Digital Dots

Spindrift

Snuggling up to the Graphic Arts industry since April 2003

Volume 12, Number 8• December-January, 2014-15

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

Coming together is a beginning; keeping together is progress; working together is success.

– Henry Ford

Dear Reader,

This has been an interesting year for printers and publishers. We've seen all manner of dramas, as publishers strive to maintain profits in the face of competition from online content providers. Hachette and Amazon, which control over half the book business, seem to have patched things up. Newspaper publishers struggle to maintain their high profit margins in the digital world, and everyone is looking for new business models.

For manufacturers trying to support customers' changing needs, this has been a difficult year, although they are seeing rising business activity. Companies are reconfiguring themselves to provide services as well as products, but it isn't easy. Figures from some of the industry's biggest players tell a stark tale. Heidelberg's boss, Gerold Linzbach, stewarded the company to profit for 2013/14, but turnover continues to fall. The company's first half of 2014/15 shows a loss of 4.2% on declining revenues. The share price is down from €3.10 in 11/2013 to €1.99 in 11/2014. HP's share price in 11/2013 was $25.26 and has risen to $37.50 for 11/2014. Printing division operating margins rose by 18.1% but revenues were down by 5%.

Both are undergoing massive business rethinks, but where does this leave customers? It isn't obvious, but they are in a stronger position as these mighty enterprises cut their corporate cloths to better suit their graphic arts markets. This means closer relationships with customers and deeper partnerships with technology developers and service providers. And hopefully higher profits in 2015 for all of us.

Best greetings for the holiday season and best wishes for 2015!

Laurel, Nessan, Paul and Todd

In This Issue

Agfa Processless Plates

Agfa has had considerable success with its chemistry-free Azura CtP plates but has now developed the technology to its next logical step with a develop on press plate, Azura TE. Laurel Brunner looks at how this works and how it will stack up against the other develop on press plates currently in the market.

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Boxing Clever

HP has developed a version of its Inkjet Web Press to print to corrugated board with the announcement of the T400 Simplex. Nessan Cleary visited the first installation, Obaly Morava in the Czech Republic, to see how well this fits into a conventional corrugated production line.

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Colours In The Cloud – Print Validation

Paul Lindström has continued his series looking at cloud-based colour management solutions, with pressSIGN from Bodoni and PrintSpec from Mellow Colour. These allow for consistent colour across different devices and multiple sites.

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Regular Features & Special Treats

News Focus

Fujifilm has improved its Jetpress 720 commercial inkjet press with a new 720S model. Modifications have been made to the ink jetting, print drum surface and paper vacuum control, which should reduce paper deformation in highly inked areas. Fujifilm claims to have improved the overall productivity though it has the same 2700 B2 sheets per hour speed of the original.

Delphax is to use Global Graphics' Harlequin technology as the front end of its Elan 500 cut-sheet inkjet press. This press, which uses a Memjet print engine, can produce up to 500 A4 pages per minute. Delphax has previously used Global Graphics RIP technology for its Imaggia and CR systems.

KBA latest Q3 figures reported an 8.5 percent rise in sales to €791.8m. This increase in sales, together with KBA's focus on its expanded service business and its cost savings program all resulted in an operating profit of €7m. This was an improvement of approx. €18m. The group posted a pre-tax profit (EBT) of €1.2m after nine months compared to a loss of €16.3m year-on-year. However, although the sales of sheetfed presses have been relatively healthy, web offset sales were lower than expected.

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Heidelberg has launched a die cutter and two folding carton gluing machines that were developed under the partnership announced earlier this year with Chinese manufacturer Masterwork Machinery. The Promatix 106CS die cutter can carry out both die cutting and embossing at a speed of 8,000 sheets per hour. The Diana Smart 55 and Diana Smart 80 are mid-volume folding carton gluing machines, with the 55 being for small cartons and the DS80 for straightline and lockbottom cartons.

The Ghent Workgroup, or GWG, has proposed new PDF specifications that could improve the approval cycles used in packaging. These deal with special colour handling with spectral values as well as extensive non-content and finishing standards. They also allow for different users to see different content from the same PDF file. Thus, for example, brand owners would be able to see 2D packaging graphics without all of the complex technical information cluttering up their view while printers could review all content, including the technical items that may not even print on the final package.

X-Rite has updated its Pantone Certified Printer Program for commercial printers and packaging converters in order to keep up with new industry standards. This program involves a Pantone Certified Printer Audit that reviews preflight, file preparation and proofing through to ink formulation and mixing as well as process control in the pressroom. The idea is to use a standards-based approach to manage processes for consistent and repeatable colour.

Heidelberg has launched a series of new colour management contracts. There are several levels - Platinum, Gold, Silver and Bronze – offering a mix of service levels from a full certification through to a colour health analysis to run a press to agreed colour targets.

Heidelberg has also extended its Performance Plus service agreements to the European market. This is a consultancy and implementation service that Heidelberg claims can help customers improve their output through improved workflows, operator skills and machine operation. Harald Weimer, the Board member responsible for Sales and Heidelberg Services, says: "We have moved from maintenance to performance in our support mindset."

CMA Imaging has developed a cloud-based colour management solution called ColorCloud. Users pay per click for each colour profile, though customers will need a web browser and a measurement device. CMA says that this system will lead to ink savings, quality control, and colour standardisation across devices, platforms, and locations.

Carsten Knudsen is stepping down as head of Esko on 1 January 2015. He will be replaced by Udo Panenka, who is currently senior vice president for Esko's Global Sales & Marketing.

Agfa's Q3 results show a 7.7 percent drop in revenue for the group overall to €636 million, which Agfa attributed to the overall economic weakness and the unstable political situation in certain regions. However, profits rose 2.1 percent to €196 million. The Graphics division saw a 10.1 percent drop in revenue to €328 million though the recurring EBIT rose 2.1 percent to €14.7 million.

Heidelberg has bought the Belgian consumables company BluePrint Products NV, which is a major producer of founts and washes as well as other pressroom products. Heidelberg has already said that it intends to buy other companies to increase its share of the market, which it currently estimates as being around 5% of a total €8bn global graphic arts consumables market.

The Australian MIS vendor **PrintIQ** has worked with Enfocus to develop a new IQconnect module that works with both the Switch workflow and PitStop Server. PrintIQ is a 100% web-based print management system that's mainly aimed at digital printers. The IQconnect module uses Enfocus Switch to automate repetitive tasks and reduces the number of touch points, while using PitStop Server to automatically verify PDF files and correct them when needed.

Arjo Wiggins has extended its Rives-Sensation range of creative papers with the launch of Sensation Matt, which has an ultra matt print finish. It is available in two finishes (Tradition or Tactile) with a selection of high white or natural white and can be printed up to a resolution of 225 dpi. It's available in 120, 170 and 270gsm weights plus a new 350 weight.

Quark has developed Quark Author, a Web-based XML authoring program that keeps the XML elements to a minimum so that it feels like a standard word processor. It enables writers to create structured components, and editorial teams to keep track of, and update, the various content components. It's designed to work in tandem with the Quark Publishing Platform, which is an enterprise level approach to multi-channel publishing.

Sun Chemical has launched a new low odour ink, Streamline ESL HPQ for wide format printers using Epson DX 4 through to DX 7 piezo inkjet print heads such as the Roland SolJet Pro 2. These inks are available in CMYK, light cyan & light magenta colours along with a flush solution. They will be available in 440ml cartridges and one litre bottles for use with bulk ink supply systems, throughout Europe.

Xeikon is to demonstrate its Wall-Covering suite at the HeimTextil show in January. This solution matches a Xeikon 3500 rollfed printer with a Jumbo unwinder, a Weko humidifier for non-woven substrates and a Web Varnishing unit. In the final production stage, the roll will be slit and cut into separate rolls with a unit from Tecnau. The rolls will be picked up and rewound by a Fotoba rewinder.

Markzware has updated its MarkzTools for InDesign, which can now open a higher version of an Adobe InDesign document in a lower version. Thus, anyone using InDesign CS5 or CS6 will be able to open InDesign CC (Creative Cloud) or CC 2014 documents. This applies to InDesign CS5, CS5.5, CS6, CC, and CC 2014 and works on Macs running OS X 10.6.8 – 10.10.

Corel has launched Painter Essentials 5, which has a broad range of Natural Media brushes, paper textures and media that mimic traditional art tools. New features include Particle brushes, which create brushstrokes that flow, spring and gravitate onto the canvas from a central point and Auto-Painting, which transforms a photo into a painting.

