



Digital Dots

# Spindrift

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

...Bamboozling The Graphic Arts Industry Since April 2003

When we mean to build, we first survey the plot, then draw the model.

– William Shakespeare, *Henry IV, Part 2*

## Dear Reader,

First of all sincere apologies for the lateness of the current issue. It's down to the fact that there is so much going on in the little world of Spindrift, that it's been hard keeping up.

Some of what we've been doing such as visiting HP Indigo customers in Jerusalem, we can share with you next month. But some, such as some of the exciting developments within the International Standards Organisation, relative to the graphic arts, we cannot, at least not yet.

One important distraction this month has been our Readership Survey. If you haven't yet completed the survey please could you go to <http://tinyurl.com/yjpn75o>

We know that you're all busy but this shouldn't take up much of your time and we will use the responses as part of our editorial planning. We really do want to know what you like and don't like about the journal so that we can keep up with your needs.

Enjoy!

Laurel, Nesson, Paul and Todd



## In This Issue

### Power to the people

Laurel Brunner reports from a local council in Scotland that has used digital printing to cut back on its print costs, without having to cut back on the amount being printed, greatly improving the service offered to local taxpayers.

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### In the soup

It was obvious from the moment that the JDF concept was first unveiled that MIS would have a major role to play in its implementation. So, here we are several years after JDF was first proposed and one would expect that at the very least anyone with an MIS would also be using JDF, but Nesson Cleary finds that that is very far from the case.

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### Spectral readings

Most people working with colour management have come to rely on their spectrophotometers, but a recent report has called the reliability of many spectrophotometers into question. In this issue Paul Lindström has outlined some of the issues to consider when taking readings, and next month he'll be testing some of the most commonly used models.

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## News Focus

**Durst** has launched a new UV inkjet wide format printer, the Rho 900. This is a 2.5m wide machine with automated media handling and a top speed of 216 boards (125x80cm) per hour. It uses Durst's Quadro 30D print head array. It's a six-colour machine, with CMYK plus orange and a choice of green or violet.

**Mutoh** has launched three new wide format inkjet printers, which should start shipping in the next few months. The new models include: a direct to fabric printer called the Viper TX Extreme, for printing to materials such as polyester, cotton and silk; a soft signage series with integrated drying and fixation, the Viper TX soft sign, for producing flags and banners; and a calendar system, the Unifixer 65, for heat transfer and thermofixation dye sub work. There's also a new family of three cutting plotters, called Kona, available in 1m, 1.4m and 1.9m wide versions.

**Screen** has launched another wide format inkjet printer, the Truepress Jet 1600 UV-F. It's a flatbed device capable of printing images 1.6 x 1.3 metres at a speed of 13sqm/hr. Maximum resolution is 1200 x 1200 dpi, largely thanks to the use of variable size droplets. It uses UV LEDs, which need less power and generate very low heat so that it is easier to print to heat-sensitive materials without warping

them. There are two inksets: a four-colour flexible material set, said to be 200 percent stretchable; and a CMYK plus white set for rigid media.

**Agfa** has shown off a six-colour Dotrix Modular inkjet press with an extended colour gamut thanks to additional orange and violet colour stations. Agfa says that it can match 90 percent of the Pantone colour spectrum and a wider selection of spot colours. Agfa also claims that it will use less ink in six-colour mode than in four-colour. It will be available by mid 2010, both on new presses and as an upgrade to existing models.

Agfa has also developed an inline sheet cutting module for the Dotrix in conjunction with the press manufacturer Edale. This ensures that Dotrix users have access to all on- and off-line converting equipment that is compatible with traditional flexo presses. The new in-line cutter allows for automated cut position information transfer between the Dotrix software and the cutting device, reducing set-up time between jobs.

**Inca Digital** has added two new options for its Onset production inkjet printer. This includes faster print speed, up to 16 percent, and two new higher quality printing modes. The second option adds higher end gloss and the ability to improve adhesion on difficult substrates and more versatility with heat-sensitive materials through reduced power consumption.

Meanwhile, **VgL**, a digital printer based in Reading, UK, has ordered an Onset S20. VgL, which has the first UK Inca Eagle printer, produces a diverse range of work from labels to building wraps, including the widest format photographic output in the UK, and high quality textile and wallpaper printing. "The Inca Onset S20 will change the landscape of what we do", says VgL managing director Michael Ayerst, adding: "It will add considerable capacity and allow us not only to grow our small and medium run volume display business, but also expand into and offer a competitive service on longer runs."

**Xeikon** has collaborated with Moss, a leader in technologies for decorating containers and other articles, to jointly develop a patented Digital Decorating System for decorating round, conical, rectangular and square

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▶ pails and containers, even in very short runs. Essentially image transfers are printed on a Xeikon press, and then applied via a Moss system using a heat transfer process.

The **SMP** group in London has become the first to install Agfa's upgraded M-Press Tiger digital screenprinter, having also been the first to install the original M-Press back in 2006. "The M-Press has been a very good investment in digital for us," said Mark Turner, director of manufacturing at SMP. He continues: "And now the upgrade really pays off. Due to the unique concept we kept the Thème base line and just replaced the inkjet shuttle to get the latest technology". The Tiger is both faster, and offers better image quality with the ability to select gloss level.

**Océ** has released figures for its third quarter of this year which show a continuing 10 percent decline in revenues, but as chairman of the board, Rokus van Iperen, pointed out: "We performed better than the printing industry average, where revenues declined by 19 percent over the first half of 2009." Océ has offset this by aggressive cost-cutting amid claims that the economic situation is starting to bottom out in the US at least.

In the latest step of the **Presstek** v VIM Technologies saga, the International Trade Commission has confirmed its initial assessment that VIM has broken Presstek's patents in importing plates to the United States. Presstek is now seeking a ban on any further imports and the destruction of VIM's current stock in the US.

