May joy and good fellowship reign, and in this manner, may the Olympic Torch pursue its way through ages, increasing friendly understanding among nations, for the good of a humanity always more enthusiastic, more courageous and more pure.

– Pierre de Coubertin, *Founder of the International Olympic Committee*

Dear Reader,

The summer stretches long and lean, beckoning us on to idleness and indolence. We are doing our best to resist it, but it isn't easy!! As you will see in the pages of our summer issue we have been working hard to provide you with the perfect formula for perfect holiday repose.

It could be said that reading about graphic arts technology is the ideal way to spend your summer break. Holders of such a belief really need to get a grip. Far better to read this bumper issue at work when you are best placed to actually benefit from the content, especially the first part of our CS6 review and the overview of the Ghent WorkGroup's recent activities.

We hope too that what looks like an agonisingly long piece on Agfa's Apogee will read at a good clip. There is much afoot with Agfa these days, hence the long piece. Maybe read it in two parts.

Either way, have a great summer, enjoy what is left of the Olympics and we will be back in the autumn.

Enjoy!

Laurel, Nessan, Paul and Todd

In This Issue

Lucky Number six

Adobe has updated its Creative Suite collection with the release of CS6. This month Nessan Cleary has been playing with the new version of Photoshop, and finds much to commend it. We'll look at some of the other programs over the next couple of months.

Going with the Flow

In the first of a series on workflows, Laurel Brunner looks at Agfa's Apogee Suite and examines where it's come from and what the latest version offers. These days prepress workflows have to cope with a variety of demands from imposition to online file delivery but the latest Apogee Suite has taken all of these in its stride.

GWG turns 10

This year the Ghent Work Group celebrates its tenth anniversary. Paul Lindström looks back over the genesis behind this group, and celebrates the work that it does in developing standard practices for our industry.

Regular Features & Special Treats

News Focus

Callas has updated its pdfToolbox to version 6. New features include process plans, which allows building logic into profiles and makes it possible to combine sequences of steps, such as a preflight check or an imposition task, in a single profile. There's also a new colour remapping function whereby spot colours can now be created from process colours or can be put on PDF layers. The desktop program can also now make a direct connection with pdfToolbox Server.

Enfocus has updated its Switch 11 workflow program with Update 1, which includes a new version of the PitStop Server configurator, compatible with the recently announced PitStop Server 11. It enables Smart Preflight and Correction in PitStop Server 11 using any of the variables available in Switch, including SQL databases, XML and JDF job tickets and all of Switch's built-in variables.

Xaar has added two new printheads to its Proton family of inkjet heads. The Proton 15 and Proton 15+ both have a minimum drop size of 15 picolitres. These greyscale heads can jet 15, 30 and 45 picolitre drops. The 15+ also includes internal ink temperature control to enable the printhead to work with a wider variety of ink types and viscosities.

Following a joint development with MacDermid, **Basys** is now selling the MacDermid Accent high quality coating plate for packaging and commercial offset printers. The MacDermid coating plate applies spot varnish, as opposed to blanket coverage, on the printed matter via a dedicated fifth printing unit.

Allen Datagraph has unveiled its new label system, the iTech Centra HS, designed for label runs of 305-915 linear metres of substrate for label convertors of all sizes. It's a complete roll-to-roll solution with both printing and finishing. Printing is via an LED toner device with 1200 x 600 dpi resolution at speeds of up to 9.1 metres per minute.

Kodak has released Insite Prepress Portal System 6.5, following feedback from drupa. This new version offers a number of new features that help to further decrease costs, reduce cycle times and strengthen client relationships – including an application that allows users to review, approve and annotate jobs from their Apple iPad tablet.

Markzware has released another couple of useful plug-ins. These include PDF2DTP, a QuarkXPress XTension to open and convert PDF pages within QuarkXPress 9, and which works on both Mac and PC platforms. There's also Q2ID, which converts QuarkXPress pages to InDesign CS6, also available now on both the Mac and Windows platforms.

Technesis, the developers of a cloud-based print management application called PrintControlOnline, have chosen the Harlequin RIP as the basis of a new online product for managing ink and toner usage remotely from SmartPhones, tablets or laptops. An embedded version of the Harlequin digital RIP combined with Technesis' Color Intensity Engine technology tracks the intensity of ink and toner used in any print stream across any print device. It is expected to be available from Q4 2012.

Langley Holdings, which took over Manroland's sheetfed division in February, has declared positive results for the first half year to the end of June. Operating profits were up almost 25 percent on the first half of 2011, to €37.8m, with a slight increase in revenues from €235.8m to €238.2m. The group is forecasting pre-tax end of year

profits of €87.9m, up from last year's €76.3m. Langley Group, which has no debt, and financed the Manroland acquisition from its own resources, reported net cash reserves of €182.3m.

In a surprise move, **Goss** has restructured its management team, replacing Jochen Meissner as CEO with Richard Nichols, previously president of mining group Terex Cranes.

Xerox has bought UK-based firm WDS, which provides technical support, knowledge management and related consulting for wireless telecommunication. WDS uses a proprietary cloud-based platform called GlobalMine to capture, analyse and manage millions of technical support interactions across thousands of different mobile device types. WDS uses this data to help clients adjust, in real-time, any systemic issues with devices or network service.

FFEI has partnered with Brazilian-based plate manufacturer IBF for the distribution of FFEI's full range of commercial CTP solutions, including the RealPro workflow. IBF, the world's 4th largest plate manufacturer and market leader in Brazil, exports to more than 70 countries and employs over 1,000 dealers worldwide. According to Andy Cook, FFEI managing director, IBF's extensive sales network and proven track record were key factors in finalising the partnership.

XMPie has added a new tool, uStore Facebook Connect, to let users embed Web-to-print on their customers' Facebook pages as an application, allowing fans to order branded print materials that are personalised using the fans' Facebook data, and/or that of their friends. XMPie will also make Facebook-ready dynamic document templates available on the XMPie Marketplace for purchase by customers.

HP has licensed some of its technology to the Handheld Group in Sweden to develop a handheld inkjet printer. HP inkjet cartridges used in future Handheld Group products may include a quick-drying, smudge-free magenta ink formulated specifically for high visibility on substrates used in the logistics industry, such as brown corrugated boxes, kraft paper and packing tape.

LumeJet has successfully raised £1.87m or €2.4m to develop its new imaging technology, designed from the ground up to exploit the proven, continuous tone quality of Silver Halide media. This produces vibrant, smooth and colour accurate images with very high resolution for ultra sharp text and graphics. Light of various wavelengths, spot size and power can be used to effectively "print" on a whole range of photo or thermally activated substrates or coatings. Lumejet will launch an LED-based printer product later this year.

Sepiax Ink has announced the third generation of its Aquares resin ink technology for wide format inkjet printing. It's a water-based ink capable of adhering to virtually any surface without the need of special primers or coatings, including many difficult materials such as glass, acrylics, wood, metal and textiles. The inks are non-flammable, and odourless, and said to be generally eco-friendly.