NEC Europe has announced a new 4K Ultra High Definition monitor, the MultiSync PA322UHD. It uses a 10-bit IPS-type LCD panel with IGZO technology and

W-LED backlight. It is a 32ins monitor with resolution of 3840 x 2160 pixels. It's aimed at professional users, and features 14-bit programmable LUT, 3D LUT and uniformity control. It comes with SpectraView 2 software.

News Analysis

Last month we covered HP's intentions to split itself into two separate companies. This month Kodak has decided to reoganise itself into five divisions, which it claims will be more closely aligned to its customers. Chief Executive Officer Jeff Clarke said: "We designed this structure to sharpen our focus on performance, predictability and accountability for business results."

These divisions are: Print Systems, which will include CTP and the Nexpress dry toner printers; Enterprise Inkjet Systems, which is mainly the Prosper and Versamark inkjet solutions; Micro 3D Printing and Packaging, which will include the Flexcel NX systems as well as touch sensor films; Software and Solutions, which includes workflow and brand management offerings; and Consumer and Film, which mixes the consumer inkjet business with motion picture film and synthetic chemicals.

Kodak has said that these will be end-to-end operating units with responsibility and accountability for portfolio, product design, engineering, services, sales, purchasing and supply chain. However, it will be interesting to see how some of these divisions shape up, with some having diverse portfolios such as consumer and film. At the same time, there's bound to be considerable cross over between the inkjet and packaging divisions. Perhaps the main surprise for most people will be that Kodak has interests in 3D printing.

Meanwhile, Kodak's latest figures for its third financial quarter show net earnings of $19m for the company as a whole. This is the first quarter that the company has been in profit since its chapter 11 bankruptcy.

This sucess is mainly driven by the Graphics, Entertainment & Commercial Films (GECF) division which saw revenue of $400m, 13 percent up from $353m in the previous year. Gross profit rose to $102m, from $44m from the same quarter of 2013. Kodak says that sales of its CtP devices and plates, as well as the Flexcel NX system are still growing and that the number of pages printed via its Prosper inkjet systems have doubled.

However, this recovery is patchy with sales falling in the Consumer Inkjet and Entertainment Imaging films divisions.

"Our first profitable quarter since our emergence is a milestone," commented Clarke. "Strategic technology product areas, especially in our graphics business, are showing momentum, and we continue to invest significantly in our technology and to build our installed base."

He added that Kodak is still operating close to its breakeven point, saying: "While our costs are down, we will continue to reengineer processes, streamline our organization, and improve execution and accountability to accelerate and broaden our momentum."

This is the backdrop to the structural reorganisation. At the same time, Kodak has also streamlined its sales operations. Sales are currently handled by four regional teams but these will now be combined into just two organisations. Thus the developed world markets of Europe, United States and Canada, Australia and New Zealand will form one group, known as EUCAN. The emerging markets of Asia, Latin America, Middle East and Africa will form the second ALMA grouping. These will be led by John O'Grady, Managing Director, EUCAN, and Vice President, Kodak, and Lois Lebegue, Managing Director, ALMA, and Vice President, Kodak. Common service and back office support will be hosted in a shared service model in each region for all businesses.

Green Shoots

Signs of the Times?

Taxation is a tricky beast, but one generally hopes that it is thought through and has a positive purpose. The European printing industry is facing two very extreme examples of how taxation can be either very good or very bad, depending on how it is levied and the income spent.

Early next year Denmark is likely to impose a tax on commercial print, specifically direct mail. At the other extreme the French government has asked EcoFolio a sustainability group to get paper recycling in France up to 55% by 2016. The effort is being funded by a tax that's been raised on selected print.

The Danish tax will add 25-50% to the cost of print and according to the Danish Ministry of Taxation "The purpose of the advertising tax is to reduce the quantity of printed door-to-door matters and will be for benefit of the environment". We have asked several times the basis for this assumption, but have essentially been told to go away. If the law goes through, which is very likely, the Danish government will charge €0.55 per kilo of print that is expected to raise some €46 million. This is a piffling amount for a country with a GDP of €267 billion and it will have a substantial direct and indirect economic cost.

According to the Danish printers' trade body, Denmark has a population of less than six million and will lose some 600 print and supply chain jobs. It will see many printers go out of business which will negatively impact other service providers such as accountants and so on. A direct mail printer producing 700 tonnes of paper per year will have to pay €385,000 in tax. The tax is halved for print carrying the European EcoLabel however, the cost of compliance to this flawed specification is too high to really help matters. The Danish printer's association is trying to educate the people involved, but so far with limited success.

At first glance this looks like a Danish attempt to generate income for the government. But this proposed legislation ignores sensible arguments for print's sustainability, the need to keep people employed and for businesses in the media supply chain to thrive. The small amount it will raise is completely disproportionate to the damage it will do to Danish businesses and the economy. The Danish government wants to discourage the use of print on the basis that it is bad for the environment, but cannot provide any justification for this claim. This tax sets a dangerous precedent because it will restrict information access and media choice. Danish companies will pay a high penalty, if they choose to promote themselves and engage with customers via print.

Constraining media choice and assuming that prospective customer contacts should all be via electronic media is not good. A tax that restricts media channels taxes the free flow of information and ultimately knowledge itself. Is this a healthy path for a grown-up society?

According to Per Kaae Hansen, senior advisor at the Graphic Association Denmark "Knowledge about the environmental impacts from the alternatives to the printed communication are only to a limited degree taken into consideration by the government and when the issue is addressed it is based on documentation with a low scientific quality." The University of Aalborg on behalf of the association is reviewing four Life Cycle Analysis studies comparing printed and electronic communication. It will present the results to the government prior to the vote.

We asked Two Sides, an industry group that promotes the use of paper, if it was in contact with the Danish legislators and were told, rather surprisingly that "it is not really in our remit". Members may wonder why, but perhaps there aren't very many in Denmark.

The French have an altogether different approach. According to various studies, the French generally consider that paper is an easy material to recycle. However, the majority do not always know which papers to recycle or how to sort them. This means that too many papers suitable for recycling end up in general waste.

On behalf of the government, EcoFolio is conducting a national communications campaign to educate people about what they can recycle. The group is working with local municipalities to develop recycling supply chains and get recycling volumes up. One of EcoFolio's primary objectives is to provide advice and funding for collection schemes. The funding comes from a tax on selected print that does not bear an environmental label such as the ImprimVert which has been awarded to over 2200 French printing companies.

These two examples illustrate how difficult it is to manage environmental impact reduction. But they also show the importance of environmental education and that local association efforts to educate supply chains and legislators must be sustained. Printed matter, like any other medium, has an environmental footprint. However, this footprint is a one-time only footprint incurred when a print media product is produced.

Print is sustainable and the days of excessive paper waste being sent to landfill are thankfully behind us. Sadly the associated ignorance is not. Taxing print isn't necessarily a bad thing, but laws written without recourse to the full facts, that penalise small businesses and entrepreneurs, are definitely bad. Let's hope the Danes reconsider and the French completely blow their 55% recycling target.

For more green news, check out The Verdigris Project:

Verdigris

http://verdigrisproject.com

A Review

For lovers of heavy metal

Anyone who has been in the graphic arts industry long enough to have seen, or even worked with, a typesetting machine from Linotype, will appreciate Frank Romano's new book on the "History of the Linotype Company", published by RIT Press.

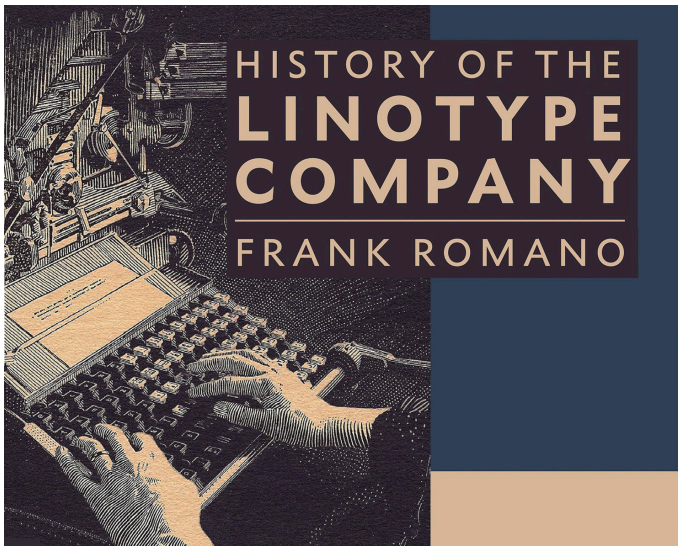
One of the first things I learned early on in the book was that Linotype was originally an American, not German company, which I have to admit I always thought it was. But then, I knew that one of the founders, and key innovator of the typesetter, was Ottmar Mergenthaler. And another possible excuse for my ignorance might be that when I bought my first typesetter in 1980, it was a second hand Linoterm II, and by that time Linotype was a German-owned company. Later on, in 1982, I upgraded this to a Linotron 202, which helped our prepress department to finally become very profitable.

