



**trust** • 1. a. Confidence in or reliance on the honesty or skill of a person or thing, or the ability of a purchaser to pay in the future, or in the veracity of a statement. 2. Confident expectation of something in the future; hope.

## Dear Reader,

What a drag that the misery mongers are working overtime to keep us feeling anxious, suspicious and mistrustful. This is no good and will only make economic matters worse, because money is about trust. Banknotes are promises, and we trust that when we hand over the readies whatever we're asking for will be provided.

It's a bitter irony that the banks which took such huge risks in the pursuit of profit should now have withdrawn credit from ordinary taxpayers, whilst they themselves survive on handouts guaranteed by those same taxpayers. Keeping faith with customers and suppliers should be what business is all about, not greed.

Before this current economic crisis is done we will need new political leaders and new regulatory authorities. But above all, we will need a new morality, because there is more to life than business, and more to business than just making money at any cost.

But in the meantime there is plenty that we can do to help ourselves. Cutting costs, failing to invest in the future of our businesses, and losing faith with suppliers and customers is the worst thing we can do. So when Spring whispers in our ear and hope reaches out, let's trust ourselves and make sure we do our bit to rejuvenate our businesses, our economies, and ourselves.

**Laurel, Nessian, Paul and Todd**

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### *Signs of the Times*

Laurel Brunner looks at the Nstein solution for searching text based on semantics, which looks at how individual words in a sentence relate to each other so that it can understand the emotive weight of those words, rather than relying simply on their dictionary definitions.

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Nessian Cleary finds that the market for short run label printing is growing, partly stimulated by the recession, but mostly down to the emergence of newer digital printing technologies which is helping to lower the costs and making digital appear a more attractive option.

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Paul Lindström has been back to school, to learn more about the mysteries of the ISO 12647 standard and the quality management principles enshrined in ISO 9001, as well as the principles of certification and the practical implications for printers.

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# News Focus

**HP** has completed its best year yet in the graphic arts industry. Page growth for HP Indigo was up by 30% in 2008 and 130 of the new HP Indigo presses were installed in the first three months of the engine's availability. The graphic arts division as a whole exceeded its internal targets and is bullish for 2009.

**Xerox's** fourth quarter 2008 numbers aren't looking bad at all. They include previously disclosed restructuring charges and a break-even earnings per share and adjusted earnings per share of \$0.30. Full-year 2008 adjusted net income was \$985m for the year with total revenues of \$17.6bn, which is 2 percent more than in 2007. Adjusted core cash flow for the year was \$1.7bn.

The company is undergoing a restructuring that is expected to deliver \$200m in savings this year, reinforcing an already sturdy balance sheet. Production systems saw a 13 percent decline in fourth quarter revenue, and installation of production black-and-white systems declined 11 percent. Sales of production colour devices were up 4 percent in the quarter but revenue of \$1,357 million is a drop of 13% over the same period last year.

**Agfa's** shares have jumped (up 13.64% on the 30th Jan) following the news that the company had received a grant

from the Ontario government. The shares got a further boost following the announcement that an American healthcare group is using the company's new diagnostic image technology and because an ING analyst pointed out that President Obama's stimulus package includes some \$20 billion for upgrading medical equipment.

Colour management and proofing whizzes **GMG** saw 4 percent sales growth in 2008 with most of it coming from Benelux, Eastern Europe, Southeast Asia and Middle East. And sales rose at an above-average rate elsewhere, particularly France and Scandinavia. Robert Weihing, CEO of GMG says the company will "look to the future with great optimism in 2009, despite the current financial and economic crisis."

**Manroland's** board has approved a package of measures to increase the company's competitiveness. It includes cutting 625 jobs out of 8656 over 2009 and 2010, and closing the Mainhausen factory. The company is integrating the product lines assembled there into its main sheet-fed press factory in Offenbach, Germany.

Manroland has stated that it has "been seriously affected by the reluctance of customers to invest due to the financial crisis and recession. The Group's order intake in the 2008 fiscal year declined by around 20 percent compared with the previous year". Despite this Manroland still managed a positive operating result in the 2008 fiscal year.

We thought the days of scanner news were long since gone, but we were wrong. For architects and designers **Océ** has launched an affordable high resolution wide format colour scanner, the 1200 x 1200 dpi Océ CS4236. It includes Océ's Copy Easy software and can scan to PDF, TIFF, JPEG and is even Energy Star-compliant.

Océ's results for Q4 saw revenues drop by -5.5% to €802m with operating income of €27.8m which is roughly 40% less than last year. The company's cost reduction efforts in 2008 saved €80m and according to chairman Rokus van Iperen: "The acceleration of the unprecedented economic downturn has impacted the printing industry since October and as a consequence has also severely affected Océ's financial performance. Amidst this turbulence, we have maintained our competitive position, thanks to our innovative products and strong sales and service ▶

## Spindrift

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organisation. Our business model, with approximately 70% recurring revenues, and continued vigorous cost reductions reduced the impact of the economic downturn.”

**EskoArtwork** is restructuring its business worldwide, doing away with approximately 10 percent of its workforce and reducing operational spending. Carsten Knudsen, the company's CEO said: “2008 continued an unbroken record of growth in our bottom line over the past five years. However, we cannot ignore the current economic conditions, nor the outlook for 2009. In the coming year we will concentrate our efforts on servicing our large current customer base and our strategic developments while acting in a more conservative manner in other areas”.

**EFI** has been awarded prizes for two of its Fiery technologies. Industry analysts BERTL have recognised the Fiery software for its features, functionality, performance, and overall business process value calling it the “best graphic arts colour software”. BERTL also recognised EFI's Command WorkStation as the “best print queue management solution.”

