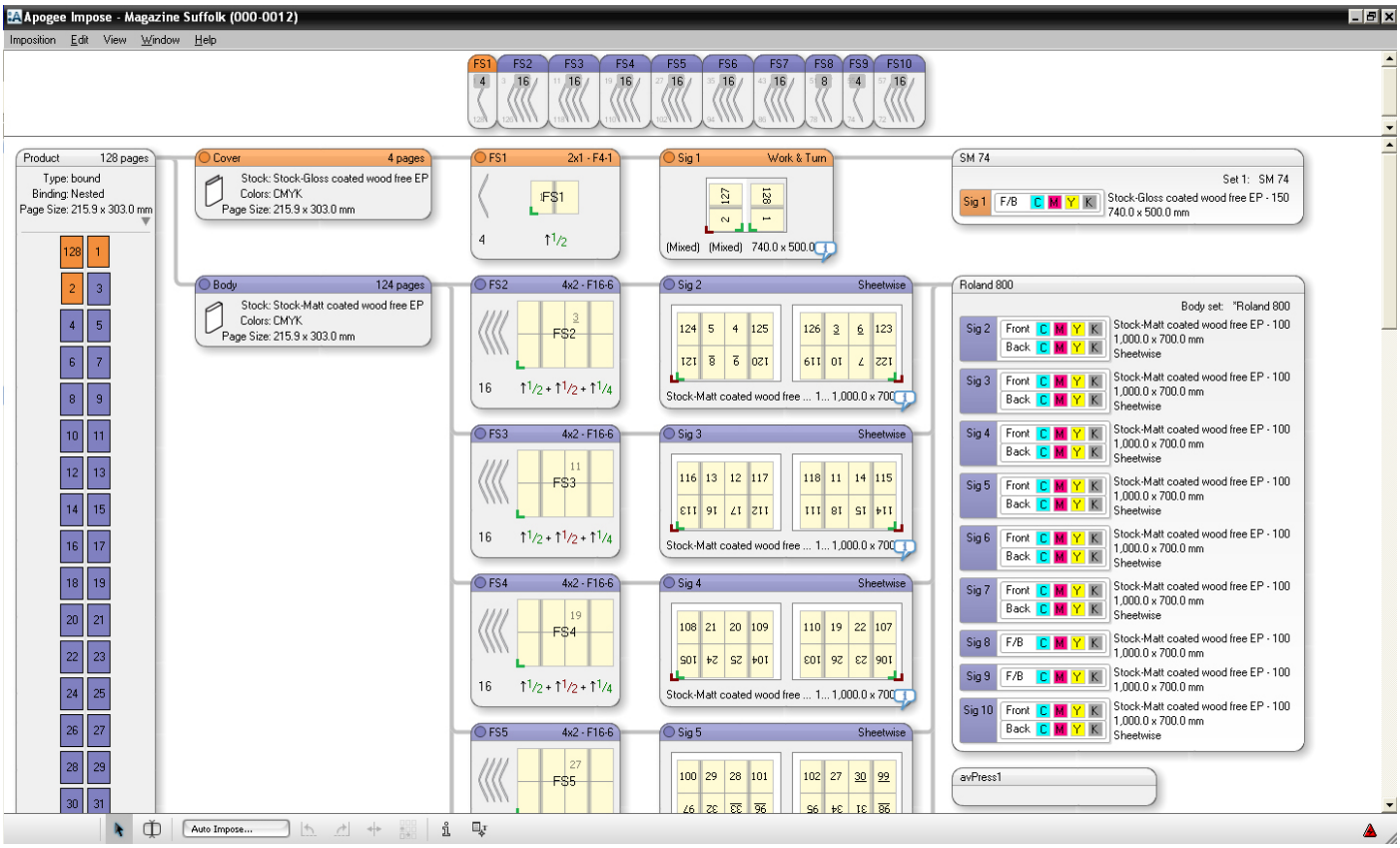

*It might well be worth the trouble to check if your existing or possibly new imposition system is listed in the CIP4 document Connectivity Matrix. Here you can see which systems have an established JDF interchange connectivity, useful when aiming for a higher degree of automation in the workflow.*

of using imposition templates in the process, and instead works according to defined rules.

According to Agfa this enables not only fully automated imposition, but also an optimised imposition. There is AI (Artificial, Intelligence) built into the system, to reduce operator errors and waste. For example, it can optimize signatures by putting all monochrome pages on specific flats, and route printing of the cover to sheetfed presses, while the inside content is printed on web offset presses, if available. Another scenario is to prepare the production on different wide format engines – depending on format and whether optimised nesting and imposition is needed.