Videojet has developed its latest compact printing solution, the Videojet 8510, designed to meet industrial coding application requirements for the packaging industry. (It is also marketed under the name Wolke m600 touch in Europe.) It uses HP's thermal printing technology, with a resolution of 600 x 600 dpi, together with a menu-driven touchscreen interface.

EFI has set up a new certification training program for its Fiery digital print servers, tools, and software options, complete with a certification exam. There are two tracks – Fiery Professional Certification and Fiery Expert Certification, with the later providing in-depth training on more advanced topics such as the use of advanced Fiery imposition and variable data printing tools, JDF workflow integration, and more.

The **BBC** has become one of the first broadcasters to use Adobe's Project Primetime to deliver live video streams and video-on-demand content of the London Games across the Web and all major device types. This includes two major elements: Primetime Simulcast uses Adobe's Media Server technology to take live broadcast feeds of all sports competitions and simultaneously deliver them across desktop and mobile devices as well as Internet-connected TVs; Primetime Highlights enables

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the broadcaster to create and deliver video on demand coverage of live events in real time using a single workflow that reaches their audience across multiple screens.

Context has launched a large format scanner, the HD Ultra, which features a true 48-bit colour processing scanner with 8-inch-per-second scan speed, 1200 dpi optical resolution and Gigabit Ethernet. The default colour space is sRGB but there's also a choice of Adobe RGB and Device RGB backed up by X-Rite colour controls. There are six models in all, including mono and colour options.

SAi has released version five of its EnRoute CAD/CAM software. This has a fully-equipped interface containing enhanced nesting options that provide several new nesting capabilities. Relief creation and editing has also been expanded with new offsetting and distortion tools, while new ways to distort contours and toolpaths have been added to increase possibilities for creativity and deliver precise results.

Print and Media Certification, the leading UK company awarding government supported certifications for ISO 9001, 12647 and 14001 wants your view. The company has put together an impartiality and customer perceptions survey as part of its impartiality review. This is required by auditors checking the company's conduct. Please see **http://www.surveymonkey.com/s/LB6PDKF**

News Analysis

Bernhard Schreier, CEO of Heidelberg is to leave the company at the end of the year after 37 years at the company, including 13 years in charge. According to Heidelberg, the Supervisory Board and Schreier himself

Bernhard Schreier says that now is the right time to step down as CEO of Heidelberg.

feel now is the right time to make the change in order to create new impetus at the very top of the company. He will be succeeded by Dr. Gerold Linzbach (56) who will take over on 1st September.

Schreier has steered through the company through arguably its most difficult period. He took over in 1999

and oversaw considerable change, getting rid of the web offset division, and later the Nexpress joint venture with Kodak. Following the economic downturn of 2008 he saw profits plunge and instigated an aggressive round of cost cutting and redundancies, though many have said that he failed to cut costs fast enough. Nonetheless, Heidelberg has had an extremely successful drupa and appears to have a good mix of products for the markets that it is in.

Robert Koehler, Chairman of the Supervisory Board, thanked Schreier saying: "He has truly made his mark on the company and has succeeded in guiding it through two major global economic crises and structural upheaval in the printing industry."

Heidelberg has replaced Schreier with an outsider. Dr Linzbach has a degree in chemistry and a PhD in chemical engineering. He helped to lay the foundations for a new corporate strategy at Hoechst and has subsequently been CEO of a number of companies, most recently D+S Europe, though none of them of the size of Heidelberg. Schreier has said that he will continue for another four months to ease the transition.

Driftwood

When David Cameron, the UK's Prime Minister, recently visited Windrush Printers in Whitney to celebrate its 40th anniversary, he met with BPIF's chief executive, Kathy Woodward, who presented him with a Hortipack Thyme plant.

The specially designed pack combined the themes of connecting people with plants and 'Thyme for action' as part of a programme to promote employability for young people. Kathy Woodward said: "This is one step on our journey to help 1 million unemployed young people into work, and we are particularly pleased to showcase the initiative from Accuro, the Essex-based charity dedicated to improving the quality of life of people with disabilities and their families." The charity is funding a horticultural vocational training programme, which is a route into employment for people who often have real difficulty in finding meaningful employment.

The Prime Minister was very supportive of both Accuro's initiative and BPIF's programme, and promised to add the plant to his collection of herbs in the garden at Number 10.

Green Shoots

As part of our efforts to raise awareness of matters environmental amongst printers we have been writing a weekly blog for the Verdigris site. In case you missed them, here are the last month's worth.

Asian Pulp & Paper versus the World Wildlife Fund

There is an terrible war or words going on between APP and the WWF. The fight is about APP's destruction of Indonesian rain forests to feed their new paper mills in China. The group is a division of Sina Mas, a large conglomerate based in Shanghai and which is also one of the world's big palm oil producers. Several major brands, including Burger King, Carrefour and Nestlé have boycotted the company because of its environmental abuses.

There aren't enough trees for APP in China, so Indonesia is apparently the company's source of raw materials for the new mills. The destruction of the Indonesian forests has been going on for years according to the WWF. The bits of Indonesia they have chosen recently in Sumatra are home to several endangered species, precious habitats and irrecoverable ways of life. The evidence gathered by Eyes on the Forest (EoF), a coalition of environmental organisations in Sumatra, is brutal and harrowing to read, to say the least. And in Indonesia itself there is an awareness of what APP is doing to the forests. A member of Indonesia's government, representing the Ministry for Tourism and Creative Economy, told a recent standards development gathering that "we shall commit ourselves to manage our resources". This could of course be interpreted in more than one way.

There is a danger that this problem is turning into a war between APP and the WWF which is unfortunate. It distracts attention from the very real and far more difficult problem of balancing the desire to protect a world resource from destruction, with that of a country's moral entitlement to improve the lot of its people. APP has been on a mission to justify its actions for several years and the WWF has been on a similar mission to expose APP's misleading information. The massive PR campaign underway to prove superiority, if not of arguments then of authority, is unhelpful. Engagement and constructive efforts to somehow find alternatives for the SM/AAP business model might seen hopeless, but they have to be better than antagonism and provocation. Read EoF's report "The Truth Behind APP's Greenwash" http://bit.ly/NZTyTd and see what you think.

Inspiring Print is Everywhere

Well yes of course it is, but it isn't often enough that the printing industry itself reminds the world of just how

gorgeous print is, as well as its sustainability. At drupa there were many examples of our industry's environmental friendliness but one of the best was Agfa's Print Inspires Print project. This beautiful little book isn't a shout for how wonderfully green print media is compared to electronic media, a mantra that's getting pretty tired these days. Although we need to keep repeating it, more imagination is required and that is what Agfa's Print Inspires Print delivers.

We have to confess to some self-interest here as Agfa has long been one of our biggest supporters and is a founder member of the Verdigris project. As part of that relationship we have proudly contributed to the Print Inspires Print project (it's called "from Inspiration to Application" and it's on page 66). Agfa has produced an absolutely lovely book dedicated to questions of sustainability and specifically how we think about sustainability in our business processes. Thinking is the hard part of the equation.