EFI also announced that its Advanced Professional Print Software (APPS) business unit delivered growth for the fifth year in a row with \$61.6 million in full-year revenue and 20 percent year-over-year growth in MIS in Q4. The fourth quarter of 2008 was the strongest quarter ever for MIS sales, and the third and fourth quarters were the best two quarters in a row for MIS in the company's history. EFI's APPS business unit comprises the company's MIS, web-to-print, and inkjet proofing and production workflow solutions.

**Presstek** has filed a lawsuit in America against a distributor of printing plates manufactured by Israeli company VIM Technologies, Ltd. Apparently Prograf Digital Services, Inc. is selling VIM printing plates, which according to Presstek infringes several of its patents. Presstek wants the court to stop the distributor selling the plates and to award Presstek actual damages in compensation for damages associated with the sale of these plates.

**Fujifilm** is building a wind farm in conjunction with Evelop, the project development division of Econcern a sustainable energy solutions company. The corporate wind farm will be built at Fujifilm's European plate manufacturing plant in Tilburg, in the Netherlands. It

is expected to be operational by 2011 and to produce between 15,000 and 24,000 megawatt hours of energy per year. This is 10 to 20% of the energy needed to power Fujifilm's production plant in Tilburg.

Privately-owned **Digital Technology International** (DTI), developer extraordinaire for the newspaper industry, is keeping its end up with new customer signings in 2008. The company's worldwide customer list has topped 1,000 for the first time.

**Kodak** has announced that its first Stream inkjet printheads are being trialled at the Cyril-Scott Company, a division of Consolidated Graphics located in Lancaster, Ohio, USA. Cyril-Scott will use the technology on a Versamark DC3800 printhead carriage integrated inline with a web offset press to print a U.S. Postal Service self-mailer, plus other direct mail applications.

**Newsworld Corporation** and **Atlas Media Communications** have signed a deal for a €2m investment in a new Screen Truepress Jet520 inkjet digital press. It will be used for printing UK, European and US newspapers across the Gulf region. The press is expected to start printing in April.

Announced at drupa last year, **Screen's** PlateRite Ultima 40000 is now shipping. This mega format platesetter was developed specifically for the Manroland Lithoman IV 80-page web press, but it's also suitable for sheet-fed and web offset presses in the commercial, magazine, book and packaging sectors. A full set of B1 punched plates can be produced for a 12-unit press in just 16 minutes!

Version 4 of **Markzware's** ID2Q (InDesign to QuarkX-Press) conversion software is now available for people who want to migrate Adobe InDesign content into new QuarkXPress documents. Version 4 converts Adobe InDesign documents up to Adobe CS4 to QuarkXPress 7 or 8.

**Creo's** colour servers now support Pantone's GOE system. GOE has 2058 new colours arranged for easy cross media colour selection and specification. This means users can translate spot colour into CMYK without loss of colour quality.

**Adobe** has upgraded its Technical Communications Suite, which includes the technical authoring program, FrameMaker 9, as well as RoboHelper 8, which can be ▶

▼ used to put together a help system and knowledge database, and Captivate 4, an e-learning authoring tool. The suite also includes Photoshop, Acrobat Pro Extended and Presenter 7.

Adobe has installed over 100 million copies of the Adobe AIR platform. AIR is a cross platform environment for developers wanting to combine HTML, Ajax and Flash to create and deploy rich internet applications.

Adobe is also planning to publish the Real-Time Messaging Protocol (RTMP) specification. This is used to transmit audio, video, and data between Adobe Flash platform technologies. Adobe's generosity is part of its contribution to the Open Screen Project, an industry-wide initiative for delivering rich multi-screen experiences to web users on personal computers, mobile devices, and consumer electronic devices.

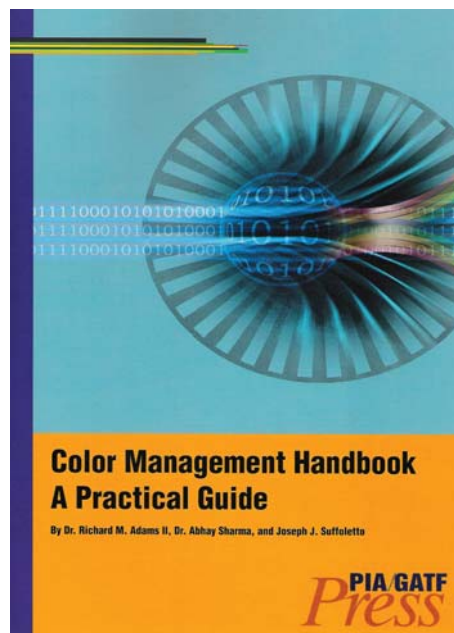
In an effort to spark international enthusiasm for **IPEX 2010**, the organisers are investing into a series of international road shows taking place throughout 2009. IIR's objective is to "help exhibitors maximise their presence at the show" with presentations about planned visitor features, the IPEX 2010 marketing campaign, co-marketing opportunities and a case study from an existing exhibitor. Hmmm.



# Driftwood

*(Useful stuff washin' up on our shores)*

## Color Management Handbook - A Practical Guide



This is a joint effort between three authors, of whom two have already published books on colour management, Richard M Adams and Abhay Sharma, both from Ryerson University in Toronto. The third author is Joseph J Suffoletto, technical consultant at PIA (Printing Industries of America).

Anyone who has read these authors' previous books, "The GATF Practical Guide to Color Management" (Adams/Weisberg) and "Understanding Color Management" (Sharma), may recognise some sections and principles of methodology, but all in all it's a thoroughly renewed and technically updated take on this very important topic. The underlying theory hasn't changed much since the introduction of the ICC standard in 1993, but the practical implementation certainly has. And owners of the older books will find this new book useful, with entries on things such as how to handle the increased use of optical brighteners in today's printing papers, how to calibrate and check a monitor and so on.