Professor Frank Romano worked for what was then called Mergenthaler Linotype Company for eight years, between 1959 and 1967, and the book is written with love and gratitude. It's actually a collection of books, since Romano has included several works by others, either as extracts or almost in full.

Personally I have some other connections to the Mergenthaler Linotype Company. For a period the graphic designer Hermann Zapf worked at Mergenthaler digitizing most of his fonts, and when Frank asked him what he did he answered: "I correct the errors of my youth"!

As it happens, there is a good chance that I'm related to Hermann Zapf, albeit very far back in time. Hermann kindly answered my letter to him asking if he knew his ancestry as far back as the early 1600s, sending me copies of his own family research. The Palatino font, designed by Hermann, is still one of my favourites, together with Optima, also carefully crafted by Hermann's hands.

Typography and fonts were of course an important part of the Linotype history, and almost 100 pages of the 462



page book consist of lists of fonts manufactured by Linotype or its subsidiaries. Those are quite quickly skimmed through, but still leave you with some 350 pages of rich and generously illustrated history of a very important and influential company in the graphic arts industry. I think it's arguable that Linotype was a key part of the success of the desktop revolution, which took place about a hundred years after the company was founded. But read about this for yourself, and enjoy!

– Paul Lindström

Picture This

Digital packaging

Packaging has traditionally been a business of long print runs but a look through the supermarket shelves shows that a lot of packaging now supports relatively short term promotions. This can include everything from additional labels through to short run versioned packaging. This trend, of course, plays exactly to the strengths of digital printing where brand owners can determine how much of each version of a package that they need at short notice.

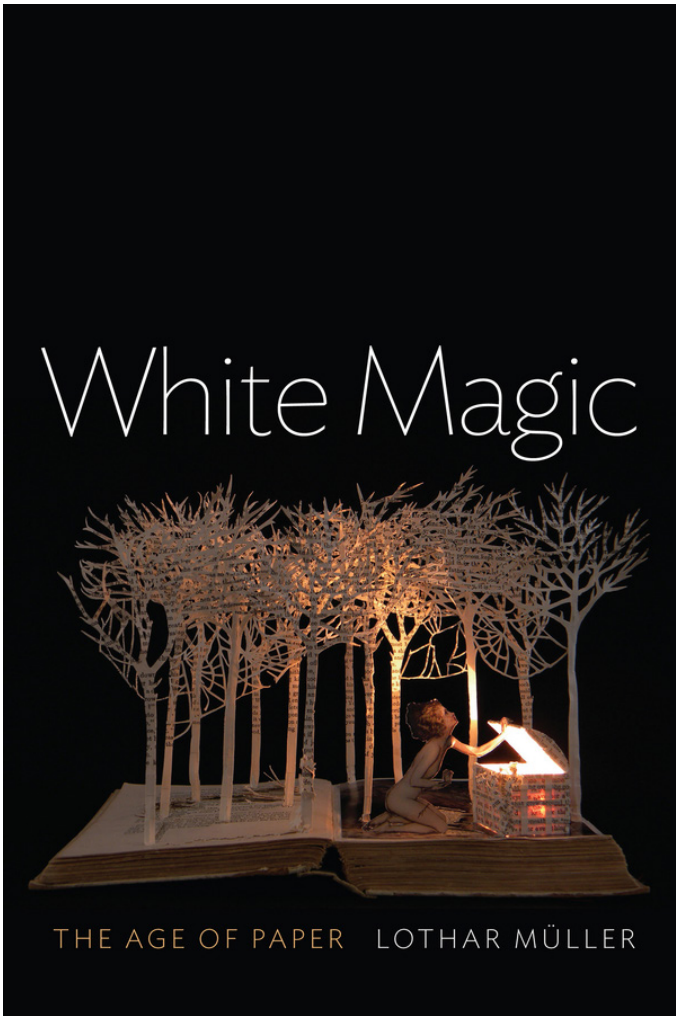
These bottles of beer are a good example of this. In addition to the normal label these carry an extra label in support of the Movember campaign, where men grow moustaches in November in support of male health issues, such as prostrate or testicular cancer and mental health. Of course, the Movember label means that the beer can only be sold in November (though fortunately we can still drink it in December). And it's still possible to donate to this cause: http://uk.movember.com

Another Review

White Magic

Paper in all its different forms is so common that we tend to take it for granted. But in White Magic Lothar Muller sets out to chart the importance of paper to the way that Western societies have developed.

The book opens with a discussion on the origins of paper, suggesting that although paper originated in China, the secret was passed to Arab traders along the silk route.



European paper in turn descends from Arab rather than Chinese paper making, which was heavily dependent on natural resources such as the paper mulberry plant, where Arab paper makers also used recycled textiles and rags. But Europeans went a step further, industrializing paper production and setting up the first paper mills.

The book continues to chart how paper documents became important. Paper enabled mass letter-writing and the easy collection of information. Paper had advantages over papyrus in that it was cheaper and harder to alter characters. So paper became the cornerstone of sprawling beaurocracies used by the growing armies of clerks. Later, when the printing press came along paper helped to spread books and pamphlets to the masses.

But Muller also reminds us that paper is more than just a medium for writing or printing, having been used for everything from playing cards to wrapping paper and tissue.

It's a fascinating story, full of anecdotal asides, told through the lives of various people that help to bring what could otherwise be a dry story to life. This includes some well-known characters such as Goethe and Pepys through to the Montgolfier brothers - Etienne Montgolfier used paper from the mill he owned to make the outer envelope of his hot air balloon.

Ultimately the book reads like a history of the modern age, so intimately is the use and development of paper bound up with our own world. Muller makes it clear that most modern European countries would be very different today without the use of paper. The clear implication is that paper will be around for many years to come, despite the growing use of digital media.

A Carol

Oh Thanks to You Our Readers

If you intend to celebrate Christmas, or even if you don't you might enjoy our version of one of the classic carols. It's sung to the tune of O Little Town of Bethlehem, the English one, not the clever American version which is much too hard to sing. You can even check out our performance of it at **https://www.youtube.com/watch?v=XDs1JxTWqVY&feature=youtu.be**

A year that's been so crazy, is coming to its close.
This dancer's game of publishing, keeps us upon our toes,
For in the darkest hours, is never-ending light
Of hopes and joys we find them still, though profit's far from sight.

For you we hope we do our best, to keep you all in touch.
The news and tales we bring to-o you, are rarely just made up.

Though sometimes it's a grind, we hope you like our words.
Not good or bad but truthful, and rarely just overheard.