The Print Inspires Print book presents 20 timely case studies, not demonstrating the sustainability of print but instead illustrating new sustainable approaches to product development and alternative business models. They range from redefining concepts of the corporation, through to corporate health within communities. From the pragmatics through to the ideals described the passion is tangible and browsing this book is a joyful and uplifting experience. It shows us the potential of thinking beyond what we think we know and the importance of applied imagination for problem solving.

There are also some interesting print case studies included in Print Inspires Print selected on the basis of their green credentials and their prizes for sustainability. Companies such as Hyde Park Press in Adelaide, Australia and Daicolo in Japan share their views of sustainability and explain how they have achieved their environmental goals. In common with the rest of the Print Inspires Print book, these chapters are interesting not for how cost effective, technologically dazzling or amazingly profitable the companies are. They are interesting because they describe ideas and what can happen when we manage to do something different. And

different is what progress is all about, environmental or otherwise.

If you want a copy of Print Inspires Print, let us know and we will forward your email to the right folks at Agfa.

Eco Labels Not the Point

Ecolabels are a pain. They are generally well-intended, aiming to make life simpler for consumers and provide assurance that a product is environmentally friendly. But really eco labels alone don't help industry sectors to improve their carbon footprints or environmental impacts. For instance, in the US eco labels are required for cars and tumble dryers. They are a pain because they give a false and misleading impression that the impact problem is solved, which of course it isn't and cannot be just because of a quantification and validation proceedure. The printing industry needs not labels but education and awareness that environmental performance improvement is more important than hollow claims.

Governments of course have been big on labels which they see as a tool for accountability, indicators, for instance, of the amount of calories or the fat content in foods. And industry associations and companies are also big on labels, since they can charge for the use of a comforting logo. It's validity is another matter but this stuff also has a commercial dimension: have you ever wondered how much the likes of the FSC charge for the use of their logo? Let's just say it ain't necessarily cheap.

An eco logo is intended to confirm that the product to which it is applied has a quantifiable basis for some sort of informed emissions management. However the quality of the data, the scope of the study and how emissions might be managed to live up to what the label implies are uncertain points of light flickering in a cloud of misinformation. And how accountable are the organisations doing the verifications and awarding the certifications? What is the cost and value equation?

The issue really is that we are still too early in the development of widespread environmental awareness

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and understanding. Scientists cannot even agree on climate change, let alone how a life cycle analysis (LCA) of print media should be conducted and the study results communicated. Labels imply a degree of knowledge about the thing to which they are applied. They also imply membership in a specific community, a set of shared values and market position. But they can also be a tool for defining against (think stroppy teenager) so their validity and accountability are extremely important.

Unfortunately when it comes to environmental science and understanding LCAs our industry, as with others, is hopelessly niaive. People are not equipped to understand what environmental labels stand for, or what they mean in the context of environmental impact reduction. The EU's enthusiasm for its Eco Label is laudable, but the money spent on developing and deploying it would have been better spent on initiatives that raised the awareness of the difficulties and helped business to improve its sustainability, both commercial and environmental.

Hold Your Head Up Mr Printer!

The Toshiba fiasco is behind us but that doesn't mean we can breathe even a little sigh of relief. The graphic arts industry has an uphill road to climb, if it is going to really be able to change its image. Actually that road isn't particularly hard or steep because the industry has impressive achievements and unbeatable credentials when it comes to environmental impact. No other media can do what print can do: you can smell it, touch it, caress it and even lick it if you want. As yummy as all that iStuff is, it just doesn't have the same sensory clout. And when it comes to media's end of life, only print has a future.

The reason the way forward is rocky and seemingly near verticle is that printers are afraid. And fear clasps its victims in a terribly tight grip. Printers are scared to put their heads above the parapet and to argue back against the nitwits who believe that digital media has a more benign environmental impact. Printers are afraid of upsetting customers by raising issues that might start them thinking.

Can't have that because thinking is dangerous. People might start questioning their media investment choices. And printers are afraid that next week's press hall will be even less noisy than last, as the next digital alternative to print wheedles its binary way onto the market.

But as any warrior will tell you, if you are under attack fear is no remedy. It leads only to ignominious and inglorious defeat, capitulation and death. Print has been fighting the fear but the industry has been under attack for so many years. Now the fear has almost become a habit and the fight is getting tiresome. It's as if the printing industry has slithered a greasy and grubby way to the bottom of the media pile. Now it's passively standing by as digital alternatives flicker past quicker than quick. So entrenched is the printing industry's fear of opprobrium that it has forgotten how to fight back. And the worst of it is that our trade press is participating in this grovelly charade.

The next time some misguided fool does a Toshiba let's come up with a better response than injured outrage. We will work on a printers' declaration that anyone can pinch from the Verdigris website and hand over to whomever wants to take potshots at print media. And we urge everyone else with an interest to do the same. This fearful cowering has gone on for too long.

For more green news, check out The Verdigris Project:

Verdigris

http://verdigrisproject.com

A Review

Advanced colour analysis in Spectrashop

While the bulk of daily colour management tasks can be handled either by the RIPs driving the CTP and proofer, or standard profiling software like X-Rite i1profiler, some of the more tricky tasks may need specialised software. We have come to use Spectrashop from RM Imaging

We measured both the brightness and light quality of our viewing booth using Spectrashop 4. For comparison we also used a standard Luxmeter (to the right in the picture).

more and more, and since the recently updated version supports the new i1Pro2 from X-Rite, we thought it timely to review Spectrashop 4.

The programmer behind Spectrashop is Robin Myers, former member of the Apple Color Imaging Research Group (see Spindrift no 9-10 of March this year for an interview with him), and one of the driving forces behind

the early development of ColorSync. Spectrashop is not aimed at creating ICC profiles, but rather analysing measurements made, be it the light in viewing booths, emissive, reflective or transmissive measurements of prints and substrates.

Let's start with the viewing booth, measuring both the brightness and colour temperature. While this is often said to demand a spectro-radiometer, at a starting price of around €25,000, you can use a spectrophotometer like the i1Pro to get an idea if you are within the recommendation of the ISO standard 3664 Viewing Conditions. While the standard describes a number of conditions that need to be fulfilled by a manufacturer of viewing booths, a user can at least check that the brightness (called illuminance in ISO language) is between 1500 and 2500 lux, and that the colour temperature matches illuminant D50 (daylight of approximately 5000 K).

In Spectrashop you simply ask to measure emissive light, and step-by-step you are guided through the process. This involves placing a diffuser over the measurement head of the i1Pro, and the main challenge here is to find this in the package for the X-Rite i1Pro2. It is cleverly stored on the foot for a tripod mount adaptor, but once you realise that, and find it, you are ready to go.

At first, we were a bit puzzled over the variation in the measurements depending on where in the viewing booth you placed the spectro. So to compare results we bought a luxmeter, hardly a huge investment at around €25 on Amazon. We found that the measurements with our i1Pro2 and the luxmeter correlated well if we placed the measuring head in the same place.

With Spectrashop you can also evaluate what Colour Rendering Index the lamps in your viewing booth achieve. It should be at least 90, and preferably well over that. Closely related to analysing the quality of the light source, is checking as to whether or not metamerism might come into play. This is especially important in packaging production and large format production if you want to test beforehand if prints using certain substrates and inks will change in appearance under different light sources. This can be analysed in Spectrashop, and the Metamerism Index (MI), can be computed.