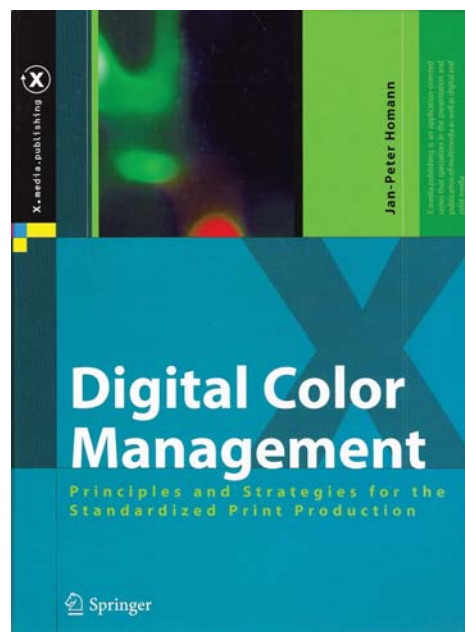
There are many "real life" practical tips – flexo printers for example will find advice on how to characterise a flexo press and then successfully use the ICC profiles when converting images to this printing method. Even advanced profiles, such as when printing with more than

four colours, as in multicolour printing in packaging print, using n-color profiles, is described in the book.

ISO 12647, SWOP and GRACoL 7 are briefly mentioned in the book, but the emphasis is on SWOP. This is perhaps the weakness of the book for an European or international readers, since international colour management for several years now has been centered around ISO, and not SWOP. But there are other books and resources that focus on ISO-compliant printing, so this can be easily overlooked. All in all this is an easy and enjoyable read, on a complex topic. Between them the three authors have covered every aspect of modern colour management.

Color Management Handbook, First Edition (PIA Catalog No 1784, ISBN 0-88362-587-3; 978-0-88362-587-3) is available to PIA members for \$75 and to non-members for \$99. Or it can be ordered from Amazon and other bookshops for about the same price.

## Digital Color Management by Jan-Peter Homann



This is the third edition of Homann's book, but the first edition to be translated into English (well, American English). It's published by Springer Verlag, and the English version has been peer reviewed by Paul Sherfield at The Missing Horse Consultancy, UK.

While Jan-Peter Homann goes through the history of colour management, and the underlying theory, the focus is on practical implementation. The author has a somewhat unique insight into both US-based standards, ▶

▼ such as SWOP and GRACoL, and ISO standards, like ISO 12647. But rightfully, in our opinion, he has put the emphasis on ISO standards, not only for print, but other relevant and supporting standards like PDF/X (ISO 15930) for colour management of documents.

Homann digs deep into the practicalities of using device link profiles, and ends the book with clear suggestions of safe and practical workflow scenarios, both for US and international printing conditions. The author should be praised in particular for the courage to suggest clear and understandable improvements to both methodologies – SWOP/GRACoL and ISO/FOGRA. This book is a treasure that has been reserved for too long for only German speaking printers and publishers – it should be read by anyone who strives to obtain predictable print results using ISO standards! Our only complaint is in the translation, which retains too many German constructions, for example the title, and the use of US spellings.

Digital Color Management (sub title Principles and Strategies for the Standardized Print Production), ISBN 978-3-540-67119-0, Springer-Verlag Berlin Heidelberg, is available through several distribution channels and costs about €60.

## Spindocs

*(Where the spinner gets spun!)*

***Congratulations to JK Rowling who has now been voted an IPEX 2010 'Champion in Print'. Hopefully the organisers will give Rowling a small certificate to go alongside the honorary degrees she already holds from the likes of St Andrews University, not to mention the Legion of Honour medal that the French government have just given her.***

***But while we are fans of the Harry Potter series, we're not entirely convinced that writing a best-selling book necessarily qualifies people for the Champions in Print award which is supposedly given for influencing and shaping the printing industry across the world.***

***On that basis, the award could just as easily go to Argos for the sterling way that it has supported the industry through commissioning a large number of catalogues each year, or Rupert Murdoch for all those newspapers.***

***The first Champions in Print award went to Benny Landa, the force behind the Indigo printers, a man who can genuinely be said to be one of the great visionaries of digital printing. Then again, Rowling is better looking than Landa (sorry Benny, but it's true) and will probably generate a lot more publicity for the IPEX show beyond the print industry. And we certainly hope that it will be a magical event.***

## Expandocs

*(Casting some extra light on a recent news story)*

This month we've been playing with FileMaker's Bento database, which was recently updated to version 2.

Bento is really a baby database, perfect for those of you who need to track something relatively simple, like a list of equipment complete with values and serial numbers for insurance purposes, but without having to get your hands dirty with any of the, you know, programming stuff, that you usually need to build a database.

Its greatest strength, and perversely, greatest weakness, is that it only runs on Apple OS X 10.5, or Leopard to its close friends, so those of you that are still on Tiger or, dare we mention it, Windows, can stop reading now. This is because Bento is built on the same database structure as Leopard itself which lets it hook directly into tools such as iCal, Address Book and iPhoto. FileMaker is a subsidiary of Apple, though it doesn't like to make a big fuss about it.

This means that you can use Bento to make a fairly well-featured asset management system for your digital photos complete with the images and the ability to edit them simply by using Bento to build the asset manager on the back of iPhoto.

Or you could use Bento to add extra information to entries in your Address Book, such as the business dealings that you had with someone, and then you could link this through to iCal to include meetings with that person and deadlines for jobs.

These are all things that are difficult to do in FileMaker Pro, so Bento has a lot of promise. But it's also deeply frustrating, as if FileMaker has deliberately stripped out

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any useful functionality in a misguided attempt to stop Bento competing with FileMaker Pro. It has very limited design options, no ability to share data across a network, no real security features and it's best to avoid printing out reports. And disappointingly there's no interaction between FileMaker Pro and Bento, which is a great shame because both programs have their strengths.

The latest version of Bento adds some nice touches to the original. You can now import and export spreadsheets from both Excel and Numbers, and it also integrates with Mail so that you can collect messages on a given subject together in one place. You can also add RSS feeds, but it doesn't seem to update these automatically. There's a new split view feature so that you can see both a table of records and a form all together in one view.

