



Standards are always out of date. That is what makes them standards.

– Alan Bennett

Dear Reader,

This has been a very exciting month for us. ISO has published ISO 16759 (Quantifying and communicating the carbon footprint of print media) and we have finally published our Standardised Print Production (SPP) guides.

Both of these documents are somewhat misunderstood. Many people think that ISO 16759 is a carbon calculator, but it is not. ISO 16759 is a framework that outlines what should be included in a carbon calculator for print media. This means the standard has the scope and flexibility to be relevant for any printed product, from packaging to building wraps and everything in between.

And SPP is not yet another scheme for achieving certification for ISO 12647-2 compliance. Rather, it is a practical explanation of what is required in order to achieve compliance, with a view to getting certified. As such it is completely scheme-independent, so it will help printers regardless of the organisation they get to do the final certification of their production.

We believe that quality and process control standards can help fast track printing companies to improved business performance. Over the course of the summer we hope to see more printers and print buyers getting to grips with ISO 12647-2, using SPP of course!

Enjoy,

Laurel, Nessian, Paul and Todd



In This Issue

Fantastic Fespa!

The Fespa show proved to be a model of efficient floor planning, with a great deal of kit packed onto each stand, and a great many stands crammed into the Excel exhibition centre, making it very easy to see a great deal of the wide format industry fairly quickly.

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Where Has All the Printing Gone?

Surprisingly, most of the books that used to be printed in Europe and are now printed in China, many of them are printed at one giant company. Laurel Brunner has been to see Leo Paper's Heshan Astros Printing plant in the Pearl River delta in southern China.

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Café culture

Xeikon has been hosting Café events in various countries as a way to meet customers. Laurel Brunner went along to one at CS Labels in the UK to see how digital labelling has worked for this business, and to hear about the new Ice toner.

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News Focus

Digital Dots has published Standardised Print Production (SPP) – a series of four, easy-to-understand guides that simplify ISO 12647-2 implementation. The SPP guides are ideal companion documents for use with any printing industry certification scheme and essential for companies who want to prepare for ISO 12647-2 certification from organisations such as Fogra, UGRA, BPIF, Swedish Printers Federation and IDEAlliance. More info at <http://digitaldots.org/standards/spp>

The Verdigris Project has announced the publication of ISO 16759, the standard that describes the framework for quantifying and communicating the carbon footprint of print media. ISO 16759 is the first standard of its kind: a sector-specific implementation of generic carbon footprinting methodologies such as PAS 2050 and TS 14067. It provides a common reference for the development of carbon calculators for all sectors of the graphic arts industry, from labels and packaging to books, transactional documents and newspapers. Print buyers can use it to ensure that carbon calculations of print media products are produced using a common framework, minimising variables that might otherwise confuse results. More info at <http://verdigrisproject.com/press/new-iso-standard-for-calculating-the-carbon-footprint-of-print>

Spindrift

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Muller Martini has admitted that it will have to radically restructure its business to survive, which could affect up to 550 jobs worldwide as it seeks to scale back the size of the company. It attributes this to the fundamental transformation of the graphics industry and consolidation among printing companies that has reduced the customer base, as well as a lack of credit for new investments and the strong Swiss franc exchange rate.

Agfa is to close its printing plate factory in Manerbio, Italy, with the loss of up to 123 jobs. This plant produces analogue offset plates and negative CtCP plates, both product lines for which Agfa says the market demand is in decline.

Domino has posted its results for the first six months of this financial year, showing that sales were seven percent ahead of the same period last year. However, Domino has written down its investment in Ten Media to 10 percent of the original cost, which has caused the company to post a loss of £3.8m despite underlying profits of £25m.

Heidelberg released its final figures for the 2012/2013 year which show that sales rose by five percent to €2.735billion. Earning before interest and taxes were €28million; special items led to a net loss of €110million.

Xerox has announced a new printer, the Color 570, which is targeted at a range of applications from polyester labels and signs, to window clings, menus and brochures. It uses Xerox's EA toner and has a resolution of 2400 x 2400dpi and can print at up to 70 ppm in colour, or 75ppm in monochrome. It takes stocks up to 300gsm, or 220gsm for auto duplexing. There are several inline finishing options such as stapling, hole-punching, folding and face trimming.

Videojet has shown off the latest addition to its proven 1000 Line ink jet printers. The Videojet 1620 Ultra High Speed and 1650 Ultra High Speed printers can deliver more code content for high-speed packaging operations, largely thanks to Videojet's Precision Ink Drop system and specially formulated inks.

Screen has launched its UV label press, first previewed at last year's drupa show. The Truepress Jet L350UV can

▶ produce labels at a rate of 16sqm per minute on a 350mm web. It's a single pass machine using greyscale piezo printheads with a minimum droplet size of 3 picolitres. Resolution is 600x600dpi. Screen claims photo-realistic quality with sharp, well-defined images and text. It will be sold in Europe and the UK through Dantex.

Heidelberg has announced a new saddlestitching unit, the Stitchmaster ST 200 Compact. It's based on the existing ST500 model and can handle final formats up to A3 and operates at a speed of up to 11,000 cycles per hour. It can be equipped with up to four double feeders and a cover folder feeder. It can also be used as a gathering machine for adhesive binding.

IBIS Integrated Bindery Systems has launched its Smart-binder Plus High Speed (HS) system. This can produce up to 7,000 booklets an hour at web speeds up to 200 metres a minute, whilst retaining saddle-binding page variations in normal increments of four. It can also fold sheets individually and provide integrated sheet and booklet tracking systems for true variable-data production output.

VTT, the Technical Research Centre of Finland, has said that it is developing new techniques for the production of metallic nanoparticles. It has a new production reactor, operating at atmospheric pressure, that reduces the production costs of multicomponent particles and enables the production of metallic nanomaterials, which are not yet commercially available, for research and product development needs. These metallic nanoparticles have optical and magnetic properties that are suitable for conductive inks and catalysts. In the future, it is hoped that optically transparent coatings will make it possible to replace precious metals with copper in, for example, solar cells, opto-electronics, and diagnostics.

Adobe has acquired Neolane, a conversational marketing company founded in 2001 with more than 400 customers worldwide. Neolane integrates online and offline marketing data from across an enterprise – performing robust audience segmentation and delivering marketing messages across channels. The deal is said to be worth €460m and will help boost Adobe's cloud-based marketing solutions

Chili Publish has updated its online document editing program, Chili Publisher, to v3.5. There are improvements to the 3D folding tools, which now lets users combine multiple documents and assets in a single 3D model. There's also a new IDML export option that allows users to export CHILI Publisher documents to InDesign Markup Language (IDML), an XML-based format that improves the compatibility of files with a wider range of InDesign versions.

Glunz & Jensen is to acquire Grafisk Kvik Service from 1st September 2013 as part of a strategy to extend its service and support. GKS specialises in the installation, service and maintenance of graphic equipment including CtP systems and post press equipment. It has been a dedicated service provider of Glunz & Jensen equipment for the past 20 years, operating mainly in Denmark and the south of Sweden, but will now expand into Europe and North America.

Drytac has acquired the Canadian adhesive coating company Multi-Tac. The company operates two coating lines and serves a number of markets including flexible packaging, graphic arts, and unique label and tape applications. Hayden Kelley managing director Drytac Europe Ltd said: "This acquisition positions Drytac for expansion into markets that require more sophisticated adhesive coatings."

Antalis is to buy Xerox's office paper distribution business in Western Europe, along with the exclusive rights to market and distribute Xerox branded paper and digital print media in Western Europe. This will considerably strengthen Antalis's position in this market as well as allow it to maximise its logistics. The deal is still subject to EU competition approval but both parties expect it to be finalised by the end of this year.

X-Rite has announced a long-term partnership with Color Confidence to form X-Rite Photo Europe. Color Confidence has set up a dedicated team, solely focused on the X-Rite range of photo products, to manage the sales, marketing and support to partners and end user customers across EMEA (Europe, Middle East and Africa) and Russia, becoming the de facto supplier of X-Rite products to the photo channel.



Altaimage, a marketing solutions provider based in London's docklands area, is to beta test LumeJet's S200, an ultra high resolution digital printer. An inkless process produces pages up to A3 landscape on 305mm photographic roll paper. It uses a patented photonic technology, resulting in an output equivalent to more than 8000 dpi inkjet quality with true contone images.

HP has quietly shut down Hiflex, the German MIS and web to print company that it bought in 2011. Hiflex was one of the first MIS providers to move to a cloud-only model and seemed to embody a renewed interest from HP in its approach to workflow software for the commercial print sector. Existing web to print customers will continue to be supported up till 30 June 2016, with MIS customers having support until 31 December 2017.

Quark has extended the deadline for customers looking to upgrade to the latest version of QuarkXPress 9, and thereby qualify for a free upgrade to v10, further details of which should be available shortly. Anyone running v3-7 now has until the end of August to upgrade to v9, while customers running v8 have until the end of December of this year to update to v9. This also means that anyone who switched to Indesign and is now feeling unhappy about Adobe's new licensing policy, can dust off their old Quark license and return to the fold.



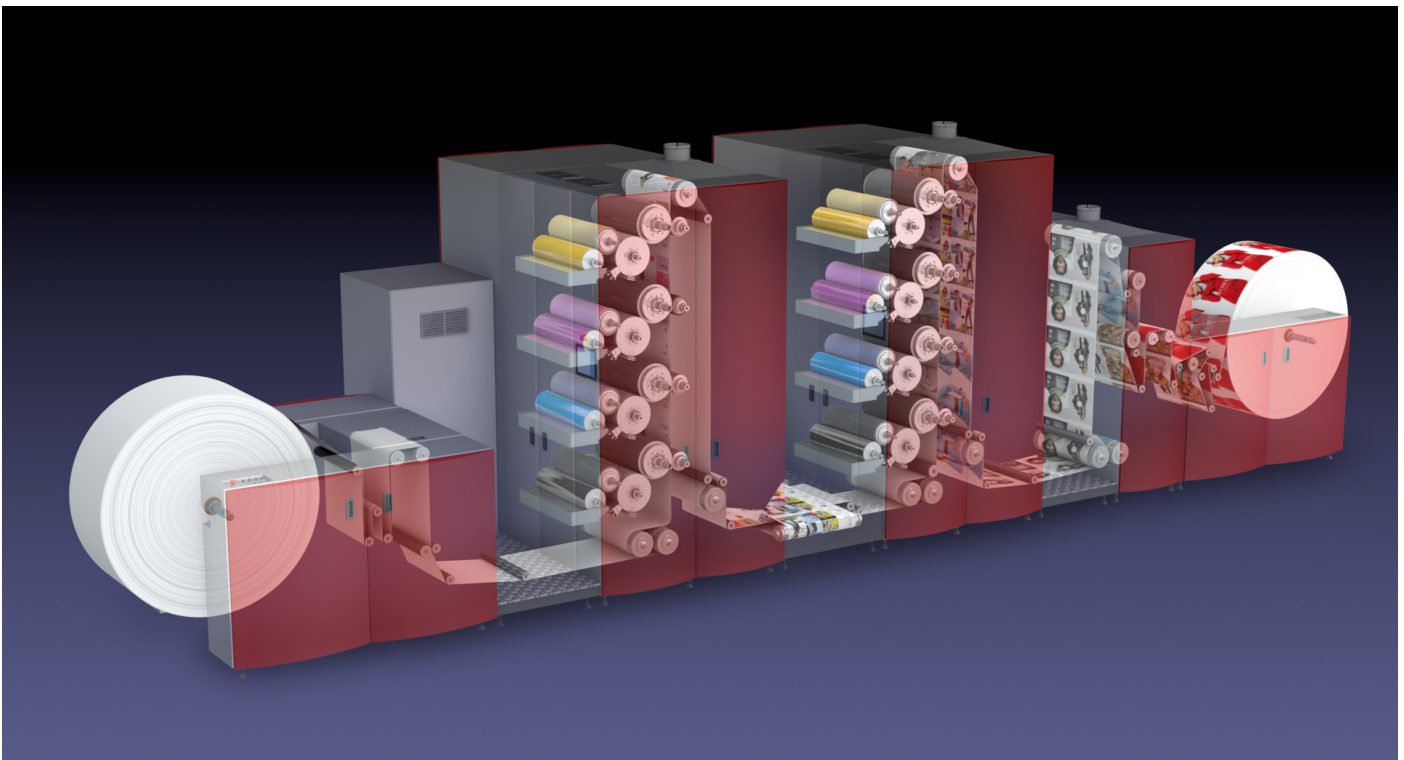
News Analysis

Xeikon has provided us with an update on its progress with the Trillium technology that it unveiled at last year's drupa show. Trillium was one of several liquid toner systems previewed, the promise being that this process should ultimately deliver high image quality at high print speeds.