**EFI** has launched a version of its budget PrintSmith MIS specifically for sign shops. PrintSmith is used mainly by quick printers such as the Prontaprint chain. PrintSmith Sign integrates directly with the Fiery XF wide format RIP, and with the Web2Print system Digital StoreFront. It includes estimating, account and production management and sales analysis tools.

**Hamillroad Software** has announced a new screening technology, called Auraia (after the Greek word for beautiful), and which it characterises as being digitally modulated, or DM. It adjusts each pixel it produces, rather than repeating a fixed pattern of dots (as in AM screening) or randomly marking pixels (as in FM screening) and so enables the current imaging optics of both thermal and

violet platesetters to produce images that emulate the quality of a traditional 350 lpi screen (using a 420 lpi equivalent dot).

**Dalim** used the recent LabelExpo show to unveil two new modules for its Enterprise Solutions premedia workflow. These are Milestones, which maps business processes with production, and Metadata, for easy media management and dynamic interaction with file processing workflows.

**GMG** has launched a number of solutions, including PrintControl and RapidCheck 2.0, both designed to introduce standardisation and process control to printers. There's also SmartProfiler, an add-on option for GMG's ColorServer 4.6. This is an easy-to-use, wizard-driven system for creating ICC profiles for multiple devices.

**Vio** has replaced its VCSP2 proofing and preflighting system with a new integrated calibration and certified soft proofing solution. This is delivered as part of the Adsend browser application. It uses technology from Integrated Color Solutions, which has had a long term OEM arrangement with Vio. In addition, Vio has also added the Guardian and Observer newspapers to its fold.

**EFI** has launched version 9 of its Fiery software, which now includes integrated support for the Job Definition Format as standard. This automates data collection, reducing waste and significantly improving job turnaround. Older Fiery servers can be updated to the new system. In addition, the forthcoming EFI Digital StoreFront 4.5 will send JDF details directly to the Fiery server, shortening production times and eliminating errors.

**Xerox** has launched its first recycled paper for colour printing, with the Colotech paper available in A4, A3 and SRA3 with weights ranging from 90 to 120gsm. The product has a smooth surface which helps enable the sharpest of images and contains 80 percent PCW (Post Consumer Waste) and carries the international FSC environmental logo.

**Fotoware** has upgraded its FotoWeb image asset management system to v6.5. New features include an enhanced user interface, high resolution zoom tool and on-demand image processing.



▶ **Markzware** has started shipping Flightcheck Professional v6.5 for Mac. This upgrade includes support for InDesign CS4 and QuarkXPress 8 files, and improved handling of Illustrator documents.

Congratulations to **Drs John Warnock and Chuck Geshke**, the founders of Adobe and inventors of PostScript, who have been awarded a 2008 National Medal of Technology and Innovation for their part in the desktop publishing revolution. The medals were handed out by President Obama. Other winners include IBM, for the Blue Gene supercomputer.



## News Analysis

The UK's state-owned postal service, the Royal Mail, is facing the prospect of a national strike, which has already cost it a major customer.

This is the result of an ongoing argument between the Communication Workers Union and Royal Mail's management over the modernisation program and new working practices. There have been a number of regional disputes throughout the summer which have built up to the point where union members have now voted three to one for a national strike. This could start within the next week, and would affect postal services in the run up to Christmas. In addition, the simmering summer disputes mean that many sorting offices already face a backlog of undelivered mail.

As a result of this potential strike action, the online retailer Amazon has pulled out of a contract, said to be worth around £25m, whereby the Royal Mail delivered parcels over 500g. Amazon will instead use the rival Home Delivery Network. Other companies, including Argos and Ebay are also said to be making alternative arrangements.

This is a serious blow to the Royal Mail, because the increasing use of the Internet has meant a drop in the amount of letters being sent, of around ten percent thanks to greater use of email. The Royal Mail was planning to offset this with a rise in the volume of parcels, itself largely fuelled by online shopping. The loss of such a large contract is likely to lead to other retailers rethinking which postal service they use. And of course, it will also affect printers, and particularly the direct mail sector, as marketers look to use other media.

The supreme irony here is that the strikes are costing the Royal Mail business and hitting its profitability to such an extent that it's almost bound to lead to further cuts and job losses. This in turn will probably lead to further strikes.

Most politicians already privately believe that the Royal Mail should be sold off, if only because it has a huge pensions deficit, estimated to be as much as £10bn. Business secretary Peter Mandelson had said that he favoured a part privatisation of the Royal Mail but was forced to abandon any such moves by Labour rebels earlier this year. If, as many people already believe, the Conservative party do go on to win the next general election, it could well lead to a sell-off of the national carrier.



## A Review

### **QuarkXPress 8.12**

Quark has recently updated its flagship QuarkXPress page layout program to v8.12, with a number of worthy additions. This includes a long awaited improvement to its PDF output abilities.

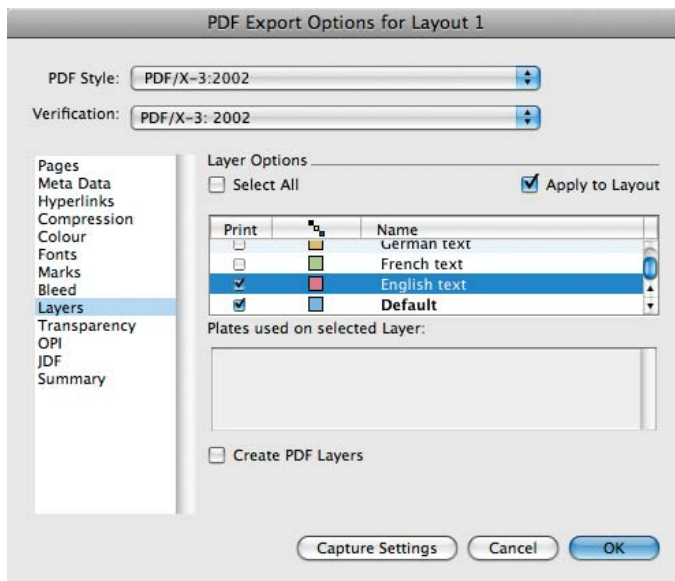
There's a new PDF Native Transparency option, which allows Quark files with transparency to remain unflattened



when exported as PDFs. Quark had previously added good opacity features to XPress, but you lost all these when you exported a file as a PDF so this is a welcome feature.