Bento is quite good fun to play with and extremely easy to use out of the box [As opposed to using it in the box? – LB]. And it's a cheap option at £29 or \$49. But with each version that comes out, We can't help feeling that the next one will mark the point when it starts to become genuinely useful. But don't take our word for it - you can try Bento out for yourself with a free 30 day trial from the [www.filemaker.com](http://www.filemaker.com) website.

Its also worth noting that Filemaker has just released version 10 of its main database, FileMaker Pro, and we will be having a look at this shortly.

## ***Boomerangs***

*(Your feedback fed back)*

*Well done to eagle-eyed reader Paul Sherfield, of the Missing Horse consultancy who emailed us to say:*

Also it is interesting and spooky to note from the current Digital Dots that the first certified ISO printer in Sweden is called 'Paul knows' ;-)

*Actually, Paul Knows is one of the oldest of the Swedish printing companies, the unusual name having come about when...aaagh, I can't keep this up. We admit, it was an error, although as it turned out, Paul really did know that the printer in question was Edita Bobergs. This one slipped through our proofing process, though Todd corrected it within a few days.*



# Signs of the Times

**After nearly thirty years in the industry, going all to pieces over a new technology is rare for us. Long years looking at progress bars make it tempting to see new software as just another database or XML implementation.**

But a cynic's eye is half shut, so we strive to keep our eyes open because, even for database implementations, innovation is ceaseless and once in a while we are richly rewarded. Last year at Ifra we came across a prime example of how human imagination and clever IT can come together to create something quite unprecedented. We'd never heard of Nstein, but its work is truly groundbreaking.

This Canadian company was started by a bunch of canny linguists and the work they are doing takes text mining to new levels. They started with research and development into semantic techniques for content analysis. Semantics is the branch of linguistics that deals with what individual words signify. Since the meaning of a word often depends on its subjective context, assigning meaning can be extremely slippery, hence semantics. Semantics is one of the reasons why squabbles with spouses and offspring, especially teenagers, can get so tangled! But we digress. Using semantics, Nstein has managed to build a software algorithm that extracts meanings from a text. The meanings go beyond making a straight definition of the word and simply finding a match in a look-up table.

The company now has 200 people worldwide with a European head office in the UK. This office supports the Europeans amongst Nstein's total client base of 130. In early 2008 the company acquired UK developers, Picdar, with a view to getting closer to newspaper editorial workflows. The acquisition helped add 12% to Nstein's revenues of around \$20m a year and gave the company a leg up into the newspaper business. At the time of the acquisition Nstein's president and CEO Luc Filiatreault said that "with Picdar on board, we now have access to a very prestigious portfolio of media clients in the UK and have increased our market share in Europe".

Picdar's Media Mogul software is very complementary to Nstein's web content, text mining and digital asset management systems, providing a sort of picture equivalent to the company's text analysis engine. Both Media Mogul and Nstein work with Oracle relational databases, and are designed to serve as many results as fast as possible to users, including advertising, text, image and dynamic content. Both have developed such that their technologies optimise contextual relevance for content to a greater extent than is otherwise possible. This is why this software could be extremely valuable for advertisers.

**Using semantics, Nstein has managed to build a software algorithm that extracts meanings from a text. The meanings go beyond making a straight definition of the word and simply finding a match in a look-up table.**



▼ The Nstein technology is based on a powerful linguistic analysis engine, designed primarily for text mining. The developers have used a technique called morpho-syntactic analysis, which works out what job different parts of sentences and words are doing. Along with this data the text components can be compared to organised lists or classifications which define how different words relate to one another. Nstein's topic-specific taxonomies provide the foundation layer for its automated categorisation of content elements, according to a given word, its root and affixes, and its function.

This basic model means that Nstein's software, in conjunction with its word and function taxonomies, can make an evaluation of the various levels of sentiment and feeling in a text. If there are no words that suggest feeling or sentiment, the software can work out that a story or caption is a series of straight facts. So words associated with sentiment or emotions would suggest that the piece is opinion-based. This works along the same principles of database comparisons as used in search engines, but uses linguistic criteria instead of straight word and synonym matches. This gives tremendous flexibility in application.

The technology provides content analysis and retrieval for editorial research, using the Nstein algorithm to yield much more useful results than one generally gets with library systems based on straight matching criteria. The Nstein technology looks at the matches, summarises them and uses this analysis as the basis for additional, otherwise unspecified, results, which may not necessarily include the same search criteria but which may be useful for the story.

Publishers are also using this technology for content repurposing, with the added benefit of providing context summaries to the search results. Each piece can be presented as a basic précis, which is much shorter than the original text and so much quicker to read. This is of considerable help to journalists who need to find the most relevant stories from an archive quickly. It's also an excellent way to make generic search and retrieval faster.

Nstein's approach is more sophisticated than filtering out results based on a relevance rating. Because content results are distilled down to their bare essentials as part of the retrieval process, this technology has the scope to handle very large volumes of content based on actual meaning, and so makes it easier for users to manage it. This also makes for more efficient content repurposing, because there is no need for people to make subjective choices: selection can be automated using linguistic analysis techniques.

This type of approach is gradually being used for online search engine optimisation. The analysis can help search engines to optimise the number of page views offered which can get the relevant web pages to the reader more efficiently. This would clearly suggest an enhanced potential for higher advertising revenues and also facilitates personalisation and

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▼  
relevance matching. If peoples' website visits are tracked via cookies, it should be possible for a search engine to present content based on what someone's looked at in the past. If the person is a subscriber, so much the better: content can be managed as a branded service, with the publisher matching products to user profiles, reading preferences and surfing patterns. Using these principles of content analysis and refinement, publishers have greater scope to develop contextual advertising, integrating subscriber and bespoke ad services as part of a single package.