The machine running at drupa, and kept behind a glass panel, was monochrome only but Xeikon has now developed a four colour version. For the last few months

The initial market will be high value document applications such as direct marketing and photobooks. The major advantage of the system will be its image quality, which is potentially better than most high speed inkjet presses can match. Also, liquid toner should be a lot less fussy about the substrates in use, which has been a challenge for most of the inkjet presses.

However, the first press will be limited to just 60mpm, though Xeikon anticipates that future versions could easily double that. It uses the same LED-based imaging engine as the current 8000 series dry toner machines, and this has limited the speed. Not surprisingly, Mertens says that the next step is developing a new, faster writing system.



The Trillium press should have a fairly compact footprint. Each colour is printed via a separate imaging station, with one tower for each side of the paper, but note a third unit for fixing the image.

the company has been running a customer engagement program and from this has drawn up a short list of potential beta test sites.

Danny Mertens, director marketing and business development for Xeikon's document printing division, says that Xeikon expects to install the first beta machines within a few months and anticipates a six month test period. Currently Xeikon is planning to launch the first Trillium-based press by Spring of next year.

Nonetheless, this makes for around 800 A4 impressions per minute. This first press will have a print width of 500 mm, again limited by the existing writing system. It should be good for a duty cycle of around five million A3 sheets per month.

One of the features of liquid toner is that it allows for much finer particles than dry toner systems. In this case the toner particles are mechanically ground down to just 2-3 microns, into a round flat shape, which Mertens likens

▶ to an M&M sweet. The particles are suspended in a white oil.

The toner is first applied via an anilox cylinder, then transferred to a developer roller, before being applied to the photo conductor cylinder, charged with the latent image. From there it's then transferred via an intermediate roller to the substrate. Mertens is keen to stress that the gap between each cylinder and between the intermediate cylinder and the substrate is just five microns, a major factor in keeping the toner particles in place, leading to



This shows how the liquid toner passes from the anilox cylinder to the developer roller, photoconductor cylinder and thence to the intermediate roller where it is transferred to the media. There's only a 5 micron gap between each of these cylinders, helping to recover the carrier liquid which can be reused.

a sharper image. This also helps to remove the carrier oil which is then recycled within the system, helping to keep costs down as there's no energy needed to evaporate or otherwise remove the oil.

It uses a separate imaging engine for each colour so that the speed is not affected by the number of colours used. Each imaging unit is arranged one above the other, creating two towers, one for each side to be printed, with a turnbar in the middle. It uses a two-stage fixing process, with an initial pre-fix at the bottom of each print tower. This currently uses heat and pressure but Mertens says that Xeikon will probably replace this with a small IR unit. Following the second tower, the substrate passes through a final fixing unit, which uses heat and pressure to fix the image.

Mertens says that one advantage of the system will be its compact size, at around 11 metres long from the feed roll to the take up roll and five metres wide.

We wondered if Xeikon could develop a faster monochrome version. But Mertens says that although Xeikon has considered this, providing the speed can be increased, the company primarily thinks in terms of colour printing. Nor is Xeikon actively considering developing a label press variant because the existing dry toner 3000 series already caters for this and can print to a wider substrate range. Mertens says that faster throughput isn't so important: "Label printers invest for the added value of digital and so they don't need to fill the machine up immediately."

Much of the liquid toner technology that Trillium is based on was developed by Research Laboratories of Australia, which Xeikon acquired in 2010. It should be noted that the Japanese manufacturer Miyakoshi had previously invested money with RLA to fund research into liquid toner printing, and has subsequently developed liquid toner presses, including one developed with Ryobi that was also shown at the last drupa. Océ has also announced a liquid toner technology called Infinistream.

Xeikon says that it did talk with Miyakoshi at the time of the acquisition and that there is no legal dispute between the two companies, although it would have a good look at any liquid toner press from any manufacturer that came to market for possible patent infringements. Mertens adds: "We are not unhappy that other companies are working on this technology because it proves that the technology probably has a good future ahead."

We're certainly keen to see the printed results and hope to see one of these presses running live jobs before the end of the year.





A Review

Barbieri SpectroPad

Previewed already at drupa 2012, the new SpectroPad spectrophotometer from Barbieri has now been launched, together with the optional DOC (Digital Output Control) software for quality and process control function. As with the other spectrophotometers from Barbieri, the SpectroPad is mainly designed and aimed at the large format digital printing market, but can of course also be used in analogue print production, especially screen printing.

The SpectroPad is very compact; it has a smaller footprint than an A4 size sheet of paper. But thanks to a quite clever mechanical design the measuring head can still be moved to read up to A4 size colour charts or control strips. Better still, it supports wireless network connections, so that it can be used at any printer or press on the site, and can send the measurement data to the host server or workstation.

It has a fairly large aperture, 6mm, which makes it suitable for use in large format production, where there is often relatively low resolution used for the output, and some types of substrates, like fabrics have a fairly rough surface. It can only measure in reflective mode, so if you need to measure transparent materials like glass or film, then you would be better off with another product, such as the Spectro LFP, (reviewed in Spindrift 9-6 of October 2011) or the Spectro Swing, both also from Barbieri.

The SpectroPad supports most of the measuring modes in the ISO 13655 standard for spectral measurements, so M0, M1 and M2 (UV cut), but not M3 (using polarisation filter). The measuring head has three LED light sources, each containing seven LED elements, so in all 21 LEDs for even illumination of the media surface and matching the D50 illuminant. It measures in bands of 2nm at an optical resolution of 10nm.

The SpectroPad has a built-in computer and touch-screen display, so can be operated fully off-line with just a few operations that need to be done through the host computer and the Gateway software. This, for example,

is where you set up a new job type or prepare a new test form. The data and measurements are then synchronised between the SpectroPad and the Gateway software at the host workstation. The Gateway software runs on both Mac



The Barbieri portable spectrometer SpectroPad has a built-in touch screen and computer, so can be operated off-line. Note the guiding laser beam to help the operator position the instrument.

OSX and Windows, a choice we certainly appreciate. After 30 years of using both Macs and PCs in parallel, there is no doubt in our minds that the Mac is a more user friendly and stable environment.

Colour management

When you buy a spectrophotometer it is of course because you want to take control of both colour and quality management. While the SpectroPad supports all of the commonly used measuring modes in the important ISO 13655 standard, the Gateway control software doesn't actually perform linearisation or calibration, or even create ICC profiles on its own. At first this may sound strange, but when you place the SpectroPad into a real-life workflow, you will find that there are probably already several applications that can perform calibration and linearisation, and create ICC profiles.

Typically this is done in the control software for the printer, the RIP. Or you might have invested in one of the profiling solutions on the market, but found that the spectrophotometer didn't meet expectations in terms of functionality or measurement accuracy. For this reason Barbieri supports a range of RIPs in terms of file formats and test charts available. But you can also create a test

barbieri Gateway Intelligent Measuring Technology when Color Quality counts

Operation Mode

- Chart Measurement
- Digital Output Control
- Spot Measurement

Tools & Settings

- Tools
- Settings

Tools

- Check for Updates**: Check if new updates are available on the Barbieri webserver.
- Chart Generator**: Create customized color charts from a reference file for Barbieri instruments.
- Enter TAN**: Activate instrument functionality by entering a Transaction Authentication Number (TAN) provided by Barbieri.
- Get Service Report**: Run a test-procedure and create a Service Report in your documents folder.
- Service Report Analyzer**: Analyze the created Service Report of your instrument to verify if it is functioning properly.
- Measurement Analyzer**: Run a test-procedure and create a Service Report in your documents folder.
- Firmware Update**: Check if a new Firmware is available for your instrument and proceed with update.
- Upload Instrument Configuration**: Transfer the configuration parameters to your instrument.
- Load Measurements**: Open a measurement-file (*.bin) and save it in a different file format.
- Start Profiler**: Create an ICC profile from a measurement file.
- Open Profiles Folder**: Open the system profiles folder to see the created profiles.
- Instrument Command Mode**: Directly communicate with your instrument (for service use only).
- Register Instrument**: Register your instrument to get access to software and firmware updates latest product and corporate news.

Easy Advanced

While the SpectroPad can be used offline without any connection to a host computer, configurations and job settings are done in the Gateway control software. Data can be synchronised via wireless connection and of course also through a USB cable connection.

chart based on reference data from many popular software packages, including the now discontinued ProfileMaker.

The measurements made by the SpectroPad are then processed by your choice of profiling software, and an ICC profile is made according to your preferences. If you use a particular RIP then the calibration and characterisation functions of that RIP can be used together with measurements from SpectroPad. This normally works fine, and if you have any problems using the SpectroPad with your favourite RIP or profiling software, Barbieri will normally help you figure out a workaround. This is the charm and possible benefit of dealing with a somewhat smaller company – you have the possibility to get direct contact with the R&D team, and our experience has been that the staff at Barbieri are both attentive and flexible.

Quality Control

For now Barbieri has chosen to leave the operation of classic colour management to be handled by the user in their preferred RIP or profiling software (though there are plans to add this functionality in the near future). However, Barbieri has decided to offer the more strategic function of quality control as a ready-to-use product. This

is the DOC option (Digital Output Control), a very easy to use validation of the output from your press or printer. This add-on to Gateway makes it possible to configure a validation process based on any international or industry standard, by adopting the tolerances suggested there, or to define your in-house references for a given substrate, ink and printer configuration.

You can either use ready made control strips, or design your own, suitable to be read by the SpectroPad. This professional approach to quality management can save a lot of time and therefore money, as well as strengthen your profile towards customers. Internally this validation can be used to check that the setup of a printer for a certain substrate is correct, so that the final print run isn't started until the expected quality has been validated. This type of validation has been the norm for many years within conventional print production for the validation of proofs for offset and gravure, but is quite a new phenomenon in large format digital production, that is, checking the final production against set standards.

This optional feature is priced at approx €900, but this sum should easily be recouped if the system prevents

▶ a couple of substandard jobs from being printed and delivered to the customer, and then rejected, or to fail an inspection after being printed, requiring a reprint. Since the SpectroPad is portable and can transfer readings wirelessly, it can be used by any operator at any printer or press. Commonly used checks are stored directly inside the SpectroPad, so for those validations the result is shown instantly on the screen, on the SpectroPad. The price for the SpectroPad itself is approximately €2000, excluding VAT.