Specimens

Description

Viewing booth

ID1	
Dimmed to 2000 lx	

Dimmed to 2000 lx

Emission, W/m^2

Specimen Information

Identifier 1:	Dimmed to 2000 lx
Identifier 2:	
Identifier 3:	
Material:	
Manufacturer:	JUST Normlicht
Model:	Image Pro 5000
Production Date:	
Serial Number:	
Originator:	
Creation Date:	2012–07–31 11:31:46
Surface:	
Comments:	

Colorimetry

CIE XYZ — 2°/D50 Abs
X: 2043,94   Y: 2070,09   Z: 1786,58
x: 0,34640   y: 0,35083   Σ: 7,70

CIELAB 1976
L*:   a*:   b*:
C*:   h:

CIELUV 1976
u*:   v*:
C*:   h: s:

CIECAM02
J: C: h:
ac: bc:

Dominant Wavelength & Purity
nm: 574,5   pe: 0,09

CIE 1964 UCS
u':   v':

RGB — Adobe 1998
R: 255   G: 234   B: 212

Photometry
2070,1 lux   CCT: 4947 K

Measurement Information

Instrument:	i1Pro	Aperture:	4 mm
Spectrum Type:	Emissive–Light	Filter:	Ambient
Geometry:	0/d	Illuminant:	D50
Measurements:	1	Backing:	N/A
Notes:	Measured with i1Pro 2		

1 specimen

It's not only important to have the right brightness in a viewing booth, it should also conform to the type of illuminant expected (normally D50), with a spectral purity of at least CRI 90. This and more can be computed in Spectrashop 4.

You can also measure your flash, and out of curiosity we measured both the built-in flash on a Canon 550D, and an external flash. As expected, they both produced roughly D65 equivalent illuminant, give or take some 100 K up or down.

For prints or proofs a whole range of analyses and validations can be made, for example, checking if a print run is compatible with the specifications of ISO 12647-2. To make good measurement data every single measurement can be set up to automatically calculate what the average is of, for example, five consecutive measurements of the same patch. Spectrashop can then give you the value for colour deviation according to the common formulas for ΔE, such as DE76 (or more correct ΔEab), DE CMC, and DE 2000.

You can also check that the variation during the print run doesn't exceed the maximum variation allowable which is ΔE 4 between an OK sheet and the sampled production sheets. You can set the threshold to whatever you prefer, but we tend to use the tolerances in the ISO standards.

Spectrashop supports a wide range of popular spectrophotometers, and can import and export data in most commonly used formats. One format we would like to see, and which hopefully might be added over time, is CxF. This is about to become an ISO standard, and is used
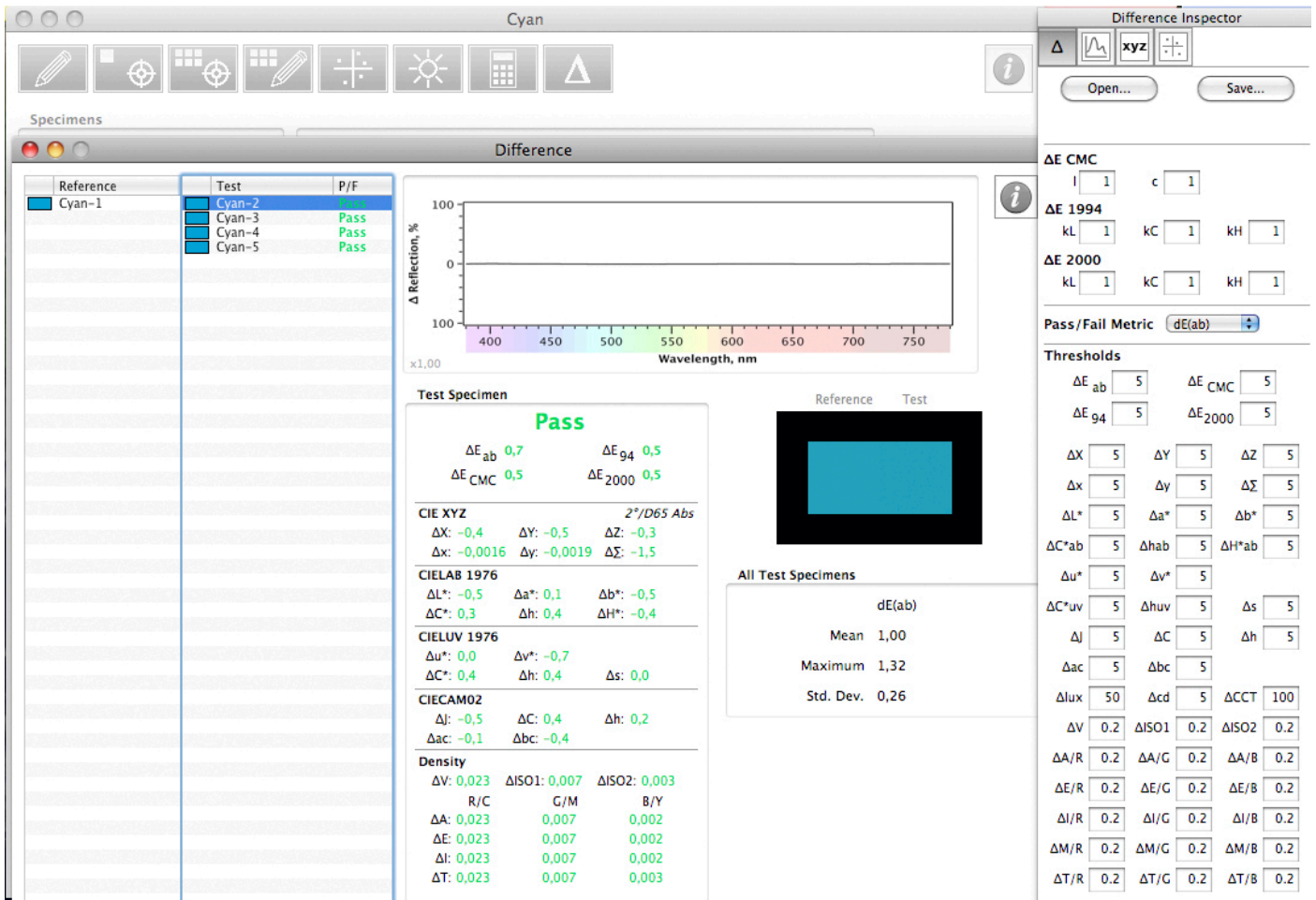
A central thing in ISO-compliant print production is to evaluate if a proof or print is reproduced with a colour difference that stays within the tolerances. Here a series of samples are compared with the OK sheet. The variation should be less than 4 ΔE for Black, Cyan and Magenta, while Yellow can be allowed to vary up to ΔE5.

in the recently launched Pantone LIVE colour definition technology.