In 2006 Nstein started to add web technologies to its tool kit, rapidly gaining interest from publishers who wanted to add content analysis to the information they put online. Today Nstein's technology is used to cut costs in libraries and archives, and to help develop new web-based revenue streams for its customers. Customers include several major publishers such as Corbis, the BBC, Time Inc and Condé Nast. Publishers use this technology to provide journalists with sophisticated search and retrieval tools, and to improve website performance by making content easier to find.

According to Nstein, there is no reason why the company couldn't apply the same principles to video, assuming that written scripts and visual analyses were available. The scripts are fundamental to the success of this sort of evaluation and retrieval because live speech tends to be unstructured. According to Luc Filiatreault: "It isn't beyond the bounds of possibilities that linguistic and phonetic analytics could be developed to overcome this kind of problem". Now that would be a clever trick.

– **Laurel Brunner**

**Today Nstein's  
technology is used to  
cut costs in libraries and  
archives, and to help  
develop new web-based  
revenue streams for its  
customers.**



## Written on the label

**While many sectors of the print industry have embraced digital technology, the label sector has been slow to really adopt digital printing in any great numbers. However, that has been changing over the past year, prompted both by market conditions and a number of new printers.**

The market for digital label printing has been growing steadily for a number of years, as the run lengths have dropped and the digital printers have taken market share from both litho and flexo printing. Bizarrely, the current economic climate actually seems to be stimulating the digital label printing market, as Sean Skelly, director of marketing for EFI Jetrion, notes: “With the economy the way that it is consumer product companies and label producers are very concerned about waste and cost, and so you are seeing a lot of consumers buy store brands instead of some of the more expensive consumer branded goods and because of that there’s a lot more demand for short runs.”

According to Christian Menegon, business development manager for HP Indigo, there are two main advantages in using a digital label printer: “One is the ability to deal with a short run now. We don’t have any start-up costs for the plate and so on, because otherwise a printer is having to decide on how many jobs he has where the set-up time is longer than the printing time. If it’s once a month then digital is not for you but if it’s more than once a day then you should consider digital. That’s basically the key argument and the other one is variable printing which is starting to become more popular.”

Greg Neesham, sales director for Punch Graphics, says that the uptake of variable data has been even higher in the label market than in the general commercial market: “The reason is things like metadata, which is things like barcodes, and numbering. Often people want 20,000 labels, but they want them numbered 1 to 20,000, or with a barcode, and you can implement that with our front end, so if you haven’t got variable numbering coming over with the artwork you can introduce that at the point of RIP’ing on our system.”

However Marc Tinkler, senior business manager for Epson, says that variable data doesn’t seem to be so big at the moment: “People talk about variable data but in a lot of the research that we’ve done and the people that we’ve visited it doesn’t seem to be a big factor yet. I have a feeling that it will become more important in the future either because it’s there for security reasons, tracking and tracing, things like that, or for serialisation or for real variable content, like changing recipes on a label on the fly so that all the various things on a shelf are different and you don’t have to mix and match the labels with the fillings, they are just automatically mixed up on the roll.”

**“With the economy the way that it is consumer product companies and label producers are very concerned about waste and cost, and so you are seeing a lot of consumers buy store brands instead of some of the more expensive consumer branded goods and because of that there’s a lot more demand for short runs.”**

**– Sean Skelly, director of marketing for EFI Jetrion**

## ▼ Inkjet

Up until now the market for digital label printing has been dominated by Xeikon and HP, both of which had machines capable of run lengths up to around 2000 linear metres. Last year Xeikon introduced the 3300 label press which can easily handle run lengths up to 4000 linear metres. It has a much higher resolution than the older 330 printer at 1200 x 3600 dpi and can print at 20 metres per minute. It has standard CMYK colours, plus a fifth unit for a spot colour or varnish, and handles substrates from 40 to 350gsm.

Not to be outdone, HP is just starting to ship its latest machine, the Indigo ws6000, which doubles the capacity of its existing ws4500 to also be able to handle run lengths of 4000 metres cost-effectively. This can run at 30 metres per minute in four colour mode, or faster with less colours because of the way that the Indigo printers lay down their colours one at a time. This has room for seven colours and a resolution of 1200 dpi.

The ability to handle these sorts of run lengths is important as Menegon explains: “Probably 75 per cent of the jobs are below the 4000 figure. It’s a huge market, but this doesn’t mean that all of them will be or can be done digitally, essentially because of some technicalities because you may have some special effect that only a screen ink or a flexo ink can do that digital will not be able to address.”

Xeikon is using dry toner and HP is using Indigo’s Electro-ink, but a number of other companies have also started to introduce label printers using inkjet technology. Menegon says: “Inkjet will be able to do things that our inks will not be able to do. For instance, with inkjet you can have any type of pigment that you want so you can make one which is resistant for outdoor applications, or one which is heat resistant, because it’s easier to put a pigment into an inkjet technology than it is to either dry toner or liquid electro-ink. So you have a wider choice pigment-wise in inkjet, but on the other hand in order to print a web of 30cm wide you need a few thousand nozzles each of which can be blocked because of a particle that is a bit bigger than the others in the ink, so there are pros and cons for both which shows that there are some complements in the technologies.”



*This Xeikon 3300, which was officially launched at the last drupa show, comes with an in-line finishing unit.*

▼ However, as Tinkler, points out: “Inkjet, when you compare it with other existing digital technologies, could be potentially lower in terms of capital investment, lower running cost, lower maintenance requirement, all the good stuff that people know and love about inkjet, especially if it’s aqueous inkjet, compared to electrophotographic technology.”

Epson has yet to launch its own label press, but has shown prototypes at several shows, including the last drupa and Label Expo. This is a seven colour printer, using aqueous inks. It has Epson’s MicroPiezo heads which can deliver a resolution of 720dpi and a speed of 5 metres per minute. Tinkler explains: “It has a 330mm web which it moves through the press, and stops and a 915mm long frame is printed and then it moves on. So you print a frame and then move it and we use a normal serial or moving head technology where you can go backwards and forwards a few times to get the best quality.”