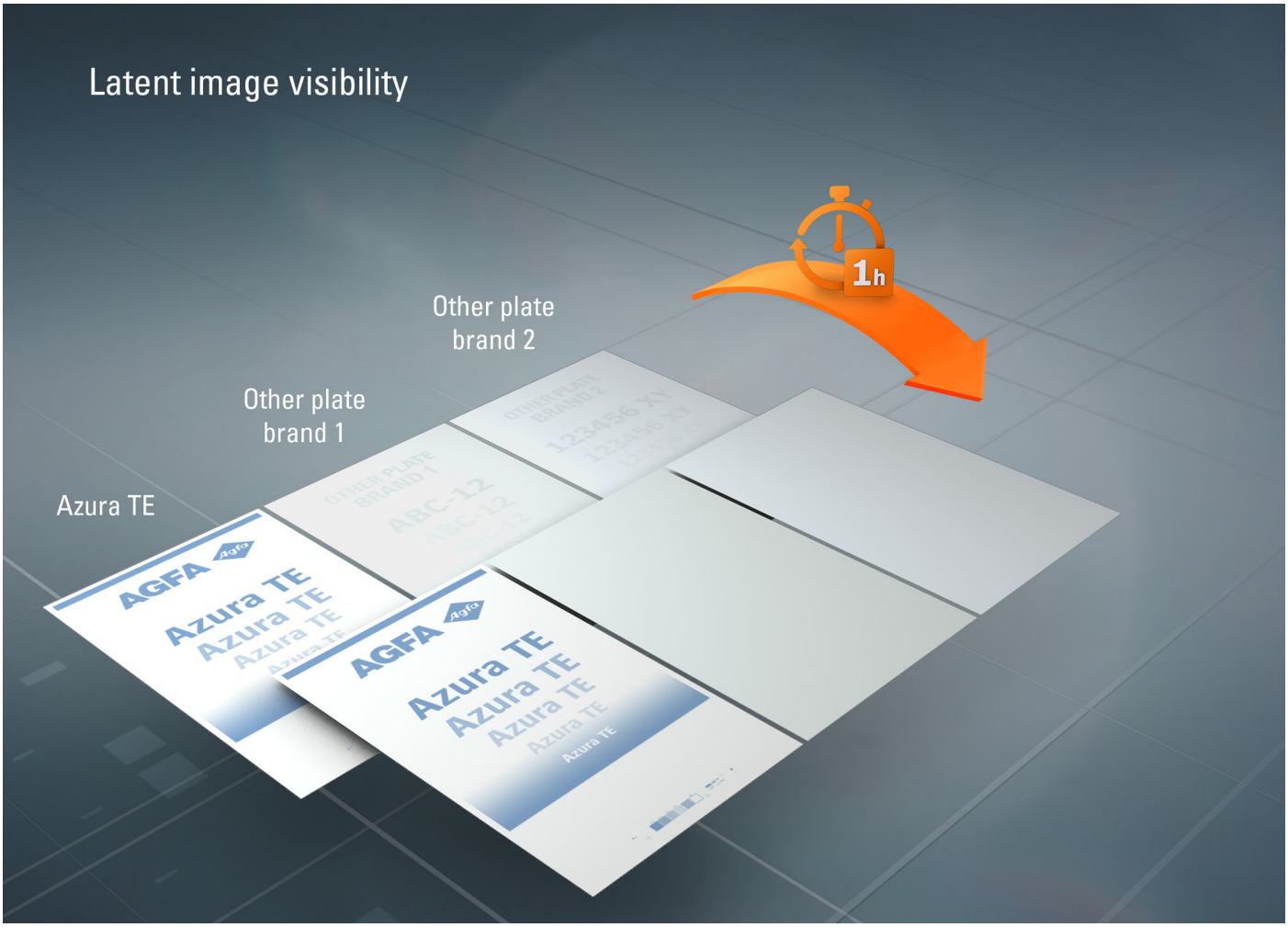
So thanks to you our readers fair, it's still such a gas.
To write for you, to talk with you, just one or in a mass.
And in the year to come, we've lots more thoughts to share
We'll stick to you and serve you too, taking you where no others dare.

Agfa Processless Plates

Taking the plate processing step out of prepress cuts costs, reduces waste and increases throughput, thereby enhancing press utilisation.

Major plate manufacturers have worked for years to develop processless plates that are a drop-in replacement for conventional technology. It has taken a while but this year has seen important announcements that push processless platemaking adoption to a tipping point. First, back in May Kodak introduced Sonora, which handles runs of over 200,000 and is tough enough to work with UV inks up to 10,000 impressions. Now Agfa has announced Azura TE, a direct on press plate for run lengths of 75,000+. Like Sonora, this is involves no processor or cleanout unit. There is no maintenance, chemistry, gum or water involved, nor waste or associated disposal costs.

Technological developments and the market's willingness for direct on press processless platesetting are only two factors in Agfa's new proposition. Press manufacturers are less wary of using their machines essentially as an online clean-out unit, and this makes a difference to the technology's viability. There has been considerable concern over the years, that debris from processless plates pollutes the fount solution and causes build-up on the rollers. But with modern coatings, this is no longer a problem. Developers have continued to work on their coating technologies to have ultrathin layers that do not upset the fount solution when non-image areas are removed on press during make-ready.



Once exposed, the Azura TE plate image has high contrast and will last for over 24 hours. Customers such as Technoprint in France and Ballast & Hilbrink in Holland really appreciate this feature.

Customers continue to look for ways to reduce costs, improve efficiency and reduce their environmental impact so direct on press processing makes economic, productivity and sustainability sense. It is a low cost and easy to maintain plate production system that has virtually no waste because processing piggy backs on the waste generated in make-ready. According to Guy Desmet, head of prepress marketing at Agfa: "A one year field test period all over the globe taught us that Azura TE is compatible with all Agfa and non-Agfa platesetters, a wide range of founts, inks and press architectures. Customers love the ease of use of Azura TE, the gain in system productivity and the quality on press."

In the Beginning

The first generation Azura technology, which was the first plate with a water soluble coating, was launched in 2004. Azura was the first plate on the market to be proceessed without chemicals, using a benign surface gumming solution and water. It was positioned as chemistry-free, rather than processless because, once imaged, the plates had to be cleaned and gummed in a separate clean-out unit.

The Azura technology differs from that of the Fujifilm Pro T and Kodak Sonora in that it relies on a physical rather than a chemical process to create the image areas. Rather than using photopolymers, Agfa's ThermoFuse technology is a negative working, ink loving latex pearl coating. It reacts to IR heat which causes the latex pearls to melt together and adhere to the substrate forming a solid hard layer. This is a physical process, that uses the gumming unit for washing the plate and to prevent oxidation of the non-imaged surface areas.

With over 10,000 installations worldwide Agfa has been the market leader in this sector, pretty much since introducing Azura ten years ago. At drupa 2004 Agfa introduced Azura for the four-up market for small to medium runs. At drupa 2008 the second generation, Azura TS, was introduced bringing a 50% increase in sensitivity to the plate and taking Agfa into the eight-up market. At drupa 2012 Agfa introduced a major upgrade to the clean-out unit, improving its productivity and reducing gum consumption by 60%. The combined Azura technologies brought a 95% savings in water consumption compared to conventional thermal processing so it provided a considerable environmental benefit as well.

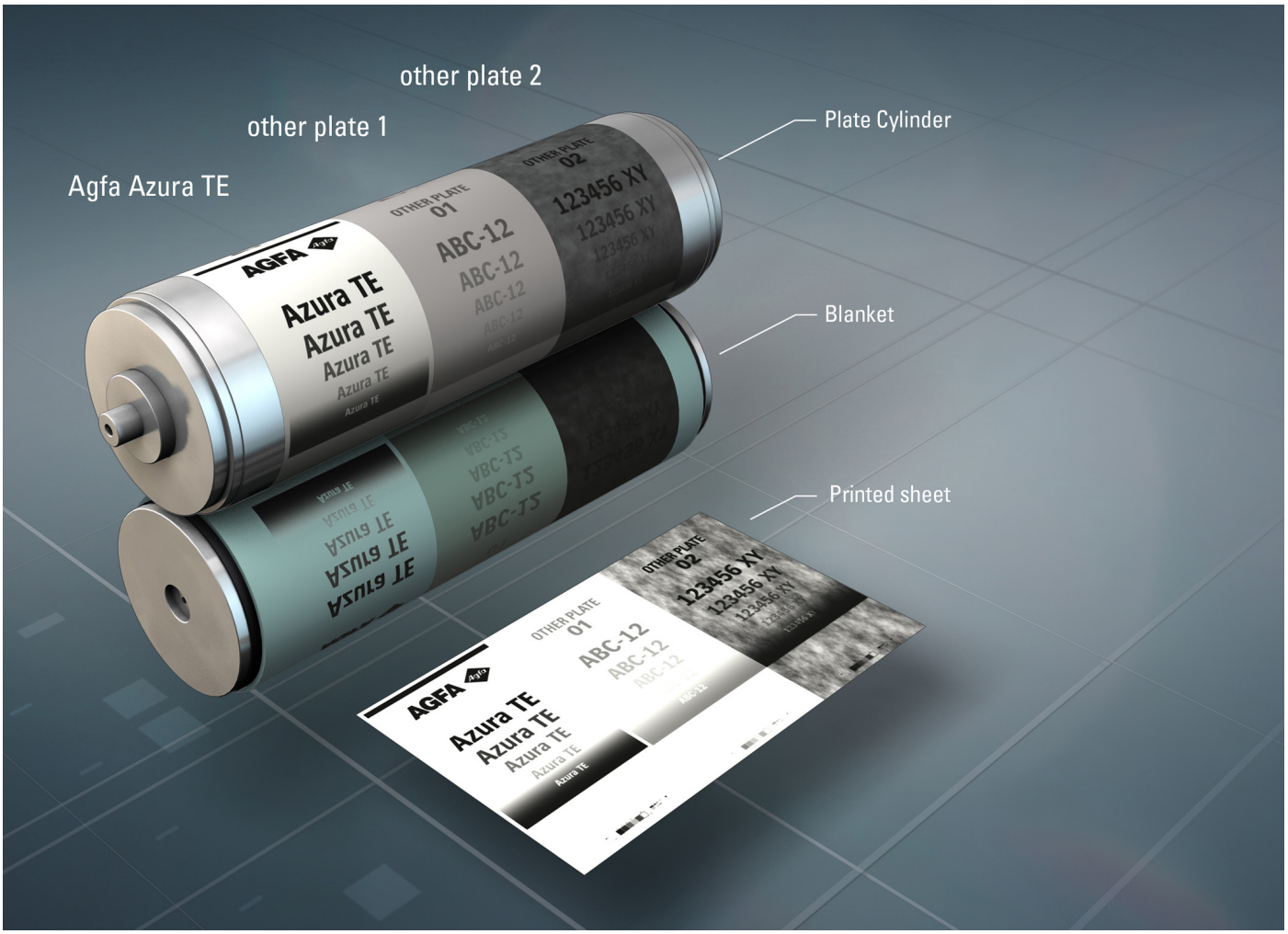
In 2013 Agfa introduced Azura TU, a faster plate that is still based on ThermoFuse and robust enough for much higher run lengths of 100,000 to 150,000 impressions. The new Azura TE adds a direct on press option for customers and increases Agfa's scope for the Azura technology which is now suitable for all types of mainstream commercial printing.