QuarkXPress now includes support for PDF layers, making it easier to produce, for example, multi-language files with the text for different languages on individual layers. You can also now import XML directly into QuarkXPress without needing an extra XTension, making it much easier to deploy XPress within cross media environments.

There's a new Scale palette, which allows for very precise control over scaling of anything from images to whole layouts, and a new palette for spell checking making it much quicker to find. There are also changes to the Item Styles and Item Find/ Change menus, which now include Drop Shadows, and you can now update changes to the



layout in the Item Styles palette with a single click. There's a few extra keyboard shortcuts, for things like exporting to PDF or pasting text into QuarkXPress. In addition, there are a number of small improvements, such as making it harder to accidentally delete the contents from one box when dragging and dropping other content from the Finder or from Bridge, which do make the program a little bit easier to use, and also demonstrates that Quark does listen to customer feedback.

And, of course, this latest version is compatible with both Mac OS X 10.6 Snow Leopard and Windows 7. All in all,

this is a welcome update, all the more so for being a free download for existing customers. In truth, these features really ought to have been included in v8 from the start if Quark is really serious about competing head to head with the Creative Suite. Nonetheless, this update will help Quark stay in the game and Quark's willingness to pass such features onto customers without a hefty upgrade price may well persuade some users that it remains good value.

As well as the update to XPress, Quark has also updated the server version, Copy Desk and the Quark Publishing System, all to v8.1. The main news here is that QPS 8.1 gains support for Flash output generation.



Li An, Vice Secretary of the Printing Technology Association of China, on the Great Wall of China at Badaling, near Beijing



On behalf of the Printing and Printing Equipment Industries Association of China (PEIAC), Mr Li recently hosted ISO TC 130 in Beijing. PEIAC took committee members on a short tour of the Great Wall, as well as sponsoring a couple of impressive banquets and some truly amazing after banquet entertainment.

▶ PEIAC has a membership of approximately 100,000 printers, and in the last five years turnover in the Chinese printing industry has more than doubled, from 230.9 billion yuan in 2003 to 475 billion in 2008. China has recently joined ISO and is now a participating member of TC 130, the committee responsible for graphic technology standards development.

Mr Li's proposal at the plenary meeting in Beijing for a new working group to look at postpress standards was accepted. Work in this area is now underway.



## Green Shoots

Pulp and paper manufacturer *M-Real* has developed a carbon footprinting tool based on PAS 2050. One of the more comprehensive and unbiased efforts for calculating carbon, this tool includes everything from the forestry, through to transport, and can be used for product specific calculations.

*PrintIT*, a UK project designed to attract youngsters to careers in print, has unveiled a new 'green' identity. The idea is to reflect the environmental-based modules introduced to its latest course.

*The European Commission* is investigating Austria's recent green electricity act. It seems that under Austria's new rule, large electricity users can be exempted from funding green electricity. The EU wants to investigate to ensure there is no favouritism.

According to a survey by printer manufacturer *Lexmark*, the majority of 10,000 people surveyed in 21 countries feel guilty about their carbon footprint when using home and office technology. And most respondents can't identify

their largest potential environmental impact points when it comes to printing.

This same survey also found that women are more knowledgeable and guilt-ridden than men about their green habits. Some interesting statistics from the survey: 85 percent of consumers surveyed would often choose the most environmentally conscious printing option if given a single click choice; 84 percent are more likely to buy a product if the manufacturer is responsible regarding recycling; and 64 percent believe that the disposal of ink cartridges is the largest cause of pollution from printing.

For more Green Shoots, go to <http://verdigrisproject.com>

**Verdigris** 



## Heroes & Zeros

### Heroes

Safaricom is a Kenya telecoms giant who has seen its customer base for the M-PESA mobile money service grow to nearly 7 million users. There are 38m people in Kenya, 18.3m of whom have mobile phones. M-PESA is used to send money point to point. You buy credit on your mobile phone and then send a code to whomever you want to be able to claim it. The service is now used to pay for all sorts of things including taxis, food and fees for professional services. It's even used to buy print!

### Zeros

Sticking with Africa, Nicholas Negroponte, founder of One Laptop Per Child (OLPC), wants us all to believe that poor children there and elsewhere in the world are better

▶ served by digital devices than they are using printed books. The idea he says is "To create educational opportunities for the world's poorest children by providing each child with a rugged, low-cost, low-power, connected laptop with content and software designed for collaborative, joyful, self-empowered learning." You can even donate a laptop to a child, for a mere \$199.

Much thought seems to have gone into the ideals of this initiative, which is to educate poor children in the third world. But not much seems to have gone into the practicalities of it. For instance, electricity in many parts of the third world is a luxury, expensive and unreliable. Dust doesn't help either, no matter how rugged the device. Specific local knowledge for improved agricultural yields, health and contraception should all take priority over being able to hook up to the Internet, connection to which might not be there any way. And Mr Negroponte earlier this year claimed credit for instigating the rise of netbooks. Egregious or what!



# Power to the people

**Changing peoples' ideas about how and where print should be produced, bought and sold, is perhaps one of the biggest barriers to new publishing and printing business models. Suppliers of digital presses and workflow systems have made huge efforts to educate the market, and to encourage new approaches to buying and selling print.**

Sometimes it can seem a bit of an uphill battle, for technology providers and their customers. Success stories are loudly trumpeted and over the years we've reported many instances of successful partnerships between suppliers and customers driving applications for variable data colour output. For the most part these relationships are supplier driven and it's relatively rare to find users behind the wheel.