You can create your own colour charts, or import most of the commonly used ones in, for example, X-Rite ProfileMaker. This includes measuring in transmissive mode with an i1Pro – a feature not supported by X-Rite, but provided for through Spectrashop. This is, of course, very welcome when building ICC profiles for translucent substrates. While Spectrashop doesn't compute the ICC profiles, the measurement data can be exported to a third party software, and an ICC profile can then be generated there.
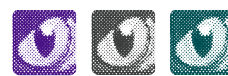
This is just an overview of what you can do in Spectrashop, and given its very modest price we can recommend

anyone to test it and see if it meets your particular test and analysing requirements.

Did You Know?

Digital Dots UV-Curing Printers Test

Two years ago we embarked on a testing project in which we asked manufacturers of UV-curing printers to produce a number of test files, which we then measured. The final study was published at the end of 2010 and now we are at it again. The test project is designed to establish benchmarks for technology claims relating to the colour gamut and output resolutions of UV-curing wide format printers. Its priority is to provide information that will help buyers in the sign and display and related markets to make informed investment decisions.

We intend to publish the project in a series of detailed company profiles for each test participant, along with their results. These individual test reports summarise each participant's individual achievements in the Digital Dots tests and we hope the benchmarks achieved will be used as the basis for performance improvements as wide format UV-curing printer technologies evolve. The whole set will be available as a complete project report.

Introduction & Objectives

The printing industry is embracing a new generation of UV-curing digital colour printers for a broad range of applications. The Digital Dots testing project is designed to establish benchmarks for technology claims relating to the colour gamut and output resolutions of UV-curing wide format printers.

The tests measure the colour gamut of UV-curing printing devices, and compare these gamuts to those of solvent-based inkjet printers and other print methods. Output resolutions will be evaluated in the same way.

Colour gamut is calculated through measuring an ICC profile created by Digital Dots from submitted output samples printed on Avery gloss coated vinyl (or similar) and uncoated paper stock. Production parameters for the output must be described in the data sheet submitted with the sample output. It should be possible to replicate the output at a local distributor or customer, if required, using the information in the data sheet, and standard off-the-shelf control software.

The resolution test is measured using a digital microscope.

Test Participants

At the time of writing Agfa, Durst, EFI and Océ are participating with multiple engines.

Publishing the Results

The technology for each printing system and the manufacturer's profile will be described in the final project report, which will be available as individual test reports and as a complete study with all results plus additional background commentary. Test participants are invited to provide input and commentary to the results, in line with project objectives to provide accurate information for buyers and users of wide format UV-curing engines.

Lucky number six

The latest version of Adobe's Creative Suite has landed, but is there still a compelling reason for such a mammoth collection?

This summer we'll mostly be looking at the Creative Suite six collection - it's too big a bundle for a single story, or even a single reviewer, so we'll deal with it in several stories over this and the next issue or two. To be honest, we almost missed this, because even though it's a flagship product, it slipped out while we were all enjoying ourselves in Düsseldorf earlier this year. At first we thought that we'd

There's a clear reason for Adobe to make this upgrade, because it needs the revenue boost that a new version brings... But is there a clear reason for customers to upgrade?

missed the launch event, but it seems that Adobe didn't even bother with a press conference, and just emailed a few press releases, a far cry from the major fanfare when the first Creative Suite was launched.

We're not normally fans of press conferences when it comes to software, as it's normally best just to get on with the review, away from the PR hyperbole. But we think a collection of 18 programs really does need someone from the company to put them in perspective and explain the thinking behind the new edition. There's a clear reason for Adobe to make this upgrade, because it needs the revenue boost that a new version brings, and the shareholder price will drop if Adobe falls behind its bi-annual update schedule. But is there a clear reason for customers to upgrade?

Photoshop

For this story, we're going to concentrate on Photoshop, leaving the other programs till next month. The first thing to note is that Adobe has played with the interface so that

the default background is a dark charcoal colour, which does look quite funky. There's a choice of four levels, from black to the older, lighter background. This brings Photoshop in line with some of the other programs in the Creative Suite, and we think it makes it easier to separate
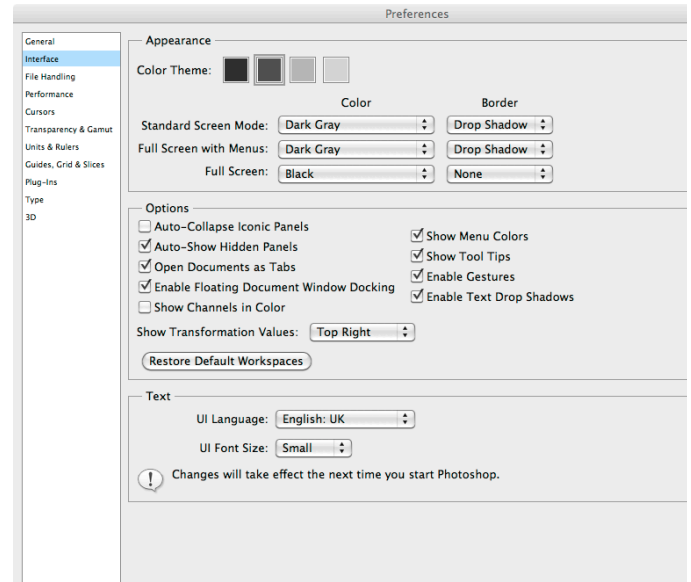
The new dark interface does make it easier to work on images without distractions, but you can detemine just how dark it is to suit your own tastes.

images from the surrounding clutter, albeit that some of the icons are harder to see. In addition, the application frame is now active when you first start it, though you can turn it off and return to the older approach.

The general performance has been improved slightly and it seems a little faster than using CS5 on an ageing MacBook Pro. Adobe has finally added background Save and auto recovery which helps to protect against crashes and means you don't have to waste time saving files every so often – you can set the auto save intervals to suit your own workflow. Photoshop also gains the Mercury Graphics Engine, first seen in Lightroom 4 earlier this year. Essentially this draws on the Graphics Processing Unit of your computer and allows for much faster processing of large files, particularly when using tools such as liquify and Puppet Warp.

The Adjustments panel has been considerably simplified so that it's just a series of buttons. Clicking on one opens up a new layer for the adjustment, and a new Properties panel to the left to control that adjustment. Adobe has

*The Adaptive Wide Angle filter is one of the most effective of the new tools. Note how this church is falling backwards **(left)**, an effect typically associated with wide angle lenses. The finished result **(right)** is quite impressive, and took only a few seconds to achieve.*

also tweaked the auto correction settings so that you can now get quite good results from the basic adjustments without any effort.

The layers panel has also been tidied up with a new row of buttons across the top so that you can filter which layers you're looking at, although the effects on all the layers still remain visible.

Camera Raw

The new version of Photoshop also comes with a new version of Camera Raw, though we've already seen this in Lightroom 4. Essentially, the dynamic range adjustments have been much improved so that Raw files seem to have much more 'pop' thanks to new algorithms. Some of the old controls such as Fill Light, Recovery and Brightness have gone, but in their place are new sliders for Highlights, Shadows, Whites and Blacks so that you can squeeze much more dynamic range out of an image. There's also a new moiré control, particularly handy given that there are now several DSLRs that dispense with anti-aliasing filters, a trend likely to continue as we see more cameras with higher pixel counts.