Azura TE is a direct on press plate positioned as a complement to Azura TU, an offline plate that requires a clean-out unit and which Agfa considers the best option for most commercial work because of its latitude, stability and convenience. Agfa estimates that for customers imaging 20,000 sqm per year the cost of the clean-out unit is negligible. For those imaging 10,000 sqm the clean-out unit costs €1 per square metre, so Azura TE targets these lower volume users.

What's Changed?

Azura TE is still based on Thermofuse, but the coating and graining of the plate surface have been changed to perform better for direct on press finishing. Agfa has added a thermochromic dye that responds to the same imaging frequency of 830nm as the Azura TE and Azura TS surface layers. When exposed to IR heat a chemical switch occurs in the dye molecules, which change from a grey to a clear blue colour. This provides very strong image contrast for easier visual inspection and measurement of the negative working plate. Once imaged and mounted, after a few dampening revolutions the non-image areas are removed. Agfa says the plate has immediate ink acceptance, requires low dampening levels and makes possible faster makeready on press. It is compatible with all thermal platesetters on the market and with a wide range of presses.

The plate's latitude or scope for performance depends on the press configuration, its chemistry, and start-up procedures. Also there is no gum to protect an Azura TE plate, which could mean less tolerance to fingerprints and scratching. That said, Agfa consider the plate to be robust and with its strong daylight stability, easier to mount on press than previous generations, because the plate



In tests Agfa has found that the Azura TE has sharper image contrast than competing technologies, as shown here.

image is clearly visible and therefore less vulnerable. This facilitates easy quality assurance and quality for up to 240 lpi for sharp text and images with open shadows and low dot gain. Agfa confirms that the plate can achieve ISO 12647 targets.

Customer Enthusiasm

Agfa customers have found that Azura TE has fast ink acceptance and rapid transfer of the non-image areas to the first make-ready sheets. Agfa claims that in tests Azura TE has the fastest ink acceptance and clean-up on press compared to other unnamed direct on press plates based on photopolymer technology. These technologies can lose the plate image in a couple of hours, whereas Azura TE remains daylight stable for over 24 hours. Azura TE plates can also be stored for later use up to several months as long as they are kept in the dark.

Over 50 customers are using Azura TU in production, some for over a year. Jakob AB in Switzerland, Ballast & Hilbrink in Holland, and Technoprint in France are seeing up to 50% faster start-up times and less paper waste. According to Ballast & Hilbrink co-founder José Hilbrink: "Azura TE … makes it really easy for the press operator to verify even the smallest images and texts on the exposed plate, even after a day, and as a result to exclude errors before starting to print. Each time we save precious time and costs." For Technoprint's prepress manager E. Rebmann "We really appreciate this feature because it already prevented a few errors from being printed."

Digital Pressure

It is sometimes tempting to think that the digital printing revolution will demolish traditional printing markets, but this isn't happening any time soon. In the meantime,

there are still plenty of printing business around the world looking to improve cost competitiveness, throughput and quality. These companies depend on Agfa, Kodak and Fujifilm to keep pushing advances in plate technology. We now have a range of environmentally friendly plate options that keep the market fresh and push print's competitive position and cost-effectiveness.

For Agfa and its competitors the next challenge is to develop long-run processless technologies for more demanding markets than mainstream commercial printing. This includes sectors keen on aggressive UV inks such as labels and packaging, as well as high quality magazines, and markets where runs are over a million. Digital printing technologies are not yet nipping at their heels, but the chase is definitely on.

– Laurel Brunner

Boxing Clever

While digital printing is an everyday reality for many sectors from books to direct mail, the packaging sector still takes a mostly conventional approach.

Yet packaging print is facing many of the same kind of pressures that have driven other sectors to invest in digital technologies. There is the same need to cut down on waste and to avoid having stock tied up in warehouses. Brand owners are constantly looking for ways to engage their customers, with regular promotions that can react quickly to events, such as a surprise win in a national sporting event or a sudden change in VAT rules. This means that run lengths are coming down as brands look at shorter runs of different versions. At the same time, digital printing technology is improving with higher image quality at faster production speeds which is helping to raise the break even point where digital becomes a feasible alternative.

Every so often we see something new that moves the argument in favour of digital along a little. Recently, we travelled to the Czech Republic to visit an independent corrugated printer, Obaly Morava. This is the first company to have installed HP's new T400 Simplex inkjet press for printing corrugated media.

Obaly Morava

Obaly Morava is a family business, headed up by CEO Martin Rehorik. It has around 250 employees and runs three continuous shifts. To start with, the company outsourced the corrugated production but in 1996 installed its first corrugating machine. Today the company is still the only independent Czech producer of corrugated board and packaging.

Rehorik says that he realized that he would have to take the company in a different direction to survive, which led to a new Bobst Master Line for production and converting of corrugated packaging with flexo printing and die cutting. This was followed more recently by a Bobst Expert line.

But this in itself was not enough as Rehorik outlines: "Three or four years ago our sales reps told me that we needed to improve the quality of our print to the level of offset. At the same time the European and worldwide prices were still falling and we were feeling the shortening of average orders."

He continues: "The only way was preprinting a roll to be added to the corrugated to create a preprinted corrugated board solution. When I compared the two

Martin Rehorik, CEO of Obaly Morava. Photo ©Nessan Cleary

possibilities of lamination or preprinting I realised how many unnecessary steps lamination would mean for me. It would need a six to eight-colour offset press, with space and the operators plus the paper for lamination, which is very specific.

"Then there's the lamination, which needs a special type. You need operators and space, and you need quite expensive PVA glue and still you are not ready to manufacture the packaging because lamination is a cold set operation and packaging needs the right humidity. So you need quite a lot of space and time for the material to equalise in humidity and eliminate any distortion."

Rehorik explains that he hates unnecessary steps and always prefers to take the shortest path to the target. "So

I ruled out the typical way of producing high quality print with offset print and lamination. The only way was preprinting a roll to be added to the corrugated to create a preprinted corrugated board solution."

So he started looking around at the various options.

The T400 Simplex

At the same time, HP was looking to branch into the packaging market with its Inkjet Web Press, eventually creating a T400 Simplex configuration. This is based around a single T400 print engine and uses the same A51 thermal printheads with the same water-based CMYK inks. There are seven printheads per colour bar, and two bars per colour, plus 14 heads for the bonding agent. Gianluigi Rankin, worldwide product marketing manager for HP's web press media technologies, says: "We estimated that customers would be replacing one printhead every shift but now it's actually one every two shifts."

The press has the same specifications as a standard T400, with a maximum print speed of 182 mpm. This equates to

The T400 Simplex, sitting in a separate building at Obaly Morava. Photo ©Nessan Cleary

around 12,000 sqm/hr. Resolution is 600x600 dpi, which allows it to print text down to four point quite legibly.