We like the look and feel of the SpectroPad, as well as the interface of the Gateway control software. The built-in laser guide is very useful when positioning the SpectroPad before reading a new row of patches, and the operation and handling from there is quite straightforward. If you are too impatient, and move the reading head too fast, there is a speedometer to warn you to slow down a bit. A successful reading is indicated clearly, and you can proceed with the next row.

All in all the SpectroPad was a positive experience to test, with no complications regarding the installation of software or the usage, once we got our head around the intended way to operate it. The different design awards it has won seem rightly deserved!





Green Shoots

This has been a very exciting month for us because of the publication of ISO 16759. We have however, resisted burbling on about this too much because there is so much more besides that is helping to improve print's environmental impact. The messages are getting louder in all areas of business, areas where printers and publishers look for work. Business performance and standards of course go hand in hand, but this month's blogs are more than an echo of that sentiment. Read on and enjoy!

The Economics of Green

Ideals are all well and good but at the end of the day businesses exist to make the money that keeps economies afloat. Carbon calculating and offsetting exist in order to enhance the business. As someone at Mondi's Green Event said earlier this spring, "green is about being better" and that extends to all interpretations about what better means, including being more profitable.

It makes sense. Businesses can only do well if the organisation is run efficiently. For huge companies such as Mondi this means reaching out to all areas of the business to make sure that things are working as they should. This is the underlying thinking in the concept of Natural Capital that was also discussed at the Mondi meeting.

Natural Capital is a concept dreamt up by a group of bankers who wanted to "embed specific aspects of environmental, social, and governance factors in their risk management, due diligence, loans, investments, and insurance activities". A bit of a mouthful but basically the Natural Capital Declaration (NCD) is about recognising all aspects of a business, and somehow assigning a numeric value to what might otherwise be considered intangible assets.

The NCD is managed by the United Nations so this is not mere marketing bark. For the graphic arts industry and probably most other sectors it seems miles away from the realities of daily life and business. But for companies such

Verdigris

The Verdigris project is supported by Agfa Graphics, Digital Dots, drupa, EFI, Fespa, Heidelberg, Kodak, Mondi, Pragati, Ricoh, Shimizu Printing, Splash PR, Unity Publishing, and Xeikon.

as Mondi, which has huge amounts of capital tied up in trees, Natural Capital is a valuable asset descriptor.

More importantly Natural Capital assets can generate other assets that might fall within the purview of the NCD. For instance, Mondi's efforts in South Africa to apply "landscape level thinking" to local ecosystems. The result is massive improvement to wetlands that has also helped improve the quality of harvested forests through holistic landscape management.

Mondi has set aside 25% of its Russian and South African forests and is looking at other ways to use its Natural Capital to enhance its business. This is of course about money, because without money a business is little more than a house of cards. But the alignment of commercial interests to social and environmental interests is what business is increasingly about. For a handful of companies in the graphic arts industry this is the reality. They are paving the way for new approaches to business and for new ways of thinking about environmental impact improvements.

Green the New Gold

Fespa opens its doors this week and includes an impressive array of environmental content. For instance, Caldera will be showing an inRIP carbon footprint calculator and there will be a glut of new environmentally friendly, UV-curing digital presses on show.

Fespa has attracted audiences from all over the world and has put together a series of sustainability fact sheets

▶ to help visitors get started with implementing a green agenda. The fact sheets cover the hows and whys of going green, and there is a guide for implementation plus some random facts about the business benefits of sustainability. The Fespa Planet Friendly team will be on hand to answer questions that international visitors may have.

The organisers have put together an afternoon of sessions looking at sustainability in the printing industry as part of the Fespa Jet Set conference programme. We are involved in this and looking forward to presenting ISO 16759 to the audience and to answering questions about its implementation and likely impact. One company has already started the process of getting its carbon calculator certified to the standard but, as they say, one swallow doth not a summer make. It could be that ISO 16759 falls completely flat, but hopefully this won't be the case.

We will have some environmental case studies to discuss in the Jet Set Sustainability Stream. Banner Box and Greenhouse Graphics have both seen profits improve as a result of their green initiatives. Pureprint has even won a Queen's Award, so we are keen to learn how they reached such giddy heights! As well as case studies we've a generous sprinkling of how to manage supply chains for improved efficiency and reduced environmental impact with a couple of consultants and Fespa UK's very own Peter Kiddell. We wrap up the session with a panel discussion, which we very much hope will have hefty audience input.

For those printers and print buyers who prefer to have a less public conversation, Fespa's environmental guru Paul Machin will be available to answer specific questions on health, safety and the environment. Machin is a scarily brainy man who seems to have devoted his life to improving print's environmental impact. He is an advisor to the European Union's Environmental Agency and works with industry associations to make sure that the printing industry's interests are represented at government level.

However Fespa is brimming with ideas and includes all sorts of other distractions to keep visitors on their toes. We very much hope that the economics of environmental

impact is compelling enough to entice them to the Jet Set conferences. That might be wishful thinking given the huge amount of hardware and software innovation on display. But we are ever optimistic, so we hope to see you this week in London.

Be Green to Be Seen

Every time we go to a trade show it seems the amount of greenwash sloshing about gets thicker and sloppier. And although it might not seem so, this is a good thing. It's good because it reflects suppliers' and manufacturers' awareness that they need to be green to be seen. They may not understand what being green really means, but at least they know it matters to their customers. There is another reason why greenwash is good: plenty of genuinely great green initiatives are floating about in the mix.

At Fespa 2013, which took place in London last week, the greenwash was flowing thick and fast. Ink manufacturers take note: if your product contravenes the REACH regulations it is not environmentally benign, no matter how smart your green branding is and no matter how much you want to believe your own rhetoric. The same applies for materials suppliers who need to watch what they claim, particularly for the recyclability of banner materials. Spouting ignorant rubbish puts a company on a slippery slope that leads to loss of customer confidence and trust. Far better to know your facts, 'fess up and focus on what you are doing to fix the problem.

There was plenty of green gold amidst the dross. Several printers in Fespa 2013 seminar sessions described how their commitment to the environment and sustainability is growing their businesses. Sustainability alone obviously isn't enough but when it is coupled with sound business management and an eye to the bottom line, it's an absolute winner. All else being equal, customers willingly opt for the sustainable choice, because it makes sense.

Many new large format digital printers were launched at the show and an awful lot of them were promoted on the basis of their reduced environmental impact. The Agfa UV inks, which have no VOCs and cure more quickly than

▶ latex inks, the KIP C7800 dry toner machine, 80% of which is recycled, HP's Latex 3000 monster, which doesn't need extraction fans, Caldera's in-RIP carbon calculator - these are just a few of the many new ideas being touted.

Some are more ambitious than others but all are indicators of progress towards a more sustainable industry. Across the huge diversity of the printing industry people are taking loads of tiny little steps towards improving their business and environmental sustainability. In isolation none of them may be particularly compelling but taken as a whole, the print industry is moving forward at a healthy clip towards greater sustainability for business and for the environment.

Getting Uglier in Indonesia

Despite protestations to the contrary, the steady destruction of Indonesian rain forests continues. A few weeks ago Asia Pacific Resources International Limited (APRIL), one of Asia's larger pulp and paper companies requested the FSC to withdraw their Chain of Custody certificates (COC). A COC confirms that wood and wood-based products originate from sustainably managed forests. Serious stuff indeed, but this is more than a local squabble between FSC and APRIL. And as always with forests and mega corps, it is not a simple matter.

The dispute began when Greenpeace, WWF Indonesia and the Rainforest Action Network complained to the FSC that APRIL was violating the FSC's rules. APRIL continues to tear down natural forests in Indonesia, replacing them with plantations. Over the last few years APRIL has turned 200,000 hectares of Sumatra's rainforests, much of it home to endangered elephants and tigers, into plantations.

The group is also trashing High Conservation Forests, which are forest areas that the FSC designates as having rare, threatened or endangered ecosystems or that are necessary to meet the needs of local communities. APRIL's argument is that this is fine because "APRIL [is] ... working towards developing a renewable and sustainable plantation fibre supply to meet the fibre needs of the

future, which is what was done by companies in developed countries in the past."

This is the nub of the problem. How can developed countries deny undeveloped ones the same rights that they enjoyed? So goes the argument, but it's a specious one. Mistakes made in ignorance should not be repeated in the light of new knowledge: we know what the losses will be, unlike in the past when the implications of resource and species loss were not fully understood. The focus should instead be on identifying business models based on sustainable practices, not resource destruction.

The WWF and its cohort are asking APRIL to simply stop what it is doing, which is silly and rather pointless because natural forest destruction is a fundamental part of the company's business model. Subjective values are always tricky to share so further dialogue between APRIL and FSC is imperative. APRIL has publically stated it is open to dialogue with the FSC and the FSC is considering its response. A conversation has to happen but ultimately it is up to the Indonesian government to preserve the country's natural resources in the interests of its people and of future generations. It's also up to market dynamics but this is tricky too as the balance between cost and value gets more complicated.

For more green news, check out
The Verdigris Project:

Verdigris 

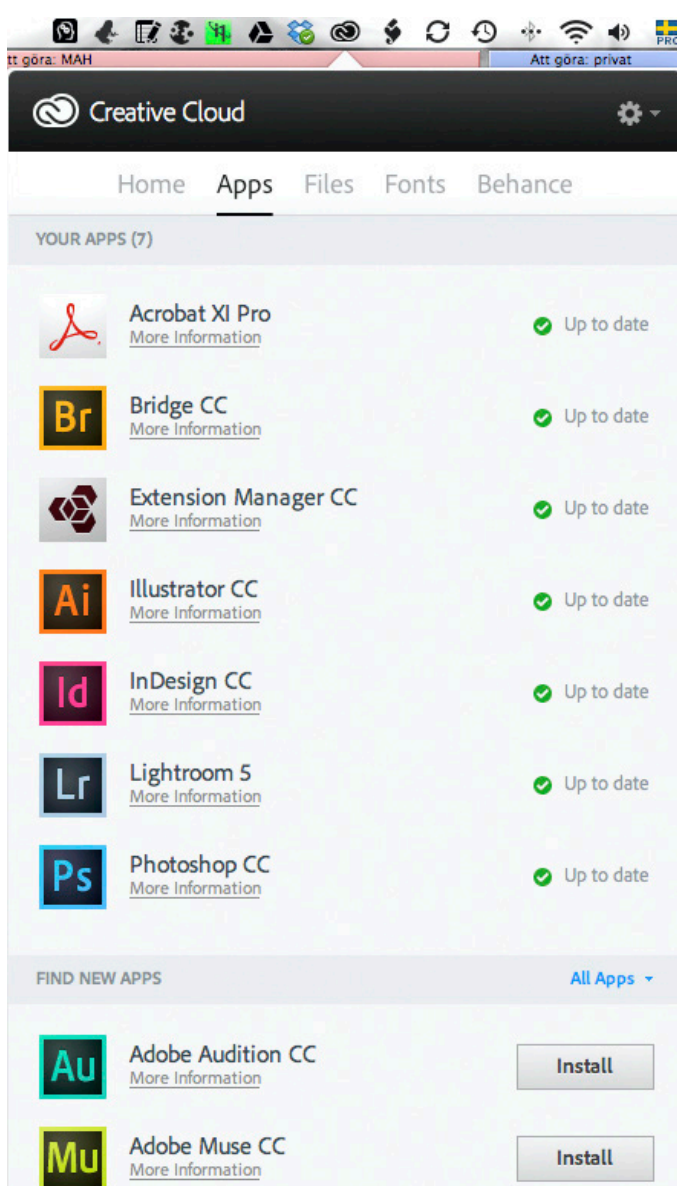
<http://verdigrisproject.com>



Another Review

Adobe Photoshop CC

Earlier this Spring Adobe launched both a new version of the Creative Suite coupled with a whole new setup for the licensing (see our first report on this in Spindrift 11-3, June 2013). Since that report we have started to use some components in the Adobe CC (Creative Cloud), starting with Photoshop 14 and Lightroom 5.