*South Lanarkshire council's main offices in Almada Street.*

It's even rarer to find government employees and public servants taking the initiative. In Scotland, however, a local council has done just that. South Lanarkshire Council has made huge changes to its services, having revamped its Corporate Reprographics Department (CRD) to extend its offering.

South Lanarkshire Council is the fifth largest local government authority in Scotland. Democratically elected, it represents 306,000 citizens and has a budget

of one billion pounds annually, of which £750,000 is spent on print and related services. Eight years ago the Council embarked on a mission to change the way it handled its printing. Instead of a black hole of nefarious prepress systems, presses and finishing equipment, South Lanarkshire council's CRD is now a highly efficient printing beast, with close ties to its internal customers, its partners, including local schools and emergency services, and local businesses.

Many of these companies are printers who are supplementing the services the Corporate Reprographics Department can offer. The model is unique and completely unprecedented in local government. It is an amazing example of what can be done with local partnering, online services, electronic production, workflow automation and variable data management. Improved management of property tax data alone saved £119,000 of taxpayers' money. So how did they do it?

## The Problem

Communications is obviously one of a local government office's core functions, and materials must be delivered free of charge to internal customers. But the in-house reprographics department in South Lanarkshire Council was plagued with complex processes, fifty or so diverse pieces of equipment, including litho presses, and delivery times that could run to up to eight weeks. Angie Moakler, a leading member of the Corporate Communications Team in South Lanarkshire Council, explains: "We have a great team of people who wanted to do a good job but who felt they were Marmite [a peculiarly flavoured British savoury spread] - customers either loved them or hated them."

The Council's work to improve print production efficiency and services to the community has attracted attention from all quarters, as Moakler explains: "The response to the project is really positive. We have received requests from many sources to share best practice, including the British Research Council, Oxford and other universities and the House of Commons. It's created a real buzz about exchange of ideas."

Previously there was no transparency of process for internal customers and people had no idea where their



print jobs were or when they could expect to receive them. It took five different forms to request a job, with three different job booking systems, and a three-part NCR book for ordering supplies and two scheduling systems. It could take up to eight weeks to deliver a job. The department's £700,000 per year income target was not met, waste was high and as for sustainable practices, they simply didn't exist. Around £300,000 of council money was spent externally, £90,000 of it for education alone.

Following the purchase of a digital press, the department worked with Canon and using the Imagepress 7000 was able to bring down colour production times from eight to two hours. And the £750,000 worth of outsourced litho jobs fell by £250,000. But bringing colour work in-house to the Imagepress 7000 hasn't really resulted in a loss of business for external service providers because council offices, departments and partners are buying more print, and doing so more efficiently. Moakler continues: "Working together as a team by really looking at the fine detail of jobs we can track and find out how people want to receive information – it's much better for the customer and for us".



*Staff at the print room.*

The focus for the department is now on business development based on cleverly exploiting digital technologies and building closer relationships with customers. To achieve this the group worked with customers (internal and external) and set up two lean thinking projects to see if processes could be improved. "The team saved 50 working days of faxing per year ... and reduced the production time from eight hours to three hours 42 minutes. We also established better working processes with our print, exhibition and promotional

suppliers. They no longer have to send multiple quotes, around 10 per day; we ask them to complete one exercise to complete a matrix for all of the items on our list," says Moakler.

## **The focus for the department is now on business development based on cleverly exploiting digital technologies and building closer relationships with customer.**

One of the main outcomes of the lean thinking was an eprint centre. The web-to-print system has led to a switch from a revenue orientation to a focus on quality and value. Moakler says: "We are changing our print quantities for on-demand. We're finding that people are realising how much ink is costing them [at the desktop] so we're getting a lot of people requesting printed forms instead of downloads."

### **Teacher, Teacher**

Schools are using the eprint service for on-demand jobs, with art teachers producing art and portfolio work for students. Local community groups and clubs also have access to the Council's printing services. Overall people and organisations are able to make more cost effective print buying decisions and so can get more out of their budgets. For instance, the procurement team's online system improved the efficiency of photocopying. The South Lanarkshire Council staff were printing 175 million photocopied pages per year. They saved £73,000 and reduced waste following the overhaul of the CRD.

### **Variations on a Theme**

Variable data print has been an especially important part of this mix. Customers can upload databases to the web-to-print system and are coming up with their own ways of using variable data. Moakler explains: "Envelope printing has been a big hit with our admin customers. No longer do they spend ages printing labels to their desktop printers and laboriously peeling and sticking each label down. Now they send the contents of the letter or package direct to printing and from there it goes out for distribution. So far

since we introduced this joined-up working we've printed around two million envelopes but, more importantly, we only print the exact number we need." By bringing design and print production together the council has also brought down its council tax information costs from £140,000 to £21,000 over recent years.

In 2008, South and North Lanarkshire Councils won the bid to host the International Children's Games 2011 ahead of Singapore and South Korea. A key element of the successful bid was the councils professional and sophisticated media set-up. The project has so far generated £50,000 in additional revenues, a proportion of which has been outsourced to local printers.



*The print room with its Canon Imagepress printer.*

An outreach programme is helping the council to expand services to partners such as the police and emergency services. It extends to the school curricula to support children so that they can learn and participate in other activities such as journalism and logistics. The department has saved over £90,000 since the beginning of the year and anticipates an overall saving of the Council's budget of 1-3 percent.

The next step is to improve logistics and media delivery. Moakler and the South Lanarkshire team are working with the Royal Mail to produce print and use a single vehicle to deliver the council's print to the Royal Mail sorting centre in Glasgow in order to provide the equivalent of GPS for letters so people can see where their letters are. Moakler says: "This is interesting because we can send one single highly customised letter instead of four dealing with different topics." She adds that more efficient use of

transport throughout South Lanarkshire will mean that school meals go with the library books, janitorial supplies, print and everything that needs to be delivered across the South Lanarkshire region.