Tinkler adds: “We have found that most people will not want to compromise on the quality they are producing just because it is a short run and in fact that becomes the most important thing, and the speed becomes incidental so long as it gets the job done. But they must have a level of quality that’s satisfactory or at least comparable with what they have to produce now.”

In contrast, EFI has opted for a single-pass approach in its Jetrion 4000 printer. Skelly explains: “We use the Xaar 1001 heads, which have very good image quality. They are a greyscale head which means you have multiple drop sizes and it allows you to get better image quality because when you need to print fine detail you can use a small drop size and when you need to print flat fields you can use a larger drop size. The other thing it has is a continuous ink supply that improves reliability so that means that the jets won’t be going out and you won’t have a jet not firing, which is [not] what you need in a production environment.”

The Jetrion 4000 can achieve speeds of between 15.2 and 30.5 metres per minute, depending on its configuration. Skelly says: “The definition of short run keeps changing and one of the reasons is that we get ever more efficient in the inkjet world, and our cost of raw materials is going down, and so that makes us even more cost competitive with a flexo press. So we can print runs of 5,000 or even up to 50,000 labels to be cost competitive with analogue presses and we expect that to go more and more.”



*EFI Jetrion has just launched this 4000 label printer which uses UV inks and can print to a wide range of substrates including plastics, paper and even metal.*

▼  
He says that a flexo press may only be productive for 40 per cent of its time with the rest being stoppage and make ready: “The way we think of the 4000 is that it’s very much a complement to a flexo press so you can optimise your work in your flexo press room by putting the longer jobs on your flexo press and not stopping so often and then taking the shorter run jobs and putting them on your 4000 and then you get an optimal factory output where you are not stop-starting your analogue press all the time.”

### Future directions

Of course, for brand owners to be able to order a greater number of shorter runs of their labels means that there must be a direct ordering system in place, as Menegon explains: “We see this happening more and more through web-to-print which is not only for the re-ordering of existing jobs but also for the production planning. So we see some connections between an MIS at a brand owner on their production line and since they know what they need to manufacture as a product they will also know how many labels they need for a given container and a given product. This information is fed to the MIS of a printer and the production system there sends the right file at the right moment to the printing press. We haven’t standardised this yet because each brand owner has different production requirements but conceptually it’s the same.”

There is also some debate as to whether or not the label line can be integrated with the product line. Menegon says: “This is the \$1m question. You cannot imagine the number of times where we are approached by a brand owner. The problem is that they are dealing with a certain volume and none of the digital processes today can cope with that, so that even though we have a certain level of flexibility we are still far behind their production lines. But conceptually the interest is there.”

However, as he points out, printing labels still requires a level of knowledge about printing, and few brand owners really want to get their hands dirty with the actual printing, so that for the moment they are likely to continue outsourcing their label printing to specialist printers.

– **Nessan Cleary**



# Quality Management and ISO 12647

**Print certification according to ISO 12647, the ISO standard that defines print process quality standards, is gaining momentum. It started in Germany, home to Fogra, the 600-member German industry association. Although most of Fogra's members are in Germany, about one third come from elsewhere.**

Fogra has recently been working with the German printers' association, BVDM, to develop a compliance programme for ISO 12647. Although this is not an accredited programme, in that Fogra is not recognised as such by an official accreditation body, over 300 printers have received certificates confirming their compliance to Fogra's interpretation of the ISO 12647 standard.

Under the auspices of government sponsored organisations, we have been working with industry associations in the UK and Sweden. The BPIF (British Printing Industries Federation) and the Swedish Printers' Federation have been working to develop a programme of formal accreditation services, so that companies that can meet the requirements of ISO 12647 can be independently certified.

They have taken a slightly different approach from Fogra in the belief that compliance to 12647 should be integrated into a more systematic, formalised business approach, one that helps the printing company to improve quality management throughout the organisation. The ISO 9001 standard is the ISO framework for an efficient Quality Management System, and it is also the foundation for the Swedish Printers' Federation and the BPIF's ISO 12647 certification programmes.

We have written quite a lot about the ISO 12647 print standard, and as a follow up Paul attended, and passed, a week long course on ISO 9001/12647 certification. The course was jointly arranged by two UK companies, Print + Media Certification and IQMS, and it was structured around the materials used for 9001 auditor training. He was particularly interested to learn more about how 12647 ties into a quality management system according to the ISO 9001 structure, and this was well covered over the five days, plus homework, of classes.

This course is the first of its kind to teach people how to implement a process management scheme, and to teach them how to audit for full ISO 12647 certification. The course was based on the framework developed by the BPIF's technical committee, and which has been submitted to UKAS (United Kingdom Accreditation Service) for approval. UKAS is the only UK accreditation organisation recognised by the UK government for assessing conformity to international standards. UKAS is a member of the International Accreditation Forum, Inc. (IAF), a world association ▶

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of Conformity Assessment Accreditation Bodies, which ensures that its members only accredit competent and independent organisations.