But HP has had to make a couple of minor modifications. Thus the rewinders have had to be modified to take the larger four-inch cores that are used in the corrugated industry. HP has also added web cleaners and there are some differences in the software to cope with the substrates and associated colour profiles.

Gianluigi Rankin, worldwide product marketing manager for HP's web press media technologies, demonstrating the boxes produced on the T400 at Obaly Morava. Photo ©Nessan Cleary

Media compatibility

The biggest single problem that most inkjet press developers have faced is the lack of suitable paper stocks and this is just as true of the corrugated industry. Rankin says: "Ultimately we want to get to where the mills do the optimising. But the volumes are still too small for the mills to get behind that."

He adds: "It's taken about three to four years with uncoated papers for the web press. The volumes are there but the paper manufacturers are hesitant. They want long runs."

So in the meantime HP has developed a new priming agent and a coating unit that can flood coat the sheets to optimise them for digital use. There are currently two different priming agents, for coated and uncoated papers, with a third being developed for gloss coated papers.

Rankin explains: "Uncoated boards can use bonding agent or priming agent. The priming agent gives you a little more colour gamut and is more economical. But bonding agent is good for low coverages. The bonding agent only goes where we print so on a low coverage job you use very little. For the coated substrates there is only the priming agent."

The coating unit itself has been manufacturered by Harris and Bruno and the same machine can be used for coating and varnishing, with just a 30 minute washout to change over. Eventually Obaly Morava will use two of these, with

one located before the press for pre-coating and a second sitting after the press and dedicated to varnishing.

Rehorik says that one of the immediate advantages of digital printing is that the process is extremely simple, with no need to mix inks, change plates or any other makereadies. It's simply a matter of sending the file to the press, printing to the liner, add it to the corrugated board and then die cut.

Rehorik says that one of the immediate advantages of digital printing is that the process is extremely simple, with no need to mix inks, change plates or any other makereadies.

He explains: "We can print to any type of paper. We are using a standard type of stock in our corrugator. Because the corrugator has a heated hot plate for drying we are able to control the humidity to the exact level for converting to packaging."

Coincidentally, while we were there Rehorik announced that he had just that afternoon taken his first big order for a job to be produced specifically on the T400. It was clearly a big thing for him, vindicating his faith in the technology.

The HP vision

The T400 Simplex is only the latest overture from HP to the packaging industry. There's already an existing corrugated printer, the Scitex 15000, a UV flatbed that's been developed from the FB10000 wide format printer. This is aimed mainly at the short run market but can print directly to a corrugated board, whereas the T400 prints to a liner but can handle a much higher volume.

HP also has two packaging variations on its B2 Indigo press, which have been in beta testing at various sites around the world and are gearing up for their commercial launches in different regions in the next couple of months. Thus there's the Indigo 20000 for roll-fed flexible films and the Indigo 30000 for folding carton sheets.

On top of this, HP Indigo is also the dominant player in the digital label market with its narrow format roll-fed label presses. So, HP has the packaging industry firmly in its sights as the next big growth area for digital printing.

Francois Martin, HP's worldwide marketing director for graphics, is optimistic, pointing out: "The label industry has changed from 100 percent analogue to a very high digital penetration in the last couple of years and the same will happen in corrugated packaging but it won't take ten years – it will take five, because we have the understanding of what is required to transform the industry."

Francois Martin, HP's worldwide marketing director for graphics. Photo ©Nessan Cleary

Aurelio Maruggi, general manager of the Inkjet Web division, stresses that HP's strategy is to see its customers as partners that are necessary to its own success, adding: "Companies like Obaly Morava are opening new ground and understanding how to adopt this technology in a production workflow and how to properly position this technology."

Maruggi says that HP has developed three inkjet platforms, with different web widths, and has no immediate plans to develop any more but is instead putting its efforts into upgrading those platforms.

He also points out that the number of pages printed with the Inkjet Web Presses has gone up rapidly with 80 billion pages printed in total on these machines – including 36

billion pages printed in the first three quarters of this year. Maruggi thinks this is partly because customers have optimised the way they use the presses, saying: "Also people have found that they can address different industries with the same press from direct mail to books and newspapers."

He adds: "So existing T400 users could get into packaging with their configurations." Ultimately this sort of flexibility is likely to be a key aspect of inkjet printing businesses in the future.

– Nessan Cleary

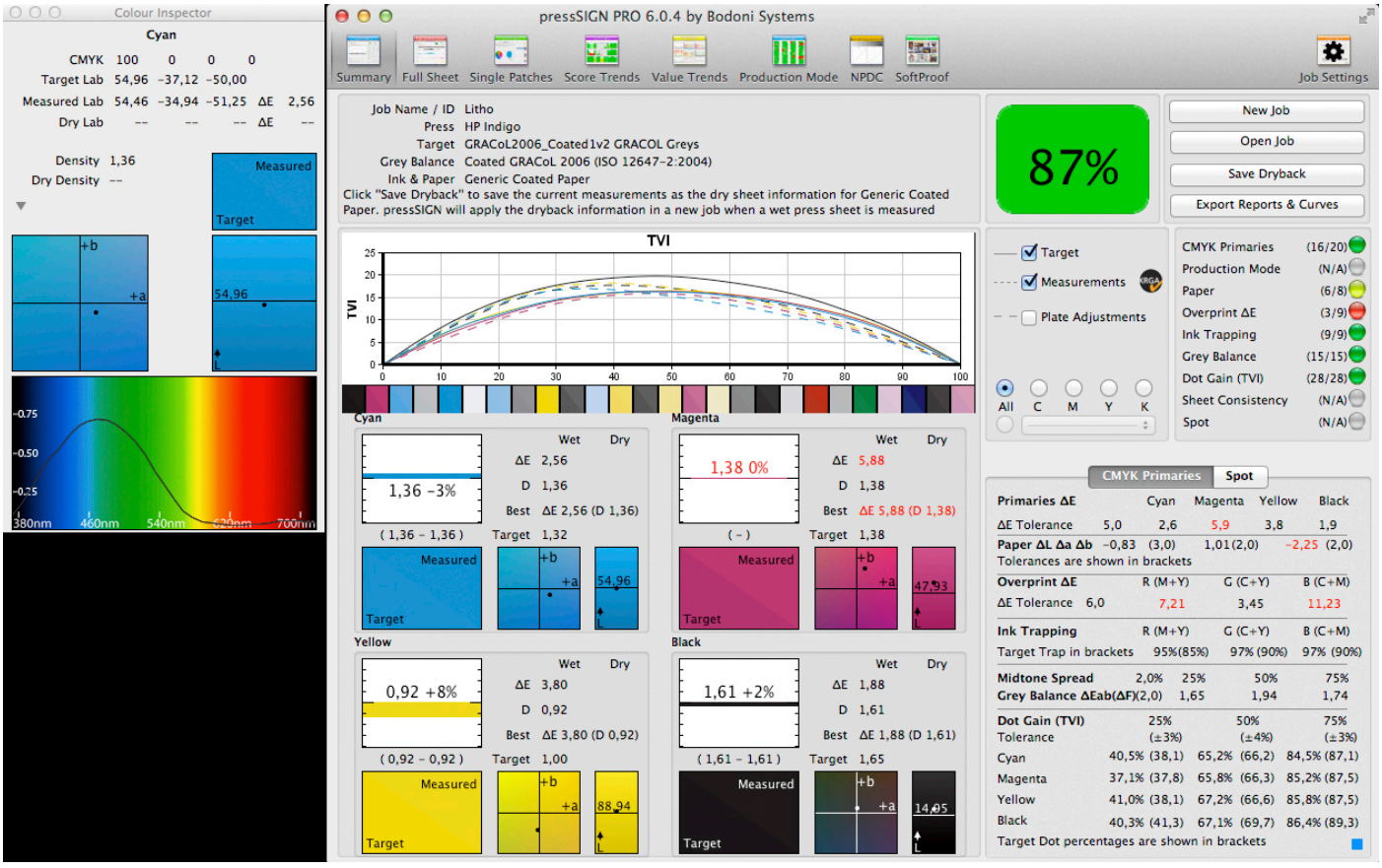
Colours In The Cloud – Print Validation

We have already presented some colour management solutions the cloud theme in Spindrift, including Colibri from Matchmycolor, and ColorDrive by Schawk. Recently we covered RapidCheck from Tucanna, and this time we will look at pressSIGN from Bodoni and PrintSpec from Mellow Colour.