Angie Moakler and the South Lanarkshire print and design team are really changing ideas and opinions where print is concerned. They are using the numbers to prove that print can change for the better and that new production models exploiting digital tools really can improve a business. "It's helping people and that's the kind of thing you can't buy – it's making everybody's life easier," says Moakler.

But most important of all is the effect of this undeniably ambitious project on those involved. Moakler says: "The biggest change is the level of excitement that we're generating and on peoples' ability to produce print work that before they couldn't afford to print. Everybody's communicating more effectively." Best of all the team is spending, and saving, taxpayers' money to encourage the effective and highly efficient use of print.

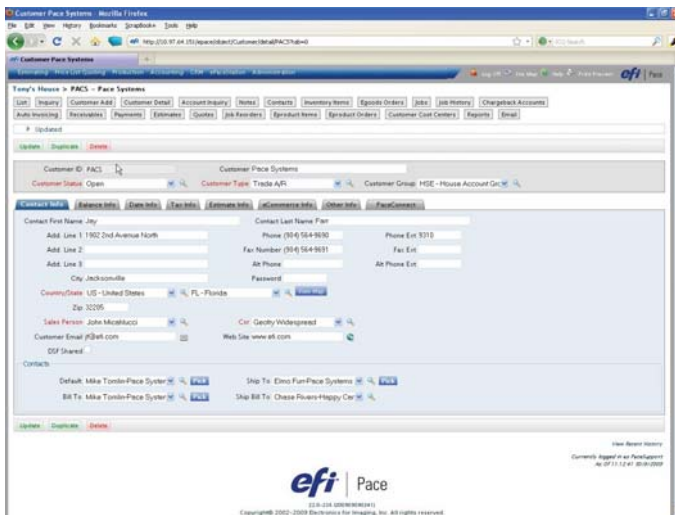
**- Laurel Brunner**



# In the soup

**Greater automation is essential in allowing printers to cope with larger numbers of short run fast turnaround jobs, and the key to that automation lies in improving workflow processes.**

The modern workflow is made up of several disparate systems, including Web2Print, prepress, finishing, accounting and so on. The management information system, or MIS, has traditionally integrated with all of these systems in order to build up a picture of how they are performing. But with the advent of the Job Definition Format the MIS gained a new role in helping to automate the overall workflow.



*Efi's Pace MIS is entirely browser-based and can be accessed from anywhere over a local or Internet connection.*

JDF does quite literally define a job, and all the different processes that each job needs, but it is the MIS that checks that each process has been completed and advances the job from one process to the next. It is theoretically possible to use JDF without having an MIS, but realistically you need an MIS to make a JDF workflow, both to push the work through the system and to understand how the system is working and make the most efficient use of all of the resources.

So, one would think that anyone making use of JDF would be using an MIS and that most people using an MIS would be using it as part of a JDF-enabled workflow. But strangely enough that doesn't seem to be the case, with

most MIS vendors reporting that only a fraction of their customers have a JDF-enabled workflow, or "single-figure percentages" according to Paul Deane, joint managing director of Shuttleworth.

Some vendors have said that the issue with JDF is that it needs fairly modern equipment and a lot of printers are still using older kit that predates JDF. This might be the case with finishing equipment, but most printers are running with reasonably up-to-date prepress workflows, and all of the prepress workflows and platesetters make extensive use of JDF. All modern presses have JDF-enabled controllers, and many older press controls have been updated from CIP3 to CIP4, or JDF.

It is worth remembering that JDF was first proposed in 2000, that there was an outline of the system by 2002 and the first products began shipping around 2004, in time for the 'JDF drupa' of that year. So any equipment bought in the last five years should at the very least be capable of accepting JDF information from an MIS, and providing JMF feedback.

Rather, the issue seems to be not so much about whether the hardware is JDF-enabled, but more one of whether or not the printer's mindset is JDF-ready. Deane explains: "There are all sorts of issues around taking advantage of JDF and JMF and you need a far more structured and disciplined approach to how you estimate if you want to take advantage of JDF, because that estimating process forms a first critical part of the JDF workflow. So, it has to be done in a structured manner so that it can take advantage of all the benefits that JDF will deliver further down the line."

He continues: "That can be a bit of a challenge if you tended to estimate on a fairly ad hoc basis prior to putting something like JDF in. It's not just about the technology, it's also about the processes that printers undertake themselves, and they have to realign some of their processes to take advantage of JDF and that can be the most challenging element of it."

Some vendors believe that part of the solution lies in building more flexibility into the way that JDF organises individual jobs. But most also acknowledge that printers



need to invest in better training for their staff. Steve Richards, sales manager for Optimus, explains: “You’ve got people in customer services who before just dealt with the status of information and where it needs to go, but in a JDF workflow they’ve got to know where that’s going to be produced within the factory, so they need a different skill set.”

Other vendors believe that a better approach is to build more flexibility into the way that the MIS handles JDF. Gerard Marneth, founder and CEO of Dims, says: “It is very important for our customers that there are less and less people touching jobs. If you look for instance at the JDF connectivity, it is now more automated. So if you