New tools and filters

As one would expect, there are a couple of new features in this version. For me, the best of these is the Adaptive Wide Angle filter, which goes a long way to dealing with the sort of problems that wide angle lenses can introduce, such as buildings that look as if they are falling backwards. Photoshop has had lens correction for a while but now

The cloud

Alongside the Creative Suite itself, Adobe has also launched its own cloud offering, known as Creative Cloud. You can still buy the software on its own, or on a subscription basis with the option to pay for it monthly, which works out roughly the same as the cost of upgrading the software.

However, the Creative Cloud offering, much like the Creative Suite itself, is a one stop shop that allows you to access a whole range of applications, including all the CS6 programs as well as other programs such as Lightroom and Muse, Adobe's new website authoring application, and the mobile Touch apps. The cloud option also includes 20GB of storage space and can synch work on desktop and mobile devices.

The programs are installed on the machine and can be accessed without needing an internet connection, although you will need to sign in once a month. You can pay monthly or yearly, and can take a break of up to six months without needing to reinstall anything. It costs €59.03, including VAT, per month on an annual basis, or €88.55 per month on a monthly basis.

You can also access the Creative Cloud for free, which gives you 2GB of storage, and access to trial versions of any of the CS6 programs.

*NB prices are approximate as they differ from country to country, even within the Euro zone.
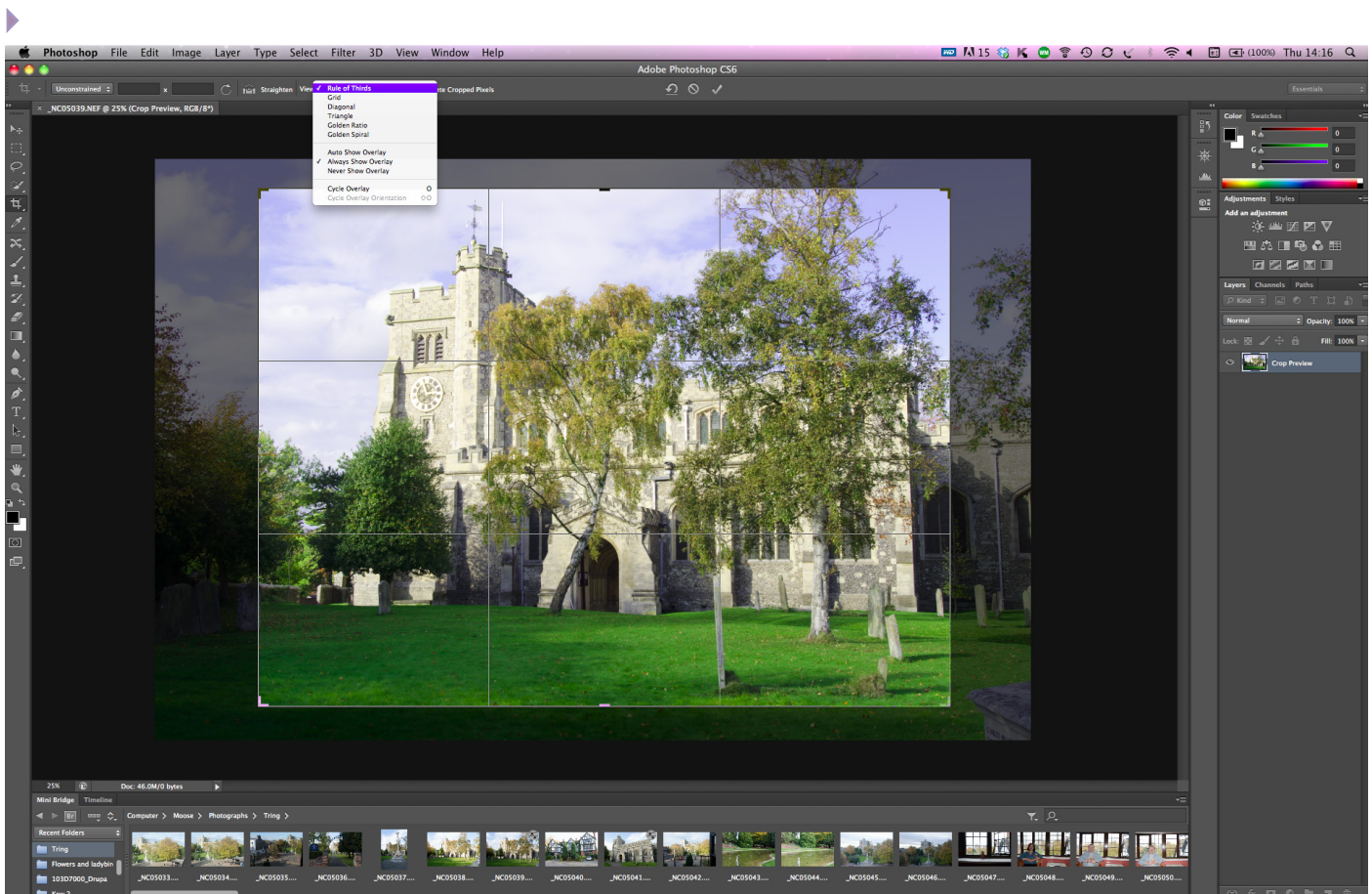
The new Crop tool can be non-destructive, and lets you choose different overlays, such as the Rule of Thirds used here to help determine where to place the crop.

you can add data points to an image to mark which lines are supposed to be straight and this really makes a big difference. It's incredibly easy to use and produces quite good results, such that for some people this might obviate the need to carry a tilt-shift lens and should also help straighten out the effects from fisheye lenses.

There is a new Blur gallery that lets you add blur effects to images. There are three types: Field blur, which blurs everything but allows you to select one or more areas that are less blurred; Iris blur, which lets you pick an area that stays clear and then blurs the rest of the image; and Tilt-Shift blur, which lets you isolate a focal plane and then blurs everything in front of and behind that plane. You can even simulate bokeh (background fuzziness) effects through the dialogue panel on the right hand side. There are also several blur filters that apply a uniform blur across the whole image.

The filter menu has been tidied up to prioritise the most commonly used filters. There's also a new oil paint filter, which does a reasonable job of mimicking an oil painting

effect, though as with many of these kind of filters, it seems to work better on some images than others.

The Crop tool has been much improved and now shows an overlay of the crop on top of the original image. There's a choice of overlays, including the Rule of Thirds and the Golden Ratio, and you can set the opacity of the image that's been cropped out, or you can simply choose the older style crop mode. You can also choose the aspect ratio to crop to, such as 16x9 or 5x7 and you can save your own presets, complete with the desired resolution. There's an option to delete the cropped pixels, or just hide them, effectively giving you a non-destructive crop so that you can change it later, providing you save the image as a PSD file.

There's also Perspective cropping, which lets you crop and straighten an element that had been taken at a slight perspective angle.

The Content-aware feature first seen in Photoshop CS5 has been improved with a new Content-aware Move

The Content Aware Move tool lets you move, or as here, duplicate elements such as this ladybird, though its effectiveness depends on the complexity of the background.

tool. Use it to select and copy an element in an image, and then you can place the copy elsewhere in the image. The original can be erased and the background replaced, effectively moving the picture element, or you can leave the original, thus duplicating it.