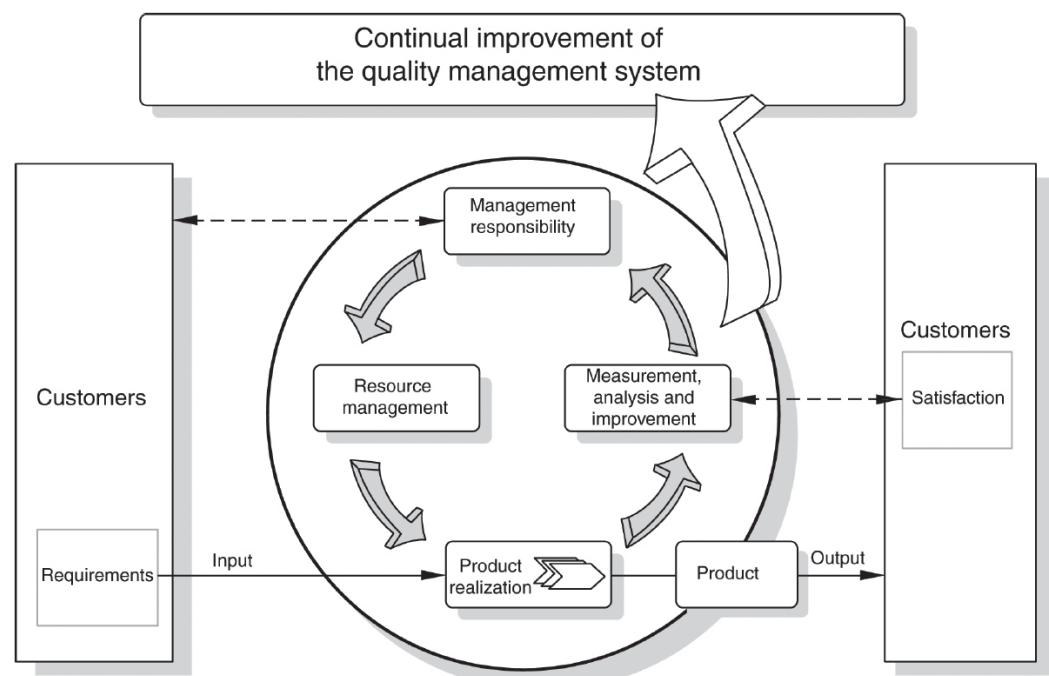
At the core of the BPIF's certification scheme is an assumption that the implementation of the ISO 12647 print standard should be within a framework of a clearly defined Quality Management System, as is outlined in ISO 9001. The main reason for this is to guarantee a consistent and repeatable level of high quality output to the customers, including file preparation and production processing checks. This doesn't mean that the printing company needs to implement and seek certification for a complete ISO 9001 system as well as 12647, but that it must at least implement some of the core elements in that standard. This will for example include some of the necessary prepress processes, as well as documented procedures for customer complaints and corrective actions taken when processing or printing errors occur.

### Do it right the first time

According to ISO 9001, a Quality Management System (QMS) helps the organisation to do things right the first time. There are many approaches that can be used within a QMS, which are well documented and range in complexity, including Six Sigma, TQM, Lean, Ishikawa and Just In Time, to mention a few. But they all fit into the overall goals of ISO 9001 which are to provide consistent customer satisfaction and

documentation of the core processes, keeping secure the records needed to provide systematic and reliable proof of how the QMS is applied and the way that it functions. The ISO 9001 standard also requires that companies establish tight control of products prior to delivery, and that they document corrective actions taken if nonconforming products are found in the process.

Companies must also be able to demonstrate that they can plan and execute preventative actions in order to stop errors recurring, for example through regular internal audits where the management participates in an active and committed way. One of the repeated mantras in the ISO 9001/12647 course is to "find the root cause" of a problem. As an example of how to go about doing this Paul and his cohort were taught the "Toyota Way": ask 'why' five times about everything. One of the other



*A Quality Management System based on ISO 9001 works according to the PDCA-principle (Plan, Do, Check, Act), in order to achieve continual improvement in all the processes involved. This of course means that relevant measurements are needed for all the processes, including the degree to which customer is satisfied with the products. (Source: ISO 9001:2000)*



▼  
mantras was to keep the participants' collective noses to the grindstone, all day and into the evening with homework as well!

## A process oriented approach

ISO 9001 has been written to provide QMS guidelines relevant for every type of business and product. It requires a process-oriented approach any business can apply when analysing the business and production processes with a view to improving performance. It's especially hot on the importance of identifying where there are interactions, or links, between different processes, and this is another reason why it is highly relevant for print quality control. Many problems in production can be traced to a lack of information, which points to problems in the communications process, and perhaps a lack of proper planning. This is why embedding ISO 12647 process control within the framework of 9001 makes considerable sense.

ISO 9001 very much follows the PDCA process (Plan-Do-Check-Act, see illustration), where efficient communication of all the necessary information is key. This of course includes information from the customer so that the requirements for the job at hand can be correctly specified. This is also where ISO 12647 and related ISO-standards very clearly hook into an ISO 9001-based Quality Management System. By referring to a distinct ISO standard such as 12647, a print customer can very clearly specify the quality requirements for a particular print job. If a printer is certified for ISO 12647 by an accredited body, the print buyer can be confident that his quality expectations will be met, and that if for some reason they are not, he has clear recourse.

And this works both ways because the printer can specify very clearly what kind of data and documents the customer needs to supply in order for the print job to meet specifications. When it comes to proofs, the ISO 12647-7 standard outlines this in detail, and the printer can check incoming proofs for conformance. When it comes to documents, ISO 15930 (PDF/X) clearly describes what a file needs to conform to for print, such as that the correct ICC profile is embedded in the file. Using preflight checking tools this can be checked early on. This procedure lends itself to helping all parties involved, including agencies, customers and print providers, to ensure smooth workflows with high quality print results. It can also help identify possible preventative actions on a job-by-job basis to avoid errors in print media production.

For Paul, attending this course has strengthened his belief even more – that a certificate according to ISO 12647 should not be taken out of context. It needs to be tightly integrated with a systematic and well-structured quality management system to be of full benefit for both the print buyer and the printing company. He knew the ISO 9001 standard well beforehand, but after this course he's even more confident that the ISO 9001 framework is well suited to support a successful implementation of ISO 12647. It should reduce errors, waste and make ready times as well as strengthen the company profile in the eyes of the customers. ►

**ISO 9001 has been written to provide QMS guidelines relevant for every type of business and product. It requires a process-oriented approach any business can apply when analysing the business and production processes with a view to improving performance.**

▼  
Improved customer satisfaction should in turn also mean improved employee satisfaction!