Description	Estimated Duration	Actual Duration	Estimated Quantity	Actual Quantity	Estimated Cost	Actual Cost	Status	Variance Value	Variance %
Pin Flight	0.15	0.15	1	1	5.00	5.00	Completed	0.00	0.00
P.D.F.	N/A	N/A	1	1	1.00	1.00	Completed	0.00	0.00
SM74 Plate Processing	0.24	0.26	4	4	20.00	21.67	Completed	1.67	8.35
SM74 Plates	N/A	N/A	4	4	12.00	12.00	Completed	0.00	0.00
Make Ready Press	0.15	0.15	1	1	15.00	15.00	Completed	0.00	0.00
Make Ready Plates	0.20	0.20	4	4	20.00	20.00	Completed	0.00	0.00
Run	0.54	1.00	6,241	0	54.75	60.00	Completed	5.25	9.59
Process	N/A	N/A	1,798	1,953	28.77	31.89	Completed	3.12	10.84
Make Ready	0.05	0.05	1	1	2.08	2.08	Completed	0.00	0.00
Run	0.24	0.20	10	10	10.00	8.33	Completed	-1.67	-16.70
Make Ready	0.30	0.30	1	1	12.50	12.50	Completed	0.00	0.00
Run	6.19	6.00	12,640	12,625	158.00	150.00	Completed	-8.00	-5.06
CD102 Plate Processing	0.40	0.44	4	4	33.33	36.67	Completed	3.34	10.02
CD102 Plates	N/A	N/A	4	4	24.00	24.00	Completed	0.00	0.00
Make Ready Press	0.15	0.40	1	1	22.50	60.00	Completed	37.50	166.67
Make Ready Plates	0.20	0.30	4	4	30.00	45.00	Completed	15.00	50.00
Run	0.50	1.15	11,681	6,000	75.10	112.50	Completed	37.40	49.80
Process	N/A	N/A	3,364	3,364	53.82	53.82	Completed	0.00	0.00
Make Ready	0.05	0.05	1	1	2.08	2.08	Completed	0.00	0.00

Estimating is one of the key functions of an MIS, as seen here with the Shuttleworth MIS.

change the job then the system automatically updates your prepress workflow systems. And if you change the job from the prepress workflow then that automatically updates your MIS. More and more integration means that less people touch the job and the delivery times are shorter. I expect that within a few years there will be no prepress people anymore that need to touch the job at all.”

Yet other vendors claim that automation isn’t really so important, at least as far as an MIS is concerned. Deane points out: “The benefits that an MIS delivers in traditional areas is still as relevant today as it’s always been in that if you want to speed up your estimating process, make it more consistent and improve the communication that you provide to your customers then you need a back end system to do that. And if you then want an effective order

processing stock management and costing system then you will need some form of MIS.”

He goes on to say that the next stage is to add some level of integration, but for many MIS developers, that simply



Gerard Marneth, founder and CEO of Dims.

means using a direct machine interface, such as a camera counting sheets coming off a press. Deane says: “The majority of customers will be using some form of data collection so the majority of Shuttleworth users will be using our Shop Floor data collection system so they are operator driven, but people will be logging on and off their work and information is coming back real time into the MIS. The benefit of JMF is that it begins to take the operator out of that equation, but as far as the MIS is concerned it doesn’t matter if the information or the data comes via a data capture suite or via JMF or via a timesheet, although obviously that is out of date by the time you put it in.”

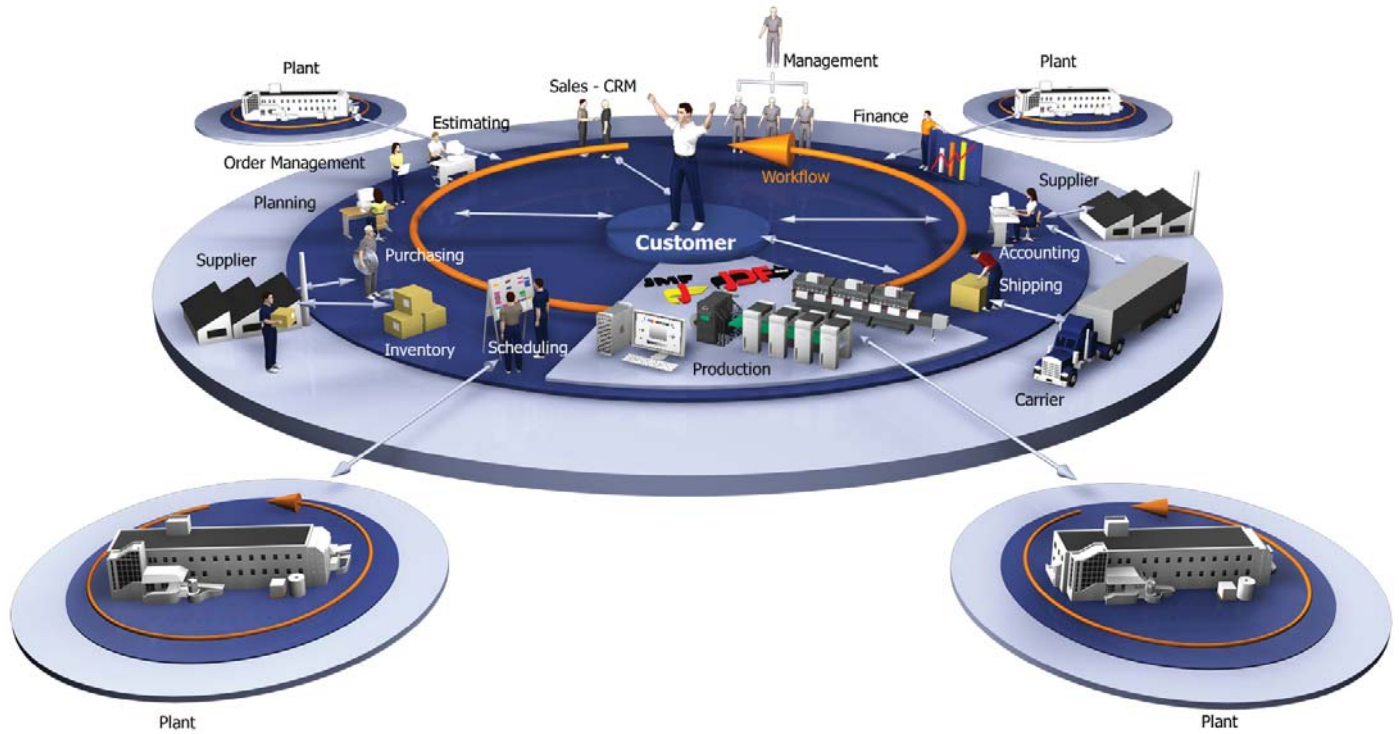
But does this mean that many printers are opting to install data collection systems rather than use the JDF that’s built into their kit? Ross Edwards, marketing manager for Tharstern, says that JDF appeals more to bigger printers: “We’re finding it very common that a lot of printers combine a JDF workflow with traditional shop floor data capture, so that the JDF devices are for prepress and press and the machine monitoring comes into play for the



finishing equipment, which is a much more common and realistic approach.”