What these software programs all have in common is that they haven't been developed by any press or CTP manufacturer. There are colour management solutions from vendors like Agfa, Fujifilm, Heidelberg, Komori, ManRoland and others, but these are mainly aimed at the printer or prepress house. But the software that we're considering in this series of reviews largely has the print buyer in focus, which has several implications for their design and architecture. A key element is that the reporting of measurements is normally done to a central server – hence the term 'Colours in the Cloud'.

Bodoni pressSIGN

This is a UK-based software developer with significant success world wide, founded in 1990. The company became involved in colour management at the turn of the century when it started to import high end scanners from Denmark and needed to ensure the monitor was correctly calibrated, leading to a long history of applied colour management. Early on Bodoni adopted the use of international standards in print workflows and is authorised by FOGRA to do PSO certifications. Of late it has complemented this with pressSIGN certified to the GRACol G7 by IDEAlliance. The G7 System is the preferred way to calibrate printing presses to be in compliance to the American printing standard GRACoL – similar but still slightly different from the FOGRA method for press calibration. On top of its own software solutions, Bodoni



The scoring system in Bodoni pressSIGN, summarised here in the green box to be 87%, makes it easy to quickly evaluate if a print run has passed. More detailed information is available for a deeper analysis.

also distributes a range of colour management related software, devices, colour targets etc.

There are four versions, or levels, of the pressSIGN software. The complete suite of modules is included in what is called pressSIGN Global Print Management. This includes reporting to a cloud-based central server, as well as all of the other modules for press control and softproofing. Bodoni uses a scoring system for print validation and evaluation and, depending on what parameters are included such as the use of spot colours or not, different weighting is applied so that the maximum total score is always 100%. The user can determine what score is to be regarded as a Pass or Fail, but typically this is set to be 80%. This is not identical to a strict validation to for example ISO 12647-2, but can be modified so that a score of less than 80% roughly means that you fail to comply with ISO 12647-2 for offset printing.

There are four versions, or levels, of the pressSIGN software. The complete suite of modules is included in what is called pressSIGN Global Print Management.

But Bodoni doesn't stop at checking for compliance to standards – it also helps printers to correctly calibrate the presses and printers, and improve the print quality. For example its 4CX (4 Colour eXchange) technology helps printers achieve correct and neutral grey balance, while the NPD (Neutral Print Density) function helps with adjusting a digital press to perform visually to target values based on TVI (dot gain), which have no direct equivalence in a digital press.

Since it's important that any changes to compensation curves can be executed by the RIP system creating the plates, pressSIGN is compatible with and can communicate with all of the major RIP systems on the market. Spot colours, often used as brand colours, are traditionally difficult to manage, since there is no ISO standard of how to define them, especially gradations. The VLT Technology (Visual Linear Technology) calculates when, for example, a 50% tint is perceived as having half of the lightness of solid ink.

Those users that don't need or want the complete system can choose between three other configurations, where the pressSIGN Pro V6 contains all the press calibration tools, including spot colour libraries, but doesn't use cloud-based technology for reporting.

One step below this version is pressSIGN V6, typically suitable for digital print production or litho offset with just one or a few presses. Finally, there is the pressSIGN PrintBuyer V6, and as the name indicates, it is mainly used for print validation, not press control. In this version the print buyer can monitor and validate print production according to all the established industry standards including ISO 12647, GRACoL, JapanColor etc.

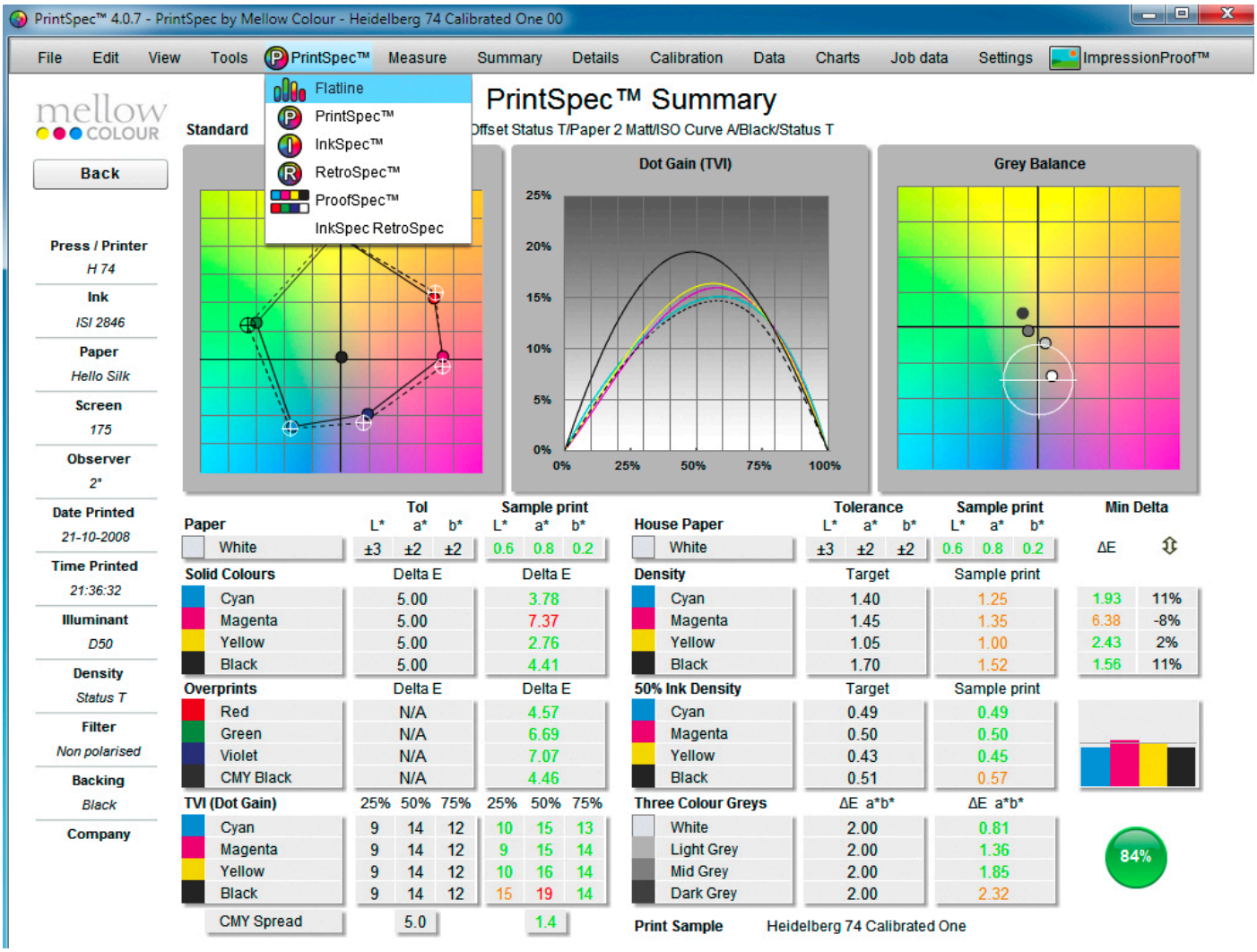
All of the pressSIGN versions support a wide range of spectrophotometers, including most models from manufacturers like Barbieri, Konica Minolta, Techkon and X-Rite.

Mellow Colour Print Spec

As is the case with Bodoni, Mellow Colour is also UK-based, but has successfully implemented its solutions and training services worldwide. PrintSpec is just one of the modules in its suite of software, but perhaps the most well known from the company. The principle used by Mellow Colour is that every installation to a client is regarded as a unique configuration, based on customer needs.

This means that there are no pre-defined sets of configurations, but instead all of the modules available are mixed for a client based on their specification. Alongside PrintSpec there are other modules in the mix, like InkSpec, FlatLine, ImpressionProof, LinkSpec and MellowCloud.

On top of offering software, Mellow Colour also performs what is called Gap Analysis as a preparation for a printer aiming to be certified according a certain print standard. This can be according to the certification scheme



Mellow Colour also uses a scoring system, summarised in the green sphere in the bottom right corner. The modular approach is indicated by the additional functions showing in the pull down menu under the active module.

setup by BPIF (British Printing Industries Federation), which combines ISO 12647 and other ISO graphic arts standards with ISO 9001 for general quality management. But printers that have shown consistent compliance to a certain standard can also be certified to what Mellow Colour calls the ISO 12647 Proficient Printer scheme, similar to the BPIF and FOGRA PSO schemas, but not authorised by any of those. Printers certified to this program are listed on the Mellow Colour website, which to date numbers about a hundred sites worldwide.