The Patch tool has also gained a Content Aware option that lets users choose the sample area used to create the patch. In both cases the Content Aware technology can be surprisingly effective, though it obviously depends on the complexity of the background you are replacing and you may need further work with the healing tools.

There's a neat addition to the drawing tools in the shape of new erodable brushes that allow you to knock some of the sharpness off the tip of the brush. Adobe has also tidied up some of the basic design tools. You can now add gradients to vector objects and apply strokes and dash paths to vector layers. There's a lot of control over these so that for us at least it's as easy to use Photoshop as Illustrator, but then we're not really designers.

Video and 3D

Adobe has added to the video editing tools with a new Timeline panel docked at the bottom of the screen, which lets you import and trim video clips and add effects such as transitions and text. It's not a match for a dedicated video editing program, but is a good start for anyone with a relatively modern DSLR who now finds they have a lot of video files to work with. Better still, this is now available in the Standard version, where before it was limited to the Extended edition.

For the extended version, the 3D tools have also been tidied up with a new 3D panel, making them much easier to work with. You can now click directly on objects to reposition or rotate them, rather than having to rely on a dialogue box, and it's much easier to move light and shadow effects as well.

Bridge

Several of the standalone Creative Suite programs also include Bridge, and this is an integral part of each of the
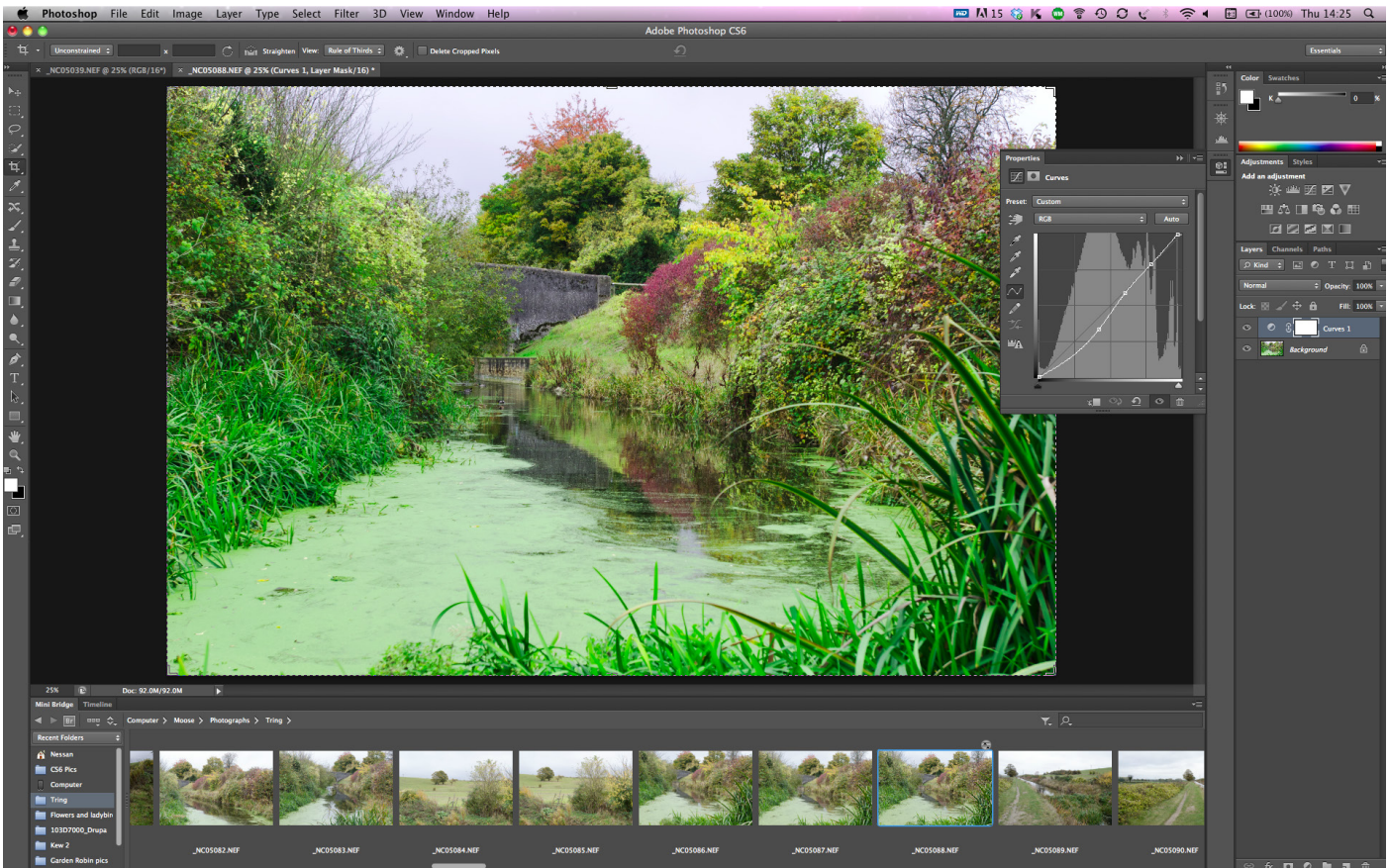
The Adjustments panel is far easier to manage, and the new Auto corrections do a remarkably accurate job, giving some very pleasing results.

CS6 bundles, but it's perhaps most useful in conjunction with Photoshop. Bridge also has the new interface but seems to have gained little else.

Actually, Bridge has lost one major feature, as previously it used to share the Camera Raw plug-in with Photoshop so that clicking on a Raw file in either program would open the plug-in. But now when you click on a raw file in Bridge, it fires up Photoshop so that it appears that only Photoshop can now access the plug-in.

This is fine for processing a Raw file and then doing some further work on it in Photoshop. But it's a real nuisance if you want to edit a number of Raw files from Bridge, because Photoshop is permanently in the background and keeps getting in the way, which seriously compromises ones workflow. Adobe has also taken away the button to switch from Photoshop to Bridge, though Bridge still has the corresponding button to go to Photoshop.

The MiniBridge panel has now been docked at the bottom of the screen, though you can undock this. There is a button on MiniBrige to go to the main Bridge application, though to use this you have to give up enough screen real estate to accommodate Mini Bridge itself. Then again, MiniBridge now has a film strip of images, making it a more useful feature than before.

Conclusion

In some ways, we've found trying to review Photoshop CS6 to be a frustrating experience. For photographers, the most useful feature is the Camera Raw 7.0 engine, which does truly offer a much better way of converting raw images than previously. But ACR 7 can also be found in Light Room 4, which is a fraction of the cost of Photoshop. And, given the changes that Adobe has made to Bridge, Light Room is a much more pleasant experience to use.