Many MIS developers are now concentrating their efforts on digital printing, where the one-size-fits-all approach of JDF works very well, and where there is a more obvious need for automation. As Deane points out: “You cannot

of the MIS vendors are looking at ways to integrate or include this within their systems. Richards says: “I think that e-commerce Web2Print is going to drive MIS more and more. People want to automate things, but don’t know what their costs are, how they are going to track and trace things, or how they are going to send out a campaign to someone, so I think that it’s the catalyst.”



*An MIS should integrate fully with every other system, turning them from separate islands to a single workflow, as this illustration from DiMS shows.*

make money out of digital if you process work in the traditional methods that litho printers have done in the past, so you have to take a fresh look at how you process the work, and that goes down to how you are creating the orders, what you are doing with your paper work, and how you are reducing the amount of hand building that goes into that process.”

He adds: “As printers do move to larger volume, lower value transactions then the pressure comes on the administrative support to improve that process so obviously things like Web2Print are extremely efficient ways of pulling work, or pulling orders into a business, but then you have to have the back-end systems that are able to process that work in an effective manner.”

More and more printers now have a web presence and are starting to implement Web2Print systems, and most

Another element worth considering is customer relationship management, or CRM, which can help a print business manage its customers with the minimum amount of fuss. In the past many MIS would have expected to integrate with a CRM system, but most now offer their own CRM module and consider it a core element of an MIS. A good CRM package can help a printer cut down the number of staff needed to deal with individual customers, and is an essential prerequisite in moving towards a more hands-off automated workflow

## Does automation matter?

Automation is clearly more important to some areas, such as short run digital, than it is to others. But nonetheless, some level of automation will help every sector in the print industry become more efficient, and given the current financial situation, that can only be a good thing.



All of the MIS vendors are keenly aware that it is not enough just to deliver business critical information, and in any case there are a number of budget systems that can do that quite well. But rather, most developers believe that future growth in the MIS sector depends on becoming the driving force in a fully automated workflow. This is partly because the overriding trend within the industry is towards a large number of short run, fast turnaround jobs, often with very little profit margin, and the only way to make these jobs viable is to automate the processes around them.

But the MIS vendors also know that their systems are expensive and that the only way that customers, particularly in small and medium sized companies, can continue to justify the cost is if they can replace skilled, and therefore expensive, members of staff. So, one way or another, we are going to see more integration between systems, and greater automation.

Clearly, JDF is the best way to achieve this, if only because so much equipment now incorporates it. But it is a serious cause for concern that after so much effort has been expended in developing and delivering JDF as a working concept, that so few printers have implemented it to any degree and let alone use it to build an end to end workflow from estimate to fulfilment. That is something that the CIP4 organisation will need to urgently address.

**- *Nessan Cleary***



# Spectral readings, part 1

**We've all come to rely on spectrophotometers for our colour management, but how reliable are they?**

Most printers and prepress companies use spectrophotometers and colorimeters daily in modern colour management, as a natural part of general quality management. But the data is mostly used internally, and tolerances for the data and variations in the measurements are seldom passed on outside the company. When managing quality issues in an ISO 12647-compliant workflow, or aiming for an ISO 12647 certified process, the issue of tolerances, repeatability and variations becomes crucial. In which way, and how often do you calibrate your measuring device? How do your measured values correlate to measurements made with another brand of spectrophotometer, or another model of the same make?

According to a report from the Dutch graphic arts laboratory VIGC last year, the variations between different spectrophotometers could be very large. So, is the pursuit of excellence in print in vain, if we can't trust the spectrophotometers? Digital Dots has looked into this before, when, for example, testing high end proofing systems, and not found any great variation between measurements from different models or makes of spectrophotometers. But we decided to have a closer look again, alarmed by the VIGC report and a recently released white paper from X-Rite called *Using the Right Tool for the Right Job*.

## What is the issue and why should we care?

We at Digital Dots are strong believers in standards-based process control, and the usefulness of benchmarking using a given ISO standard as the norm. But if the tolerances stipulated in, for example, the ISO 12647-2 printing standard for quality offset, are in the same region as the measurement variation between different spectrophotometers, the situation becomes rather ridiculous. An OK sheet measured with one

spectrophotometer could well be out of tolerance using another model or make.

The recently released white paper from X-Rite basically warns users against using the i1-series of spectrophotometers for pressroom measurements. X-Rite gives several reasons for this (for details please read the whole white paper), but in short the i1 is designed to be used when measuring proofs in the prepress department, or creating custom ICC profiles – not for measuring newly printed sheets in the pressroom. It's not so much about larger tolerances or greater variation, but rather about using appropriate filters and lighting technology for certain types of measurements.



*The X-Rite i1 series is amongst the most popular spectrophotometers on the market, but shouldn't be used for measuring newly printed sheets.*

The VIGC report called *Instrument Accuracy Can Be a Nightmare* focuses more on finding different instruments with a large variation in actual measurements between instruments. In short, VIGC found the deviation to be up to  $\Delta E 4$ , which is actually very close to the maximum allowed deviation between an OK sheet and any of the following measurements of sample copies during the print run (the maximum deviation allowed in the ISO 12647-2 standard is  $\Delta E 5$  for the primary colours Cyan, Magenta Yellow and Black!). If the VIGC findings, and the analysis of those findings, are correct, it could be a nightmare for a believer in ISO 12647 certification.