PrintSpec is commonly used in most configurations of the Mellow Colour press control and validation system, however the FlatLine module is necessary for almost any measurement made. The term indicates the typical user interface for press control systems where the press operator tries their best to keep the density across the ink zones as close as possible to the aim values. When a press is correctly setup and maintained, the indicator bars follow a straight flat line across the monitor, ensuring density is neither too high anywhere, nor too low either.

While we still talk about and use density for press control, in reality we use a spectrophotometer in order to not only calculate density, but also get the spectral values needed. This is important both for printing with process colours like CMYK, but especially when using spot colours. Colour deviation is calculated as Delta E (ΔE), and depending on which standard you try to comply with, there are different tolerances for how high a ΔE you can accept. The values read and analysed by FlatLine are then fed into PrintSpec or the other modules used.

In PrintSpec a scoring system is used to evaluate how well a print conforms to a set standard, and typically a threshold of 80% is selected for a measured sheet to pass. This scoring system is one of the validation options accepted in the certification schema managed by the BPIF, and can be set up exactly to mirror this. But validation can be done to other print standards as well, like GRACoL and JapanColor.

Another module is InkSpec, which manages special colours, typically spot colours. But this also helps with managing inks used in the process colours CMYK. Combining conventional measurements of ΔE, TVI (dot gain) and density, InkSpec also supports the use of spectral data. This is very important when communicating with ink formulation software, to achieve the best possible match to a specified brand colour.

Finally, the MellowCloud makes it possible to share measurements across sites and for a print buyer to validate print runs remotely. The reporting is similar to PrintSpec, with either a summary of what score was achieved or a detailed report. It's also possible to perform statistical analysis and trending – all in all supporting a systematic approach to print quality!

Both the Bodoni and Mellow Colour solutions have several things in common – they don't only analyse and validate if a print is within set tolerances – they can also help the printer re-calibrate or adjust the press or printer to come within tolerances. And they have an easy enough user interface for a print buyer to evaluate the print quality of the contracted printers, even remotely. In addition they are available in both Mac and PC versions, another factor that makes it easier for publishers and print buyers to use them. This is all very impressive!

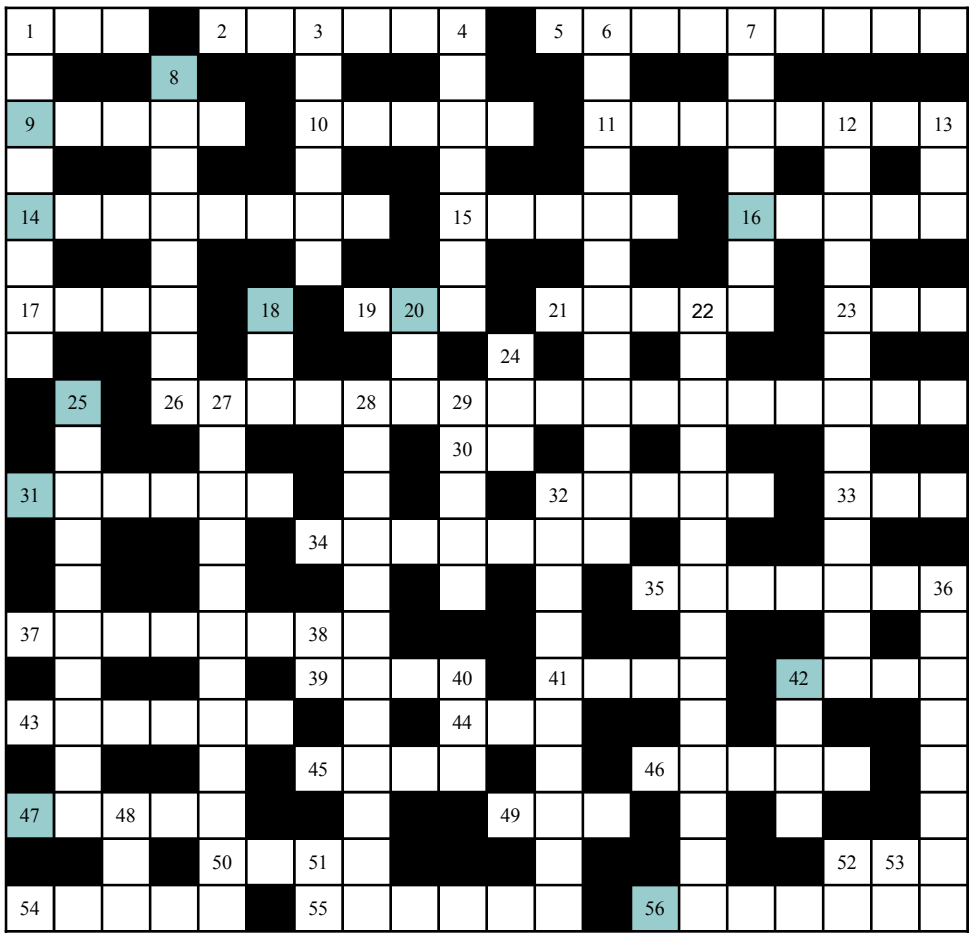
– Paul Lindström

X-word Puzzle

Number 58*

This year we have managed to steer clear of Christmas clues, given that our readers for the most part have more serious matters on their minds. And of course we don't want people to overdo the festivities, particularly once you have seen our Christmas carol performance (See page 10)

If it knocks you completely off track, this puzzle should provide an intellectual antidote of sorts.



Across

1. Binary Integer. (3)

2. What prepress is about preparing. (6)

5. Not the bottom or the sides of a sheet. Top? (5, 4)

9. Why colour exists. (5)

10. Data relies on this to exist, go in and get listed. (5)

11. Electrical wiring technique used in the UK. (4, 4)

14. Those you want to reach, those who watch, listen and generally enjoy. (8)

15. One who is sent. (5)

16. Vegetable that makes you cry. (5)

17. Fertile soil of sand and clay. (4)

19. Programming language that was forerunner of Basic and Fortran. (3)

21. Rubbish! Round missiles. (5)

23. Objective. (3)

26. Delivers mass and topical communications in print and online. (4, 5, 8)

30. Information Technology. (2)

31. Do this to survive. (6)

32. Responsibility or obligation. (5)

33. Look Up Tables. (3)

34. Began. (7)

35. Added to inks that are too thick. (7)

37. Associated with a very special Greek philosopher. (8)

39. To lose, as in cells or weight. (4)

41. Controls the amount of light entering the eye. (4)

42. US Visa waiver form necessary to enter the country. (4)

43. Worries. (6)

44. Total Ink Coverage. (3)

45. Once important US standard, along with Gracol and Pop. (4)

46. To protect. (5)

47. Someone or something from the far east. (5)

49. Estimated Time of Arrival. (3)

50. Mag or punched, a format for digital data storage. (4)

52. Massachusets Institute of Technology. (3)

54. Not solids. (5)

55. Yummy nuts in marzipan or mulled wine. (6)

56. Not to put on press again, but to put down. (7)

Down

1. The best kind of hours. (8)

3. A third party who provides a service. (6)

4. Beyond real, Mr Dalí. (7)

6. Print just for you. (12)

7. Places with definable characteristics. (7)

8. Convenor or leader of a group. (8)

12. Gifts of ability, raw and primal. (6, 7)

13. French for no. (3)

18. Not many. (3)

20. Before. (3)

22. Necessary to cure UV inks, sans mercury arc lamps. (3, 5, 6)

24. Placed precisely, with no gaps. Or healthy? (3)

25. Chroma and hue involved, but these are not CIELa*b* numbers. (3, 7)

27. Places where we operate and live. (12)

28. Communications models across many media and outlets. (5, 7)

29. Calendar. (5)

32. Copied. (10)

36. Used in chemical analysis or to get reactions. (8)

38. Third person singular to be. (2)

40. Where it all began with Apple. (3)

42. Fails. (4)

48. Atom with a negative or positive charge. (3)

51. Personal Assistant. (2)

52. Not you. (2)

53. See 38. (2)

Once you've solved the puzzle, write down the coloured letters from the grid in the box below and unscramble to reveal the secret word, which could be the theme for this month's puzzle.

Number 57 – Answers

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

***Answers in the next issue**

Acrostic Answer:
COLORANT