Apogee Impose is linked to a Web Approval function, so print buyers can view and approve (or reject) pages at the last minute before actual production, via an internet-based interface. This in turn can be integrated with a Web2Print solution.

Another example of a new take on imposition is the enhanced imposition module in the Fujifilm XMF




*One of the latest solutions for automated and JDF-compliant imposition is the Agfa Apogee Impose, which bases the imposition on rules, not pre-made templates.*

workflow system, using so-called dynamic templates for JDF-based imposition. The Fujifilm XMF imposition engine can be topped with extensions for web printers handling multi-web impositions and ribbon work.

A newcomer worth looking a bit closer at is the Indian company Metamation, with its system IMP. Metamation is a CIP4 member, and while its products still don't appear in the JDF Connectivity Matrix, the IMP system is certified and tested for JDF compliance, and there have been several connections using IMP with both MIS and prepress systems.

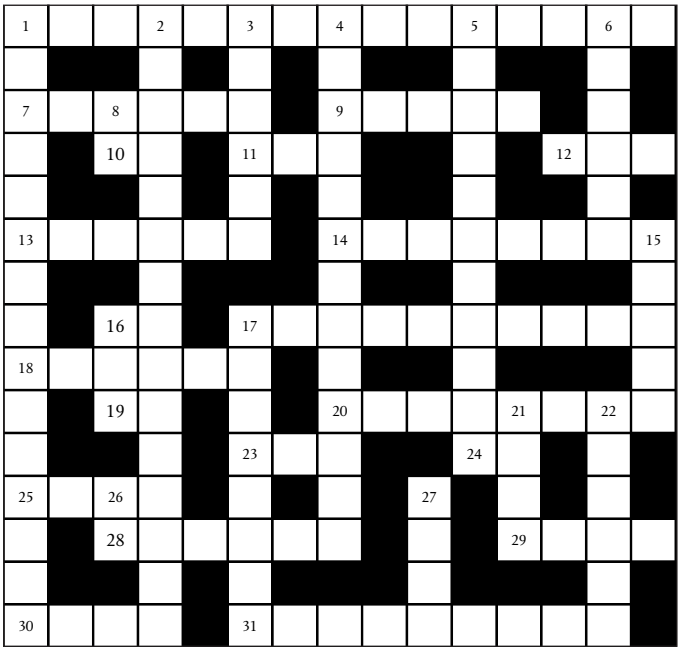
So, when looking into ways to improve your workflow and enhance throughput by reducing elements of manual work, don't forget to have a new look at your imposition function. As we have seen, there is still room for improvement in this area.

***– Paul Lindström***

# X-word Puzzle

## Number 25

(Answers at www.igaef.org)



## Across

1. A seat at the table? A spot to take up? Much discussion to put forward with it. (10, 5)

7. To categorise a booming sector for digital print. (6)

9. Mistakes in text. (5)

10. A has been. (2)

11. Information Management Institute. (3)

12. It imitates life, maybe. (3)

13. The kind of burn that really nails the black. (6)

14. That which accrues and engages. (8)

16. Regarding. (2)

17. Do this on your page, to relieve dull texts. (5, 5)

18. AKA Digital paper. (1, 5)

19. Not applicable. (2)

20. This matters if you want a substrate to be adequately receptive. (3, 5)

23. A type of Heidelberg press. (3)

24. Emulsion Aggregation, a type of toner. (2)

25. A place for storing job bags. (4)

28. What some people still use, although most of us prefer mobile 'phones. (6)

29. Another word for cut. Something cheap? (4)

30. An advantage, it goes into an imager first. (4)

31. Up there with bottling and creep as a worry for imposition softwares. (9)

## Down

1. Gravure needs at least one, and a certain niche ability. (8, 7)

2. Soft goods can be delivered in one of these. (8, 7)

3. A means of meeting different format needs. (6)

4. E-mail is the most common way to receive this for press-ready files. (13)

5. When your PDF fails, you've probably got at least one. (7, 4)

6. A handy way to enhance a boring text. (6)

8. To exist. (2)

15. A place to store treasure. (5)

16. Past participle of run. (3)

17. What we are all trying to make. (8)

21. Necessary for cleaning up the press. (4)

22. Necessary to stop ink from smearing. (6)

26. First initials of Bourg finishing company. (2)

27. Where you put the job ticket, originals and stuff relating to the job. (1, 3)