The Adobe Application Manager is where you check the status of all the applications you have licensed in the Adobe CC suite. This is also the short cut to other features in the Creative Cloud family of features and options.

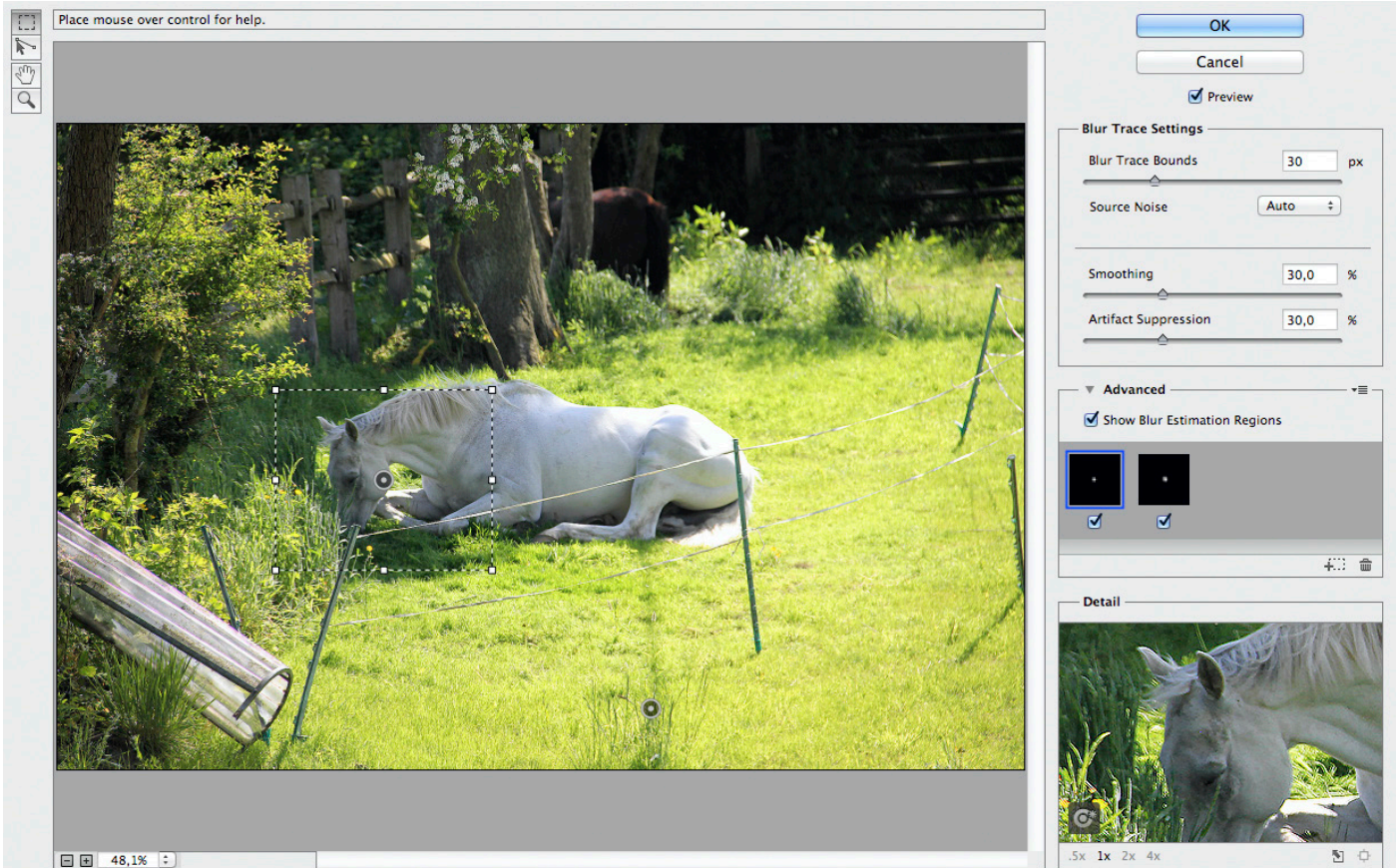
Contrary to what is normally understood by “working in the cloud”, all the applications in Adobe CC are downloaded to your own computer, and run from there. But you can save the files in the cloud for easy access in a distributed, teamwork-based workflow. But what’s new is the desktop app Adobe Application manager (which can be found as a short cut in the top menu field), which ensures that all your applications and licenses are up-to-date. If your Adobe software needs to be updated, this is where you find the notification.

There doesn’t seem to be much point in saving a back-up of your existing software – if Adobe Application Manager doesn’t recognise it, you will need to download and install it again anyway. This is what happened to us – after what seemed like a successful installation, and having used the software for some days, we noticed that Application Manager didn’t register our application as properly installed, and we had to turn to the Adobe support to understand what was happening. After a while the problem was identified – we were running the Mac with an older operating system.

In order for Adobe Application Manager to function properly you need to use Mac OSX 10.7 or higher (or Windows 7 or higher for PC users). Although this is stated in the tech specs, it is not checked when installing the new version of Adobe Application Manager. For various reasons we had clung on to OSX 10.6.8, mainly to be able to run ProfileMaker for colour management tasks, but for this test we had to upgrade to Mountain Lion (OSX 10.8.4). After upgrading, Adobe Application Manager behaved as expected, but we still had to re-install all the software. When working cloud-based a fast Internet connection is key!

Once those initial problems were overcome, the first positive signs could be noted. We have a feeling that Adobe has worked on improving the overall speed and response time in Photoshop. We haven’t timed this, but it’s a quite clear gut feeling we have, and contrary to what you normally expect when upgrading to a new, more feature rich version.

There are some nice new features in Photoshop CC besides the cosmetic changes to the user interface. There



One new feature we believe will be much used and appreciated is the Shake reduction option in the sharpening section. An algorithm compensates for camera movements during the exposure, and does a pretty good job at this.

is a new filter called Shake reduction that will probably be much used by people trying to make the best of pictures taken with smart phones or SLR cameras lacking built-in stabilisation. It identifies the direction the camera has been moved during the exposure, and makes a pretty good job at trying to create a much sharper final image. This feature won't adjust for movements of objects being photographed, only for movements of the camera by the photographer. You can apply different settings in different parts of the image.

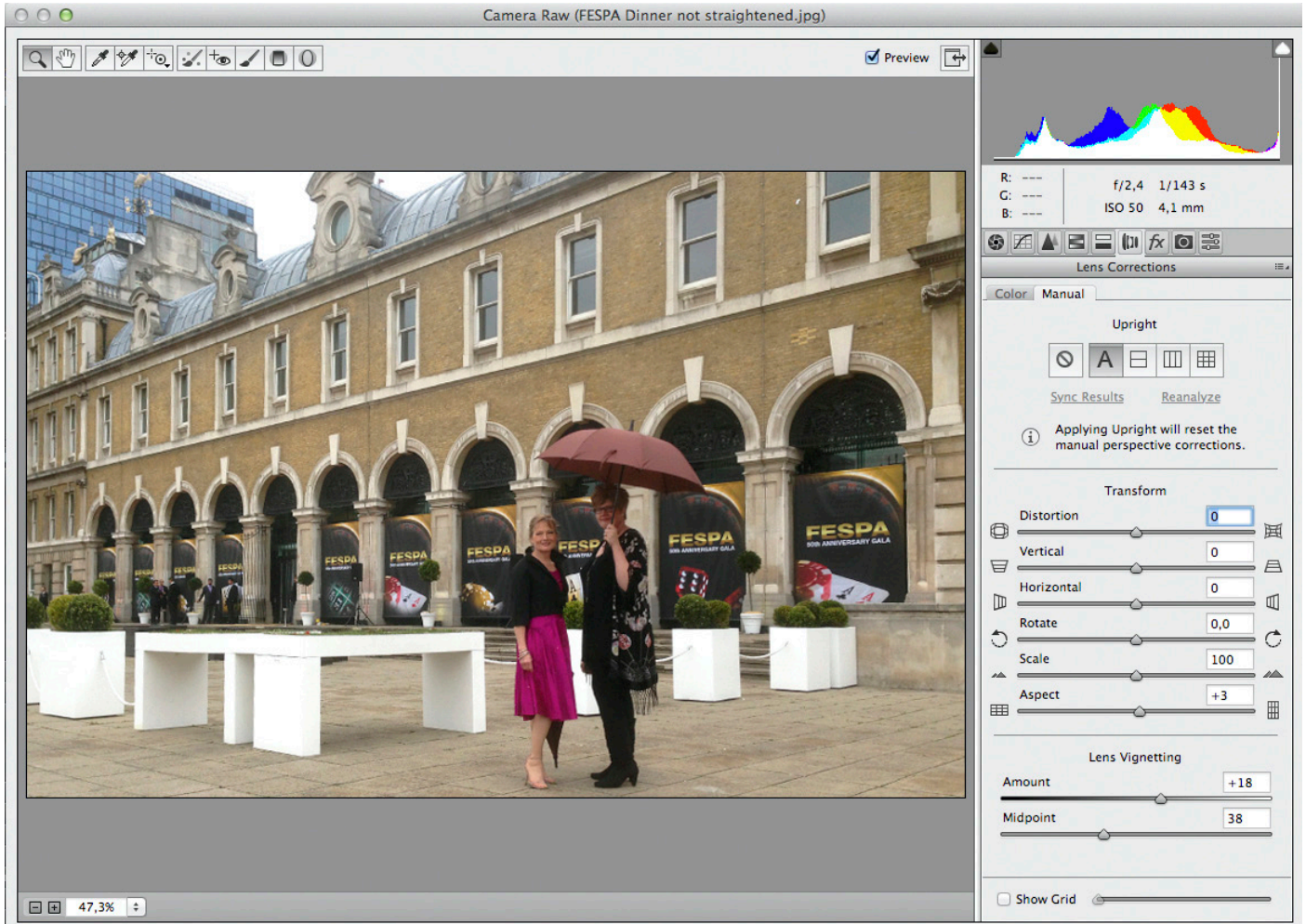
Another enhancement is the new Smart sharpen tool, with many more alternatives to achieve a good end result. Another feature related to sharpening is the section for resizing images, either enlarging, or down sampling them. The new Preserve Details feature seems to do just that, in a better way than when using the traditional bicubic algorithm. Taken together these features give some leeway to enhancing images in this update.

Also, the Adobe developers have clearly paid attention to the Camera RAW plug-in. Over the years this is probably

where most of the R&D resources have been spent, and the enhancements here continue. In Photoshop CC it's now possible to use the features in the camera RAW section on all types of images, including those already processed, since there is now a new Camera RAW filter. This helps simplify the workflow considerably.