## What happens next?

In the UK there are some 500 - 600 printing companies that have already got an ISO 9001 certificate of one sort or another, although it's not certain how many of these have been awarded by UKAS-accredited organisations. Either way it makes considerable sense for these companies to complement this certificate with the print product specific part, ISO 12647, to be able to offer customers a clearer guarantee and accountability. Printers who don't have a full ISO 9001 certificate will still be able to learn enough about the core elements of such a quality management system framework as part of their compliance with ISO 12647, as 9001 is the foundation that provides the QMS within which I2647 functions.

In order to clearly specify what types of documents would comply with the ISO 12647 standard, it's probably a very good idea to look into what PDF/X can do here. For example PDF/X-1a works fine in normal CMYK production, and the format requires that a specific output ICC profile is embedded into the document. If the publisher and printer use preflight routines they will detect faulty files early on. If faulty files are detected regularly preventive actions should be taken, instead of just continuing with corrective actions at a very late stage.

Another key element in the ISO 9001 quality process is the importance of management providing sufficient training for all of the staff involved. This ensures that the people involved can live up to the quality management policy expectations on all levels. This of course includes admin, marketing, fulfilment and distribution – not just prepress- and press-related processes!

A similar setup to the one the BPIF is suggesting has been in place in Sweden since last May, supported and promoted by the Swedish Printers Federation. The first printing company certified according to ISO 12647-2 (combined with an ISO 9001 certification) is Edita Bobergs and several other printers are working towards accreditation.

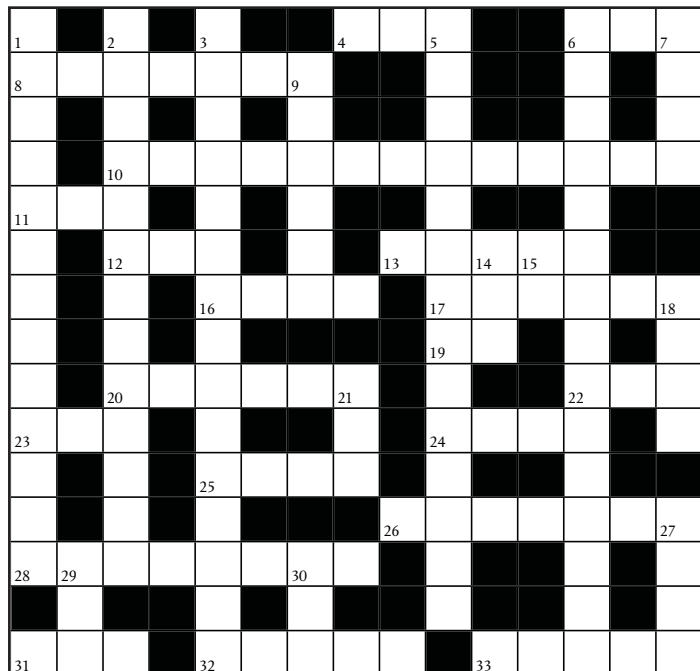
At the moment the UK's expert committee is awaiting approval of the certification documentation from UKAS. Several UK consultants have followed the accreditation course and are preparing for the next step, which is work experience in the field. Once qualified these people will be able to work with any accredited certification company belonging to the IAC, the international network of certifying organisations.

– Paul Lindström & Laurel Brunner



## Graphic Arts Crossword Puzzle Number 15

This month, in an effort to make it trickier and easier at the same time, we've taken a bit of a different direction with the crossword puzzle. From now on, the Digital Dots crosswords will follow particular themes, starting with colour management. Not every clue is exclusively specific to colour management, so don't agonise too much if you get stuck. If panic does start to set in, you can find the answers on the IGAEF website ([www.igaef.org](http://www.igaef.org)). If you like this idea of a theme for the crossword puzzle, please let us know. Also let us know if you really hate it. And if you'd like to see puzzles themed around specific companies, please do tell us, as the pixies aren't entirely agreed that this is a bad idea. **The answers for the previous puzzle are on the next page.**



### Across

4. The opposite of UCR. (3)
6. Appropriate (3)
8. You have to wait while software is doing this. (7)
10. Where the most gorgeous colour should be printed. (2, 6, 5)
11. Black gold? (3)
12. Local Area Network (3)
13. German trade association selling colour certification and consulting services: buy one get on free? (5)
16. What clients and printers have to do to make sure everyone is happy? (4)
17. Something stolen? A description for enhanced colours? (6)
19. Not off. (2)
20. Ruined, like colours unconverted. (6)
22. Source of ultimate nebulae? A light source. (3)
23. A bad source for skin tone measurements. (3)
24. You need this after a long day's colour management toil. (4)
25. Specifications for Newsprint Advertising Production (4)
26. How careful one must be with this in colour management. (4, 3)
28. Another way to describe an advisory committee. (8)
31. The colour space of the human eye. (3)
32. Picture element. (5)
33. So can each nuance exist, when we try to capture its colour? (5)

### Down

1. Stretchy beliefs? Or some colours' inaccurate numeric equivalents? (7, 6)
2. In the Profile Connection Space which ones will work? (3, 2, 3, 5)
3. The Fogra wedge and others for example, are internationally recognised. (3, 7, 5)
5. Poor grey balance can result in this. (1, 3, 6, 4)
6. A sweet standard reference for checking presses and proofers. (6, 4, 5)
7. The cohesion between ink and film particles, a sticky thing to balance. (4)
9. General requirements for applications in commercial offset, an American thing. (6)
14. It makes the colours go wrong, but it's tasty. (3)
15. Raster File (2)
18. Completed (4)
21. Position in a colour space, the maximum lightness. (3)
27. Colour management: effective and so easy. (4)
29. Technical Advisory Group (3)
30. Nil result or to wreck something. (3)

Answers for Graphic Arts Crossword Puzzle Number 14

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



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