However, our own tests so far indicate an inter-instrument deviation to be typically around  $\Delta E 0.3$ , which is far from



the alarming levels of the VIGC report. But we made our test with specific instructions for the participating parties (see Digital Dots' test of Spot Colour Proofing Systems, Spindrift no 5-6, October 2007) to not use UV-filters, make spot measurements with white backing, and to average three measurements. As we will see later on, there are many variables when using spectrophotometers, each of which can affect the measurements.

## Then how should we measure?

For the novice it might seem pretty straightforward to use a spectrophotometer – aim at the target and read out the measured data, typically values expressed as CIE Lab. But there is a range of issues to consider when it comes to actual use.



*The Heidelberg Prinect Axis Control is a press-side scanning spectrophotometer, where the actual measuring device is manufactured by X-Rite.*

One of the first is how to go about measuring newly printed 'wet' sheets. The almost wet 'shiny' ink surface produces more reflection than fully dried ink on paper (and it might take up to 24 hours for offset ink and paper to dry completely). To reduce the effect of 'wet' ink on paper you might use a polarisation filter, but this gives very different values than when measuring without

such a filter. It's like wearing polarised sunglasses – it's convenient, but the colours look different.

Another factor to consider is the possibility that the paper contains OBA (Optical Brightening Agents), mainly influencing the reading of paper white, and measurements in the near ultraviolet region of the spectrum. To counter this it's possible to use a UV filter. But this of course affects the readings of all the other regions in the spectra, and so gives very different values than when measuring without a UV filter. The CIE Lab values given in, for example, Adobe CS for spot colours, are based on measurements using UV filter, and don't at all correspond to measurements made by a spectrophotometer without a UV filter.

When measuring a thin paper type, it's normally recommended to use a black background to minimise the influence of the reflection of the light through the paper, from the background. However it's becoming more or less an accepted practice to use a white background in all measurements. Both methods work in the right context, and are mentioned in the ISO 12647-2 standard. But the type of backing that was used when measuring is not always communicated by a novice user (ignorance is not always bliss!).

Is this a long enough list to ponder on? Unfortunately it goes on. Other considerations are distance to the paper when measuring, angle and power of the light. Also size of the measured colour patches – not all instruments can read small patches correctly. The X-Rite i1 for example needs a size of at least 10x10 millimetres – many control strips on printed sheets use a smaller patch size than that. Whether measurements are made in spot mode or scan mode also affects the results, and whether or not only one measurement was made, or several that were then averaged.

Does it sound like it's impossible to know how to measure correctly, or to get accurate results? No, actually, there is hope. Reading up on the relevant standards gives directions, for example, looking into the ISO 13655 standard *Spectral Measurements and Colorimetric Computation for graphic Arts Images*. Here three main types of measurements are described: M1 (Measurement condition 1) not using UV-filter or polarisation filter; M2 using UV filter; M3







## Quiz

We all know that workflow is the process of managing tasks in order to complete a given project. And everything we do can be automated to some extent or another, whether it's making a cup of tea or producing a print run of 100,000 full colour spot varnished annual reports. Although the tea bag, sugar lump, electric kettle and Teasmaid are about as far as automation goes for making cups of tea, for print production the options and degrees of automation are hugely varied. But how much do you know about digital workflows and process automation? The following short quiz should give you some idea of where you are when it comes to planning upgrades to your production processing.

### 1. When was the last time you upgraded your computers and associated technology?

- (a) Two years ago.
- (b) We're still using the original IT and it's never been upgraded.
- (c) One year ago.
- (d) We upgrade all IT in line with advances in operating systems and software versions.

### 2. Which workflow benefits most from automation:

- (a) Film
- (b) Plate
- (c) Digital press
- (d) All of the above.

### 3. Ideally customers should provide us with:

- (a) Production-ready PDFs
- (b) Files conforming to a PDF substandard (a PDF/X file)
- (c) Native files
- (d) Unspecified PDFs

### 4. Average turnaround times for print production should:

- (a) ... be 24 hours.
- (b) ... be based on what the customers want.
- (c) ... take as long as we need.
- (d) ... not be defined.

### 5. What is the best way to manage changes to your workflow?

- (a) Read the trade press and apply what you learn to the workflow.
- (b) Wait for suppliers to tell us about new technology.
- (c) Wait until the work stops flowing and then work out what should happen next.
- (d) Let customers tell us when they want something new.

### 6. Which statement best describes the ideal workflow?

- (a) Manual systems are the most reliable and trustworthy.
- (b) Automation in prepress is enough.
- (c) Fully automated from file delivery to finishing.
- (d) Automation in parts of the workflow, but not all.

### 7. What does JDF stand for?

- (a) Job Definition Format
- (b) Justified Drop Fonts
- (c) Job Details File
- (d) Just Don't Forget

### 8. What is XML?

- (a) A tool used to bridge disparate systems.
- (b) A computer programming language.
- (c) The basis of JDF.
- (d) All of the above.

### 9. How often should you have to contact customers once files are submitted to the workflow?

- (a) Over five times because there are often errors in the file.
- (b) More than ten times because customers don't understand prepress.
- (c) Occasionally when customers come up with files that cause a halt to our automated production system.
- (d) Never because our workflow is fully automated.

### 10. Where does process automation fit in the workflow?

- (a) Wherever digital systems are used.
- (b) On individual systems.
- (c) On press only.
- (d) Up to platemaking.





**Answers**

1. (d)
2. (d)
3. (b)
4. (b)
5. (a)
6. (c)
7. (a)
8. (d)
9. (c)
10. (a)

You get four points for every correct answer for a maximum of forty points.

0-10 You really do need to pay better attention to your business if you expect to keep trading. Turning your back on the digital revolution is not an option.

11-20 Life is moving on and you might find it's passing you by. The recent drop in customer numbers isn't likely to be reversed unless you learn more about modern production techniques.

21-30 Clearly you know roughly what you're doing, but perhaps you need to do more of it. Partial workflow automation is a start, but ultimately you need to go all the way.

31-40 Wow!




# X-word Puzzle

## Number 19 - Answers

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