Another enhancement to Camera RAW that we really liked is the enhanced lens correction. When you take photos of buildings, the perspective is often more or less distorted, more so with wideangle lenses. It can be fixed in 2-3 steps, but with the Upright function you now have access to an automatic and very efficient way to straighten up perspectives.

Another nice feature of Camera RAW is the ability to apply radial selections when applying filters. Elsewhere, another smaller, but still useful enhancement is that the healing brush now has more options in regard to the shape of the brush used, and there is a new handy spot healing function. So all in all there are quite a lot of goodies for both the professional and semi-professional



A new thing is that the Camera RAW actions can be applied to all images thanks to the new Camera RAW filter. The Lens correction tool has been expanded with a handy and automated tool called Upright for adjusting the perspective in images.

photographer to explore, and also some for ambitious hobby photographers, if they can afford the Adobe CC version of Photoshop in the first place.

Lightroom CC

We've mentioned the Camera RAW module quite a lot so far, and this brings us to the new version of Adobe Lightroom, upgraded to version 5, but also available as a Lightroom CC version. Its full title is Photoshop Lightroom, and the tight connection to Photoshop is now more obvious than ever. Many of the new and really interesting features in Photoshop are also reflected in Lightroom, and we have a feeling they actually originate in the development of Lightroom.

The boundary between the two applications is increasingly blurred, since many features are available in both Lightroom and Photoshop. Then again, most

photographers will do their basic processing in Lightroom and use Photoshop for specific jobs that require more heavy duty lifting. And while there are some features that are probably easier to manage in Lightroom, others are better done with Photoshop.

One of the strengths of Lightroom is that it helps you organise your photos, but on the other hand, you may find that you prefer using Adobe Bridge for this.

However, one application where Lightroom offers better tools than Photoshop is when handling tethered exposures, with a camera connected directly to the computer. But this is an obvious situation for professional studio photography, where users want to finalise the images if possible without the need to touch them in Photoshop. If they are happy with Lightroom this far, they are likely to stay loyal and update to Lightroom 5 too.



The GPMA Getting a Grip

The Graphics, Print & Media Alliance, or GPMA is a new UK printing industry association. In the words of its leading light, Peter Morris, the GPMA's purpose is to "create one voice for the industry" because the UK print industry representation is too fragmented. This new überassociation is established to further the interests of British print, something that's long overdue. It is telling that Picon, a UK industry association for manufacturers, is driving the initiative: perhaps they see the UK market slipping.

Mr Morris told us that British print and its associated supply chains have an annual turnover of £40 billion, but that it struggles because of a lack of direction from the British Printing Industries Federation. Itself a rather lopsided collective of sector specific groups, the BPIF has faded steadily from view over the last few years. Its 1600 members of the UK's 9000 printing companies are not necessarily representative of the broader British printing industry.

The GPMA comprises eight industry organisations, including the British Association for Print and Communication or BAPC, the British Coatings Federation, or BCF, Fespa UK, Independent Print Industries Association, or IPIA, Picon, the Process & Packaging Machinery Association, or PPMA and the Rubicon network, with the BPIF a last minute signatory. GPMA members will continue to be responsible for their own memberships and fee harvesting and the GPMA collects a fee from each association member. It will spend this revenue on lobbying, voicing industry concerns to the UK government. Peter Morris says that UK print is "bigger than the car industry" and deserves more government attention. This may be a comparison worth reconsidering.

The British car industry has a turnover of £50 billion and adds £10 billion of net value to the British economy. It also employs 737,000 people, accounts for 11% of UK

exports and in 2010 its exports accounted for £29 billion in revenues. These are the sorts of numbers that British print would love to be able deliver, but which currently are just so much summer haze. Peter Morris also reckons that the entire print media supply chain in the UK employs over 200,000 people and that this is a substantial enough voting block to get government attention.

The BPIF is utterly useless in a great many areas however, when it comes to government lobbying, the organisation is very keen and engaged. Does the UK print industry or the UK government really need more of this? What it needs is energy, education, enthusiasm and business development support to improve efficiency, sustainability and competitiveness. UK print needs to understand how to use technology to make its businesses more profitable.

The GPMA's goal is to "change the industry's image from dirty and bad for the environment and old fashioned" but the target image has not yet been clearly defined. Vision is as urgent as leadership. UK print needs clarity on how digital technologies change communications expectations and models, and guidance for how to exploit them. The BPIF has misunderstood these needs for so many years. Inspiration, imagination, motivation for growth, and investment in grass roots knowledge development can make a difference. Delivering them where they can do most good is not easy, but this is the GPMA's greatest challenge.



Fantastic Fespa!

We generally cover industry trade shows by providing a round up of the news according to topics. While a list of what is new in terms of hardware and software and workflows is of interest, you can find that easily enough in the cut and paste pages of online coverage. Here we look less on technologies and more on how they evidence industry changes.

Fespa itself has changed enormously over the last few years, shedding its screen-printing skin to emerge a fully-fledged digital beast. Its successful evolution reflects how parts of printing have fought failure, embraced the bold new world of digital methodologies and changed.



The London Excel exhibition centre may be stuck out in the boonies but over 22,000 people managed to find it.

The show, like the sectors it supports, has grown into a multifaceted event of interest to anyone and everyone in the media business. This is what print is about: inclusion and outreach.

Fespa celebrates print in guises far beyond signage and display, as the many subevents at the show demonstrated. There were design competitions, debates, workshops and parties, plus new product launches and demos. All these things helped make Fespa a destination of choice for over 22,000 people. It's a formula based on industry and supply chain engagement and it's a winning one.

But as it celebrated its 50th birthday what did Fespa have to say about the state of the industry? The show reflected

the wider media business: diverse, fragmented, highly local and yet universal. There was a heavy emphasis on sustainability, particularly in the context of business success. Workflows, machine performance, consumables and new applications keep getting more sophisticated in line with market expectations.

And there was a lot of buying going on: the HP Latex 3000 demo model was sold to Megaprint in Norway by the second day and Fujifilm had sold five Uvistars by the close of day two. In addition to investment, printers and print buyers are keen on tools that help them to get more out of existing technologies and sustainability.

Sustainable Business & the Environment

In the sustainability conference the recurrent theme was that sustainability and environmental impact controls are “a way to keep moving, thriving and balance” as environmental consultant Clare Taylor put it. Financial, environmental, social sustainability policies cut waste and costs from a business. For instance, most companies can reduce their energy consumption by around 20% without additional investment.

Several speakers supported this view. Pureprint, for example, recently won its third Queen's Award for its sustainability strategy, having increased turnover by

Sustainability must be linked to practicality. The Queen's Award is given to companies involved in “any activity that ensures a better quality of life for everyone, now and for generations to come”.

61.8% despite the financial carnage of the last five years. Pureprint works for 40 of the FTSE100 companies and director Richard Owers believes that “you need to be sustainable if you want to work with these companies”. 93.3% of Pureprint customers surveyed said environmental credentials positively influence buying decisions.

Richard believes that environmental awareness, although not prevalent throughout the graphic arts supply chain, is keen amongst leading print buyers.

Sustainability must be linked to practicality. The Queen's Award is given to companies involved in "any activity that ensures a better quality of life for everyone, now and for generations to come". This is about changing behaviours to make things better. Sustainability is about relationships and responsibility.

The European Timber Regulation (EUTR) got a good airing with consultant Rachel Butler warning the audience to check out the credentials of certification outfits. The EUTR is incomplete in that it covers labels and packaging



Fespa carried its "Destination Fespa" theme right the way through to its stand, which was reminiscent of an airport check-in desk.

products but printed products are not covered as a specific category. Intense lobbying is changing this and printed products "are at the top of the list ... because of China" for the EUTR's 2015 review.

The UK has many printers working to a more sustainable agenda but they are still the minority. Greenhouse Graphics, printers of large format work, has a twenty-year-old sustainability commitment. Managing director Ian Crossley believes "it is not going away" and has yoked sustainability to business pragmatism to deliver earnings results and operational efficiency. Once all the easy things have been done, Greenhouse Graphics recommends working with partners on such things as reducing the use of alcohol in print, which Greenhouse Graphics has done by 90%. Waste disposal costs can be turned into waste

income by working with partners who want waste as a raw material. Greenhouse Graphics uses shredded waste paper instead of void packaging.

Greenhouse Graphics has a "right first time" policy, so invests in ink profiling and digital workflow optimisation. Quality control reduces energy consumption per unit of turnover and it seems efficiency plus customers' increasing desire to purchase sustainable products is a successful commercial formula.

Sustainability also figured large on the show floor. Mimaki is supplying ink in bags, using less packaging and reducing waste. HP promotes its new HP Latex 3000 printer on the basis of the ink's environmental friendliness. The roll-to-roll Latex 3000 prints a 3.2 metre width at 120m²/hour for indoor and outdoor applications. According to an HP spokesman the press's environmental advantages "help your customers meet their sustainability objectives". We will be visiting one of the early users of the 3000 later this month to test the press in production, so more news on that in the September issue.

The flatbed HP Latex 10000 prints up to 625m²/hr for POP, retail graphics and displays. It features HP Scitex's High Dynamic Range printing technology: using small dots for quality and large ones for productivity, which HP claims gives the press the "highest dynamic range", presumably in reference to the dot sizes this machine can print.

Workflow & Productivity

Workflow automation has been a recurring theme at industry trade shows for many years and yet we still don't seem to have cracked it. At heart the problem is one of fragmentation and diversity in media supply chains. The difficulty of getting people to understand how data moves, what happens to it as it is processed as well as the influence of software and the challenges of managing metadata and colour data only compounds matters. Vendors are doing their best to help, while struggling to establish ways of using standards as reference points for quality control.

Several workflow system vendors such as Agfa, EFI and Esko have tailored their technologies for large format production. This is sensible, since sign studios typically

run each printer with whatever RIP software was recommended or available from a supplier at the time of installation. The Onyx 5, which is still the only 100% PDF-based workflow for large format applications, and Caldera RIPs still dominate, although this is changing. The plethora of RIPs is time consuming to support and update over time, and prevents a streamlined workflow integrated with MIS and web to print systems. Having different RIPs for each large format printer in the fleet makes it difficult to train operators and can lead to production errors. The days of the “Wild West” for digital large format production are not yet over, but now it’s time to tighten up the RIP situation to achieve more efficient workflows.

Following this theme, one of the workflow stars at Fespa was Agfa’s Asanti PDF workflow system for wide format. Based on Agfa’s highly successful Apogee technology, Asanti combines Agfa’s experience with workflow and colour to support complex, wide format digital colour production. Asanti Production and Asanti Storefront mirror their commercial equivalents to a large extent. Like Apogee Storefront, Asanti Storefront uses predefined production categories with customisable templates that can be adapted for individual printers or their clients. There are also default products for diverse applications and full variable data for sign and display, including data preflighting. Source databases are displayed within Asanti so that operators can check the details. It isn’t yet possible to sort or otherwise manipulate the data however, it can be edited so the variable data content can be managed. This is extremely promising technology for complex sign and display work.

Fujifilm has hinted at an XMF extension for wide format applications for several months. The technology is still under development in Tokyo where some reengineering is underway, as XMF was originally designed for books and magazine production.

Durst has also implemented Caldera’s Print Standard Verifier technology to provide a quality control mechanism for wide format output based on ISO 12647-2 criteria. The Durst implementation runs in the Caldera RIP and uses Fogra’s PSD certification scheme to check that the ink and substrate meet Fogra 39 targets. EFI has

supported ISO 12647 compliance in the Fiery FX RIP for some time as has Colorgate.

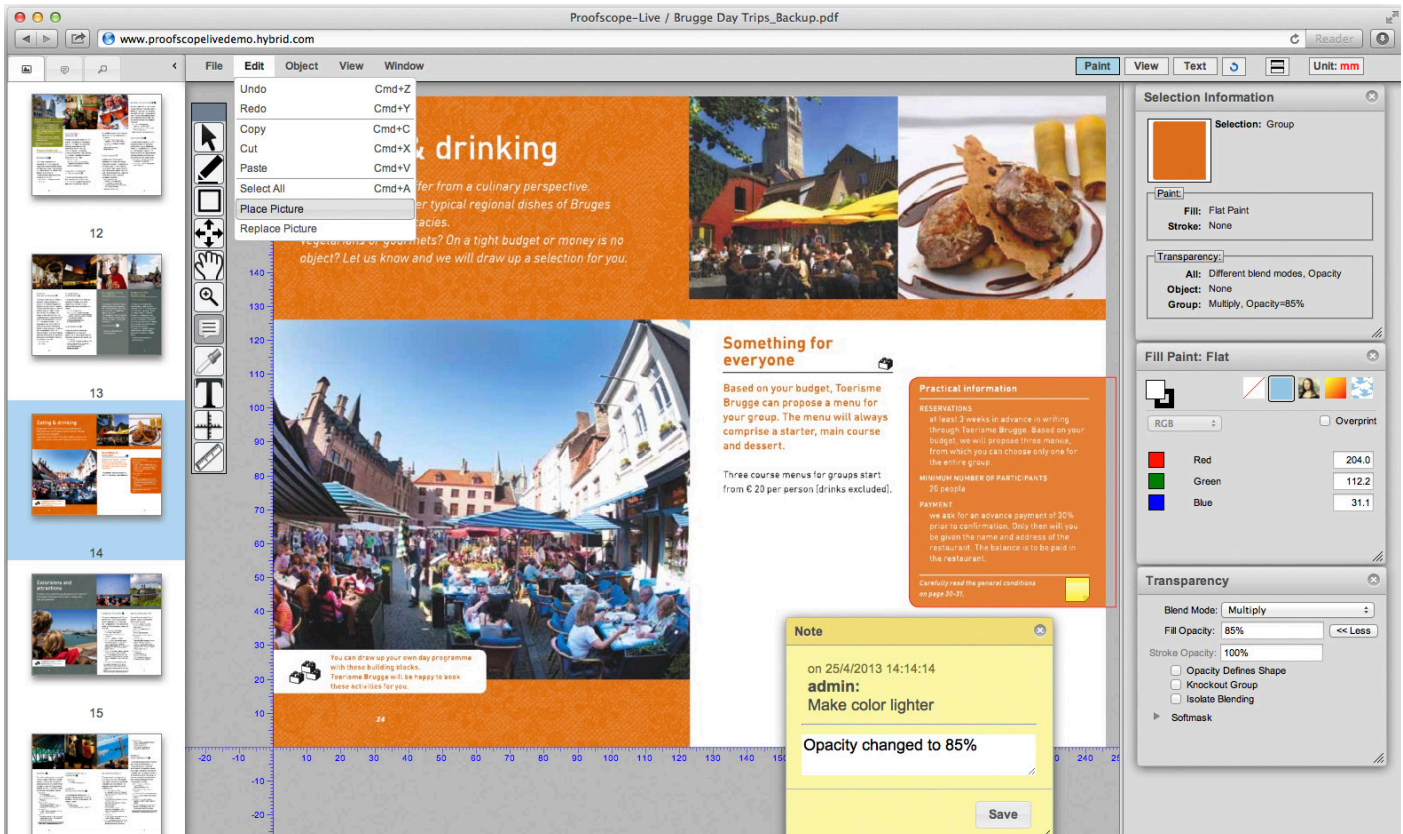
Esko continues to cut into the growing community of large format printers and producers with its Automation Engine, not least because much of large format production needs to be digitally cut, either directly in the printer/plotter, or in a near-line digital cutting machine. The i-cut Suite is one of the dominating solutions for this, and is also used under OEM agreement by, for example,

The fact that Esko takes considerable market share in the large format production market is another sign that this is starting to become a more mature market in terms of adopting advanced, professional digital tools.

EFI in the Fiery XF system. The fact that Esko takes considerable market share in the large format production market is another sign that this is starting to become a more mature market in terms of adopting advanced, professional digital tools. Esko has this reputation already in the demanding packaging production market, and is clearly extending its know-how from this into digital sign and label production.

Mimaki, which is one of the few suppliers that don’t sell media is now offering a Colour Profiling service, which will aid productivity. Over 20 providers are in the programme, and profiles, which originally only worked with Caldera and Onyx RIPs, now support more RIPs and are available for over 2500 substrates.

Hybrid Systems showed the new Proofscope module, part of its cloud-based workflow solution that can integrate multiple third party RIPs and MIS systems, and create a streamlined workflow. Proofscope is based on JavaScript and HTML5, very similar to XML, and the user interface is through any web browser that handles HTML5 in a decent way. It means that there are no applications to install for the user, which Hybrid Software believes is one of the important criteria for a modern, cloud-based solution.



ProofScope is Hybrid Systems' latest module for its cloud based workflow solution. It can integrate multiple third party RIPs and MIS systems for integrated and automated workflows.

Other key technologies for Hybrid's software solutions is support of 64-bit processing, multiprocessors and multithreading. Proofscope can be seen as a portal where the proofing and approval of documents takes place. The companion, Proofscope Live, is the actual editor, and doesn't need any other application such as Adobe Acrobat. Proofscope Live respects layers in incoming files, and parses the text so that paragraphs are kept intact and fully editable. The processed PDFs are then saved in the same version of PDF as the original incoming file, but in a more tidy shape than before, according to Hybrid Software. Proofscope keeps track of changes made to the files, important in a proper approval solution. The brief demo we had of the system was impressive, not least the possibility to zoom in to pixel level. Hybrid calls this "infinite zoom". More features and options are to be added over time to the Order Lifecycle Management solution, promises Hybrid Software.

New Engines & UV Shift

The move to UV continues. EFI's Vutek HS100 Pro with greyscale printheads prints rigid and roll-to-roll across

a 3.2 metre width. EFI has installed over 100 LED curing Vuteks since launch in 2010. Mimaki's new UJV500-160 is a roll-to-roll UV-LED curing engine that prints CMYK+W up to 100m²/hr across a 1.6m width. Mimaki extended its JV 400 range with the addition of SUV models, which use solvent UV curing inks to print up to 18m²/hr in CMYK with high quality and durability. Developers are also tweaking and enhancing existing kit. For instance Agfa's Automatic Board Feeder for the Anapurna M2050 feeds up to four boards simultaneously, increasing productivity 20-25%.

Agfa's commitment to the wide format sector is deepening, with the company's stated aim to have 20% of the UV wide format market by 2015. The new 2.5m Anapurna M2500 with a redesigned white inking system is a more productive version of the 2.05m Anapurna M2050. The Anapurna M3200 is priced as an entry-level model but aimed at the mid to high end roll-to-roll market. It outputs 3.2m for indoor and outdoor applications printing six colours at up to 116m²/hr and has two additional Konica Minolta 1024i printheads and ink supply systems. It also



The Anapura 2500 a 2.5 metre engine for more productivity.

has a head height sensor, for “topology optimisation” that compensates for surface unevenness in the bed to work out the best jetting distance for different media.

Topology optimisation is also provided on the new Jeti TitanX which has 48 heads for CMYK printing with 32 heads or CMYK Lc, Lm, with 24 and both can be combined with white ink printing.

Canon introduced the new Arizona 600 series of midsized UV printers, with four models comprised of four or six channels and two table sizes. The GTs print 1.2m widths and XTs print 3 metres width. They print photographic quality images onto a huge range of rigid and roll-to-roll media, so are suitable for a range of applications. They feature Océ’s Variadot technology and Varnish, plus double opacity white. Fujifilm sells these engines as the Acuity series for €80,000 to €150,000 per model printing 50-60m²/hour with Fujifilm inks optimised for the printhead in Broadstairs.

Canon has taken a different approach to solve the topology problem with Active Pixel Placement, mapping the geometry of the table to dynamically adjust pixel placement to compensate for variations and achieve 350µ flatness variation. Canon reckons this is speedier than Agfa’s approach because measuring the gap with a scanner on the printhead takes more time.

Canon has added its CM² production mode to these new Arizona engines. This is a doubling of the cyan and magenta nozzle capacity, to increase productivity, yet

uses less than 8mil of ink per square metre. The doubled CM density fills out the grain that is open in production mode. Yellow is undoubled because any changes would be invisible and black doesn’t need more density because Arizonas always print rich blacks. As such, CM² is an economic and effective way to increase productivity without taking Y and K nozzle capacity.

Durst has extended its Rho 500R roll-to-roll series of engines, based on its Quadro Array 12M printhead, with the new Rho 512R. This machine can print up to 900 dpi at 350m²/hr and can print three 1.6m rolls together. There are also two additions to the Rho 1000 series, to which existing users can upgrade. The Rho 1012’s Quadro Array 12M printhead makes it the first UV curing printer in its class to print a 12pl drop for 1000dpi output. The Rho



Durst’s latest additions to its Rho 1000 series add speed and quality to the mix. The 1030 model prints at 1000m² per hour.

1030 has a Quadro Array 30M head with over 65,000 nozzles to print at up to an astonishing 1000m²/hr. We didn’t see this machine in production but if it does what it says on the tin it is impressive.

Durst also introduced a machine dedicated to small format industrial and pad printing ie dials and membranes, the Rho IP. This modular machine supports up to eight ink channels and is available with two, four or six printheads per channel so it can have up to 30,000 nozzles printing at 22 seconds per bed in scanning four colour mode! Variable data production is supported but details are scant. Two models are available now: Rho IP203 for A4 output and Rho IP507 for printing 500 x 700mm.

▶ We covered Fujifilm and Inca's new Onset Q40i extensively in our last issue, with Fujifilm saying at Fespa that "generally the feedback has been very good". Fujifilm is also selling a new Inca machine, the Avocet. This is a rebadged version of the Screen Truepress JetW3400. The 94m²/hour flatbed fits between the Acuity and Onset models and costs around €200,000+. It was at Fespa so that Fujifilm could test the waters, particularly how the engine stacks up against the competition.

Consumables

Maybe it's just the first time we've noticed, but there were an awful lot of consumables providers at Fespa touting sustainability and speed. There were lots of new announcements too. Mimaki presented its LUS150 (white) and LUS200 (CMYK) for the new UJV 500-160. The inks are stretchable to 150%, and have high weather resistance and no nickel content. Mimaki also introduced LX101 latex inks adding Orange and Green for extended gamut colour printing. This ink doesn't replace LX100 which is for sign and display, but is another ink for photographic, proofing and Pantone colours.

Epson's focus was on media and conversations about new applications. Expect to hear more from Epson on textile printing over the next couple of years as well as UV large format sign and display products. Proofing systems are still more numerous in terms of sales but signage technology is more expensive the company wants "to become the biggest player in that sector".

Ilford works closely with Epson and introduced two new media technologies. Nanosolvent has a special coating layer for backlit and banner vinyl products. Aquablock is a waterfast coating so that outdoor prints need no lamination. Agfa is sticking to its UV range arguing that latex inks still have VOCs and require more curing energy. Agfa also claims its inks have a better bond, are cheaper and print on a wider media range more consistently so yield a better ROI.

Fabric Printing

Also apparent at FESPA was the push into printing on fabric, with new devices, inks and substrates presented. Agfa, Epson and M-TEX showed new printers for this,



Do you think they have this in my size? Not such a far fetched idea if Direct to Garment textile printing takes off.

and there were many vendors of inks and substrates demonstrating the benefits of their products. Durst claims its Rhotex 322 printer for printing home decors, wallpapers, textiles and fashion sets the standard in this area. It has a Quadro Array level 3 greyscale printhead and prints six colours at up to 1200 dpi up to 140m²/hr with a drop size of 7-21 pl.

Anyone new to printing on textiles has to navigate a steep learning cliff-face to understand the complexities of this sector. Matching inks to substrates, heating substrates and the printed image to fix them, steam, wash and drying fabrics are just some of the considerations. Traditional screen printing still holds most of this market, but most interest and development effort is in digital printing techniques. According to Kornit, textile printing is a \$1 trillion market serving seven billion customers worldwide for printed textiles. Digital accounts for only \$10.3 billion of this: less than 1.5% so the market is huge.

▶ Agfa wants to become key player in this business. It announced but did not show the Ardeco, a 3.2 m wide high end direct to fabric and calendaring system for soft signage and textile printing.

Kornit is a 10 year old veteran of digital textile printing with machines installed at over 1000 sites worldwide. For Kornit, textiles means apparel, towels, sheets etc rather than soft signage. Digital has a 1% penetration into textiles and 7% of made-up garments, mostly tee-shirts. At Fespa Kornit introduced a new roll to roll wide format

more about getting the best value for money and digital printers that can produce volumes and qualities at the right price.

- Laurel Brunner and Paul Lindström



Kornit is the leading player in the digital Direct to Garment sector. The Avalanche 1000 engine pictured here was launched at Fespa 2013.

engine that will “change how people print on textiles”. The Allegro digital fabric press requires no fabric treatment, combining an entire printing line into a single step digital press. Positioned for on demand applications such as fashion it costs “less than €500,000”.

The new Avalanche 1000 launched at Fespa is a Direct to Garment (DTG) machine with Polaris printheads. It uses NeoPigment water based pigment inks which Kornit claims are more efficient than dye based ones.

So what do we learn from all of this? It is clear that trade shows must provide compelling interest in order to engage visitors. This, Fespa achieved admirably, with an almost overwhelming array of kit for visitors to see. They came looking for technologies they can use as the basis for selling on services. Inks, substrates and machines are the foundation for this, but appreciation of how to fully exploit them in automated set-ups is still murky. Web to print, cloud services and integrated workflows are the future but at the moment wide format printers still care

Where Has All the Printing Gone?

We recently visited one of the biggest printing plants we have ever seen, Leo Paper's Heshan Astros Printing plant in the Pearl River delta in southern China.

Located about an hour or so by train from Hong Kong where Leo Paper is based, this factory is where huge volumes of European and US print work has emigrated over the last ten years. Leo Paper is 100% Chinese, privately owned and 31 years old. The company was founded in 1982, but the bulk of its growth has occurred since 2003, following a visit to the Frankfurt Book Fair to gain exposure to European publishers. Leo Paper was the first Chinese printer to have taken such an initiative and in the words of a spokesperson: "our chairman [has a] very good marketing strategy to attract a lot of publishers to come here".

The company is owned by the Fong family whose home town is Heshan where the factory is based. The family has worked closely with local government who provided land grants for the plant as part of its efforts to develop the local economy. Leo Paper wants "to be the global leader in the printing communications industry"

About Leo Paper

Leo Paper is all about volume and export. The company is a global operation with five business units responsible for 17 product lines. The US, Australia and Europe are its biggest export markets but according to a spokesman, all of Leo Paper's output is exported. Founded in 1982 as Leo Paper Bags, the company had a sales office in the US from the outset. In the nineties a division specialised in books and packaging was established as Leo Paper Products, and this business now dominates.

Over the last ten years Leo Paper Products has added reprographic and design services, and built the 2.5 million square feet factory in Heshan. The corporate video says Leo Paper has "in depth experience in hand

assembly" for "lower cost efficiency". Today Leo Paper is a "communications solutions provider" willing to invest in whatever it takes to satisfy customers needs as part of "our drive to be the industry's best".

And it is a formula that has been extremely successful with Western print buyers. Trade books, especially those for children and cooking enthusiasts, which are printed in China are probably printed by Leo Paper. The company produces nine million trade book copies per month for export. That's a daily output of 300,000 copies, which rises at peak times to 12 million copies per month. The average run for the European market is 10,000 to 12,000 copies or 5,000 to 7,000 copies for multiple language versions. Leo Paper's record number of versions is 27 languages!

Some of Leo Paper's biggest customers are household names in Europe and the US. We saw samples from some big name brands including books for Sainsbury's as well as packaging for Crabtree & Evelyn and Calvin Klein. One of



Leo Paper's factory, located on the Pearl River in Heshan, Guangdong, China, is spread over 2.5 million square feet. It provides housing and facilities for thousands of its employees most of whom stay for an average of five years.

Leo's biggest US customers and a major "growth partner" is Hallmark Cards – 99% of their cards are printed by Leo Paper in China. Are Americans aware of this? Would it influence their buying decisions if they were?

The factory runs Sunday to Friday, 24 hours per day and an army of kit handles Leo Paper's massive daily output. There are 90 printing presses including presses from Heidelberg, Komori and KBA, all of which print to

the Fogra39 dataset in compliance with ISO 12647-2 (to which Leo is Ugra accredited). Esko Software Suite 12 underpins the prepress department, handling packaging design and production.

Prepress handles 10,000 A4 pages per month and one thousand print jobs, some 8,000 pages, per day for output. Every day, 6000 plates are imaged on 17 digital platesetters



These samples are just a small view of Leo Paper's showroom contents. The company prints nine million books per month and 100% of production is exported, mostly to Europe and the USA.

including nine Kodak Magnus VLFs. Leo buys its plates from Agfa, Fuji and Kodak in order to get the best deals and spread risk. There are nine hard cover book binding lines alone plus other finishing kit. A Kodak Nexpress is used for content proofing.

Handling the data to feed 17 VLF platesetters, 90 presses and ten hard cover binding lines and the rest requires

a massive IT system. Leo Paper's server room covers many cubic metres and has a mirrored disaster recovery system located away from the Heshan plant. This can be completely up and running within three hours of failure of the main system.

The company also has its own back up power supply in case there are major electricity cuts. Leo Paper is fully certified for several standards including ISO 14001, ISO 14064 (corporate emissions), which provides the basis for the company's carbon emissions accounting and reporting system, ISO 26000 (Guidance on social responsibility) and ISO 9001 (Quality management).

There is also an incredibly well-equipped and ISO 17025-certified testing lab where substrates and inks can be tested in a myriad of ways for light fastness, durability, safety and so on. Spot colours are test printed on each substrate used for book production and all products are tested for environmental stability, for instance being shipped through different temperature extremes.

Leo Paper employs 18,000 workers all of whom work twelve-hour shifts, six days per week. Some 12,000 to 14,000 of these workers are housed in Leo Paper's onsite fully furnished dormitories, sharing four to eight to a room. The dormitories are heated in winter with residual heat recycled from the factory's air conditioning and compressed air systems. Leo Paper also provides amenities such as a theatre, a soccer pitch, tennis and basketball courts, a kindergarten for 300 children and medical centre "to ensure a complete" environment for employees. Most workers are young women aged 18 to 23 who spend five years on average with Leo Paper.

On Being Green

The green thing in China is hard to grasp, a matter of extremes. In business it seems to be more about keeping Western customer consciences clear than any sincere commitment to the environment. However in the case of Leo Paper the environment is central to the company's culture. There is for instance a Green Harmony Committee, led by the Environmental Director. This group has members from different departments and over the last three years has carried out nearly 200 environmental projects, ranging from reducing energy

emissions to using more sustainable raw materials. For instance, in 2012 electricity consumption was reduced by 541,800 kWh.

Leo is also working closely with the Heshan local government, which is rapidly building local infrastructure “to build a modern, scenic and garden like municipality”. Almost half of Leo’s employees are from the local area.



The majority of employees live on site in purpose built apartments sharing four to eight to a room.

The need to bring down the company’s carbon footprint or reduce its environmental impact sits high on Leo Paper’s list of priorities. Leo Paper actively promotes FSC and PEFC papers and recycled papers, and uses waterless printing when possible. The company also has a comprehensive sustainability and safety policy and is keen to keep its environmental credentials current.

The European Union Timber Regulation

Leo Paper is working with its raw material suppliers to ensure compliance with the new EU Timber Regulations (EUTR). Mostly, Leo Paper uses coated wood free papers sourced from Stora Enso, UPM and APP, for its products. The use of APP products rather undermines a company’s environmental claims and the EUTR, now in effect, will surely exacerbate this for Leo, given that the company exports much of its production to Europe where the regulation applies.

The EUTR requires companies introducing wood-based products, such as labels and packaging, onto the European market to provide a complete chain of custody

certification for the products. The objective is to prevent materials coming from illegal logging operations from coming onto the European market. At the moment printed products are not listed in the requirements for the EUTR, an unfortunate oversight or error. This will change with the next revision of the document.

Publishers who want to sell their products in Europe, but print those products outside the European Union, will have to comply with the regulation. It says that “the placing on the market of illegally harvested timber or products derived from such timber shall be prohibited” (EU 995/2010 Article 4.1). Companies introducing wood-based products to the European market are also required to have a due diligence system in place in order to get and manage complete compliance details from their suppliers. This won’t be much of a problem for Leo Paper when it comes to Stora Enso and UPM, but it could pose difficulties with APP, a notorious pillager of Indonesian rain forests and peatlands.

The EUTR has significant implications for Leo Paper’s customers. Running a due diligence system and policing printers may be worth the effort, in return for low prices



Leo Paper has extensive testing facilities and follows the principles of lean production. Note the blue lines which are placed so that everything required for a given task is to hand.

for some very large publishers. However it may be equally worthwhile for European publishers to look closer to home for their printing. Such decisions could change the global printing landscape possibly even to the benefit of European printers. The EUTR will force a change in behaviour and a different approach to calculating costs.



Standards accreditation is an important part of Leo Paper's quality control policies. Certificates demonstrate their compliance for European and American customers particularly.

The Power of Leo

According to the corporate mantra, the power of Leo is in its willingness to support its people, embrace new processes and technology, and to work in partnership with its customers. This should extend to complying with the EUTR. However Leo Paper also gains considerable power from the low cost base and economic initiatives over the last thirty years that have helped China to reduce its poverty rate from 84% in 1980 to 10% in 2013.

However, this dramatic rise in wealth has also created new expectations amongst workers and is starting to drive up wages throughout China. Leo Paper's current cost advantage may not last. Add to this the need for companies to comply with the EUTR and there could be an opportunity for Western printing companies to compete with Leo Paper and its cohort throughout Asia. Whether Western printers have the imagination and

wherewithal to seize the initiative and whether they can compete with the "power of Leo" is another matter.

- *Laurel Brunner*



Café culture

CS Labels in the UK recently hosted the latest in an international series of Xeikon Cafés.

These are bespoke events that Xeikon runs in conjunction with its best customers to which partners and prospects are invited. Xeikon is number two in digital labels, accounting for 20% of global market sales and 30% of the EMEA market. In all, 82% of Xeikon machines sold in the last three years have been for labels and packaging: 12% for heat transfer, 6% for folding cartons (which it expects to grow to 10% by 2018) and the balance for self-adhesive label printing. Xeikon reckons the digital label and packaging market is growing at 10 to 15% year on year and is sharpening its focus accordingly.

The Xeikon Café

Numerous Xeikon Cafés have taken place in various countries this year, providing Xeikon with a forum for getting closer to customers, partners and prospects. The Cafés are one of Xeikon's preferred sales prospecting methods, especially for labels and packaging. The recent event at CS Labels focused on how Xeikon technologies improve the company's productivity. CS Labels is the largest digital label printer in Europe and Xeikon's largest label customer.

CS Labels has been intimately involved with Xeikon ever since plunging into digital printing. The company is a perfect model for how typical, family owned small printing businesses can reinvent themselves. It is also an example of the difference that competent business management makes. Managing director Simon Smith gave up a career in banking when his father-in-law invited him to take over the company. He took some early risks to revive a business that was barely washing its face. Today CS Labels turns over £2.5 million annually (€2.88 million).

CS Labels took the brave leap into digital printing to get out of a screen and flexo printing rut. Working with Xeikon, it is now 100% digital, prosperous, with a bright future. The business has grown from eight to 30 employees on the back of digital labels, printing 250,000 linear metres per

month, primarily on paper and polypropylene. Around 22% of customers are trade with CS Labels' website generating 1500 enquiries monthly. CS Labels has used social media to develop a word of mouth reputation, plus internal sales and a team on the road. Smith says "we are reactive rather than proactive" but proactivity in social media and customer relations provides the company with plenty to react to.

The company prints 5-6 million labels per year primarily for domestic customers, with a 3-5 day turnaround and an average run length of 500m. The longest run the



The Xeikon Bus was a feature of the CS Labels event. We aren't entirely sure what it has to do with either company but it was a good way to advertise both.

company has done is 24,000 metres but 80% of work is under 2000. Variable data accounts for "a fair amount but it's not a huge market yet". Smith adds: "While we can cope with variable data, quite often the end user can't manage the distribution". At the Xeikon Café, CS Labels told us that its success is down to providing customers with what they need, relying on Xeikon to provide the necessary technical support.

Xeikon's Edge

Xeikon has a twenty-year history in this sector, having launched its first label press in 1996. Since drupa 2008 when the Xeikon 3000 was introduced, labels and packaging digital press sales have grown to account for 60% of Xeikon sales. Xeikon's goal is to have 30% of the global digital label and packaging printing market. It's already there in EMEA so attention is on the Americas and Asia.

▶ Xeikon is adding service people based in Singapore, Chile and Mexico to support sales partnerships in Latin America and Asia. Xeikon Aura partners sell bundled products consisting of software, tested substrates, finishing equipment and consumables, including a dedicated toner for labels and packaging. Different Aura suites are configured for self-adhesive labels, heat transfer labels and folding cartons.

Xeikon's 3000 Series includes five presses differing in speed and print width, and all field upgradeable. They print across 322, 508 or 516mm widths and run at 10, 15 or 20 mpm. Xeikon's X-800 server includes a comprehensive suite of workflow and productivity technologies. Vectoriser is an in-RIP process that instructs an inline laser diecutter for web to print orders, which Xeikon refers to as "the missing link in digital label production". Xeikon Colour Magic applies a white underlayer in the RIP. Xeikon Colour Control (XCC) is a cloud-based colour management system compatible with PantoneLive. CMI, a Xeikon service partner, hosts XCC in the cloud and customers pay a one-off license fee covering multiple sites.

Varilane software combines and positions multiple jobs on a single substrate web, improving productivity, energy and substrate usage. There is also a web-to-label product developed with Hybrid a graphic arts software integrator, and the new Alpine fuser drum that aids printing on uneven surfaces. Xeikon has also upgraded its user interface. MyPress is a new dashboard already implemented in Xeikon's commercial engines that takes advantage of new technologies in the 3000s.

Just add ICE

ICE is Xeikon's most important new product. Dry toner deinks easily, works on corrugated substrates with no preheating and is stable on press. Xeikon toners are lightfast, with broad food approval including US Food & Drug Administration certification. However dry toner needs heat to fix it, so heat sensitive polyethylene and direct thermal labels are out of bounds. Although not widely used in the US, polyethylene labels account for 10% of the EU market, primarily for health and beauty and industrial products, requiring label squeezability and recyclability. Label printers need to be able to print on

heat sensitive polyethylene materials and ICE is Xeikon's solution.

ICE is available in CMYK and white; high quality one pass opaque white is unique to Xeikon. ICE is based on Xeikon's QAI toner, a technology with rounded particles covered with a chemical "jacket" containing the polymers and resins. ICE follows the jacket principle, preserving on-press performance and stability, light fastness and



Xeikon's ICE toner is designed for lower temperature fusing, expanding the range of substrates digital label printers can use.

quality. However, its different blend of polymers and resins fuses at 10° to 15° lower than QAI which fuses at 90° to 120°, making ICE suitable for direct thermal printing and polyethylene substrates. It will be available at LabelExpo and works on all 3000 series presses.

CS Labels Workflow

CS Labels has substantially enhanced its productivity using Xeikon's X-800 server technologies. Varilane positions multiple jobs output in PPML across the full web and CS Labels is the only Xeikon site doing this. All three of CS Labels' presses now run at 19 metres per hour and the 60% increase in capacity this provided is steadily being filled. Wider output and Varilane increase capacity even more, so CS Labels is upgrading all of its engines to be full width engines.

CS Labels is using Xeikon Colour Control (XCC) for a number of quality control tasks. The technology creates ICC device profiles for different press and paper combinations. Compared to PantoneLive there is “a huge difference”. XCC is a colour management system where measured data are uploaded so that ICC device profiles can be created.

PantoneLive is a hosted database of spectral values of Pantone and brand colours. So print facilities can use XCC to ensure output performance consistency and PantoneLive to guarantee colour consistency for brand owners working with diverse output methodologies and needing to ensure colour consistency across them. The two technologies are highly compatible within the supply chain.

XCC stores ICC profiles in a hot folder on the X-800 server so that they can be assigned correctly to incoming jobs. CS Labels also uses XCC to simulate spot colours and an on-press densitometer checks colour bars every ten

Unbelievably, fonts not being embedded and RGB images are still the most common problem with incoming PDF files!

metres for quality control. Verification technology checks colour over time to ensure consistency and that the press corrects for colour deviations. Presses are reprofiled if they drift too far. CS Labels use individual press profiles to ensure common colour appearance across engines.

Xeikon’s variable data technology manages jobs and label localisation, such as changing the agent address on labels affixed to catalogues or travel brochures. “We do 100,000 of these per week for a single client” according to Simon Smith.

In addition to the X-800 server-based workflow controls, CS Labels has automated preflight with a bespoke configuration of OneVision Asura. Automated digital workflow management has helped reduced waste and inefficiencies so less time is wasted fixing files and on

press. Preflight checks that such things as white overprint toner coverage is calculated and the correct fonts are embedded. Unbelievably, fonts not being embedded and RGB images are still the most common problem with incoming PDF files!

Small is Beautiful

Xeikon and CS Labels share several traits. Both are small and both can stay very close to customers. They can move swiftly to respond to changing customer needs and their evolutions are intimately bound up with market development. Such companies have an innate appreciation of the market, because they are so close to it. They don’t dance to the beat of a distant corporate drum, and instead stay in close step with customers. The strategy’s working well for both.

- **Laurel Brunner**

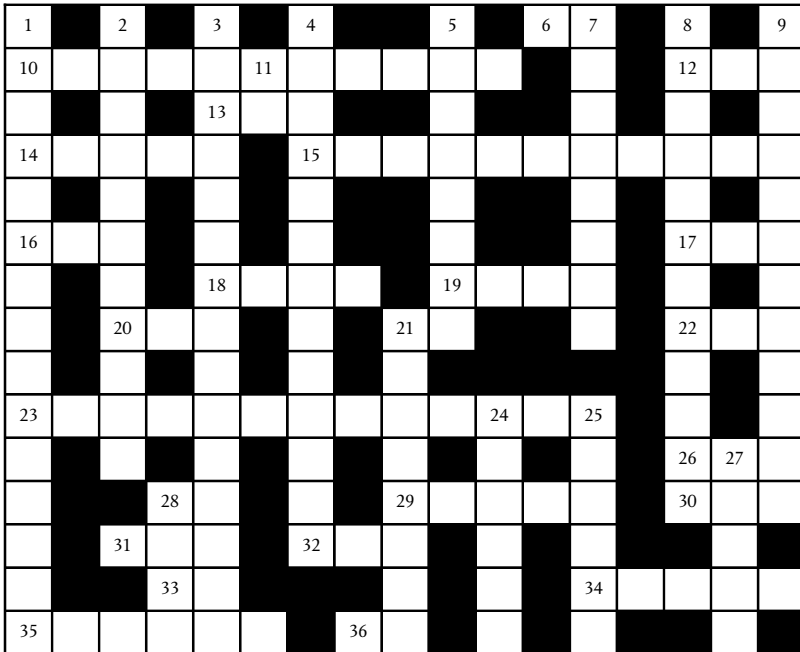




X-word Puzzle

Number 44*

Some summer fun this month. It isn't particularly large or hard, but we hope it suits your summer holiday mood! The only problem is that there aren't very many Down clues which may fox you ...



Across

- 6. How you should feel on holiday! (2)
- 10. You need this to see the future. (7, 4)
- 12. Avoid getting like this at all costs on hols. (3)
- 13. Simple past tense of eat. (3)
- 14. Special inks are needed to print on this stacky synthetic. (5)
- 15. Adjective for the printing process Xerox lends its name to. (11)
- 16. Not dry. (3)
- 17. Curiously uneven. (3)
- 18. Unusually uncommon. (4)
- 19. Do you do this on holidays? (4)
- 20. In addition to? (3)
- 21. Of French colour difference measure or Germany? (2)

- 22. Go underneath now and shoot it. (3)
- 23. Your waiter might expect you to do this for a special favour. (6, 3, 4)
- 26. You will need this if you go shrimping. (3)
- 28. A British telephone company. (2)
- 29. Too hot for clothing, suitable material for wide format inks. (5)
- 30. Said in the present. (3)

- 31. Guilty, useless idiot helps use the digital device. (3)
- 32. By the sand for swimming in. (3)
- 33. Small island in the Dodecanese or the 17th letter of the Greek alphabet. (2)
- 34. Take plenty and then some on your trip. (5)
- 35. What scanner operators might once have scanned. (6)
- 36. Windows 8 or OSX Mountain Lion for example. (2)

Down

- 1. What everyone craves, what every print order requires. (15)
- 2. A machine that puts little holes on some display prints. (6, 5)
- 3. A process of conformance or evaluation to specific criteria. (15)
- 4. Printing methodology based on letterpress principles. (13)
- 5. Set apart or designate. (8)
- 7. Whether slothful or energetic, what your holidays are all about. (8)
- 8. What causes your print to look darker than it should? (4, 3, 5)
- 9. Major determinant for print quality. (5, 7)
- 11. @ (2)
- 21. Monitors or screens. (8)
- 24. When summer ends. (6)
- 25. Sayings. (6)
- 27. Past participle of eat. (5)
- 28. Sunshine can do this very quickly to your skin. (4)

*Answers in the next issue



Number 43 - Answers

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