But of course, there are some things that you can only do in Photoshop. The Adaptive Wide Angle filter is genuinely useful, as are the Content Aware features and the blur tools and these things alone are probably enough to justify the fairly high cost of Photoshop at around €900.
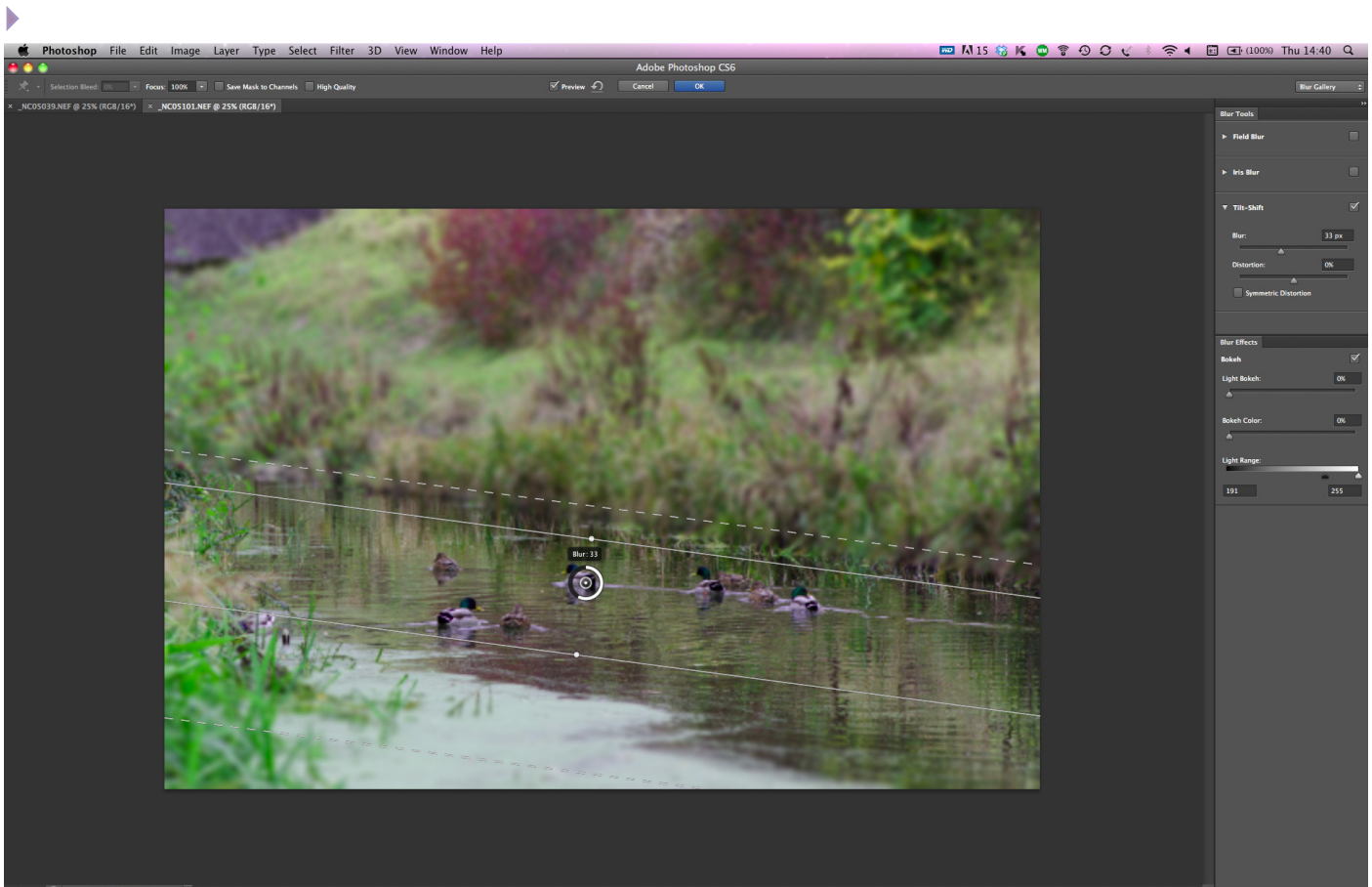
The new Blur filters, including this Tilt Shift blur, can help blur some elements to focus attention on others, and is a useful tool if you're unable to determine the depth of field when taking the photograph.

For existing users it's a no-brainer, given that the cost of the upgrade is fairly low at €250. The real advantage isn't so much any one feature, but in the overall improvement, particularly in things like the new Crop tool and the Adjustment Panel, with its new Auto corrections, not to mention the background auto saving. All of these things make it quicker and easier to work with images, though we're still not convinced about Bridge.

Next month we'll take a look at some of the other programs in the Creative Suite, including InDesign and Dreamweaver.

– Nessan Cleary

Going with the Flow

Workflow is a wonderfully indefinite term, spongy in that it sucks everything imaginable into its domain, yet completely fluid in its application. For the graphic arts industry workflow technology is do or die stuff: without digital prepress there could be no computer-to-plate (CTP) production or digital printing.

Over the last fifteen years or so digital prepress has become more a series of software applications than a set of isolated skills-based tasks. Now the skill is in the software and graphic arts operators must trust to the knowledge and experience of developers to provide technologies that both meet current needs and support customers' exploitation of new media trends. This article is the first in a series looking at workflow systems, starting with Agfa Apogee Suite, the first prepress workflow system based on PDF. Apogee's been around since 1997 and is one of the most widely used prepress workflow technologies in the industry.

Apogee has its origins in Agfa's Delano prepress project management, a system originally developed in cooperation with Quebecor. Delano connected to a RIP system, either Agfa's Apogee X or another PDF-based RIP and used a standard web browser. The Delano project management software evolved into a web portal for content and approvals management and as the industry moved from closed to modular RIP systems, automation and PDF-X, Agfa kept pace. It has been developing its Apogee RIP to incorporate data and file management tools within a web model adding modules to the RIP so that raster image processing has the scope for far more powerful data management processes.

The Apogee Suite is developed in Mortsel, Belgium and designed for commercial print applications, rather than newspaper or security customers. There are 7,300 Apogee systems up and running in the market and the technology has evolved far beyond its relatively humble origins. For a start it includes hardware as well

as software. It is designed for high-end applications, processing management content as well as handling all of the prepress associated with turning PDFs into printed pages. It includes a powerful colour management system and can share content across systems and supply chains.

The New Red?

One of the best known names in the graphic arts industry, Agfa, in common with its competitors has struggled with reinvention. It seems to be managing it, working with numerous technology partners including Adobe, Microsoft, HP and Global Graphics. Agfa also has various industry alliances, such as with EFI for Fiery, and plays a very important role in standards working within ISO TC130, the ICC, CIP4 and the Ghent Workgroup.

The culling of whole sectors of Agfa's business (scanners, for instance) has left an organisation lean and mean and hungry both in home markets and internationally. Agfa sold around 70 systems at drupa plus lots of upgrades and has apparently been doing particularly well in Japan of late. According to Agfa the company is 65% over its sales forecasts in this market. It makes one wonder if red may someday be the new green in Japan.

Agfa's Market Position

Sector	Commercial	Newspapers	Security
Technology	Apogee	Arkitex	Fortuna
Customers	7300+	2000+	100+
Market Share	25%	55%	80%

The Apogee Suite provides process automation for large and small publishers, from companies with ten to 15 people, through to those with several hundred operators and multiple sites such as St Ives or the FT in the UK. Apogee reaches all parts of the print media supply chain, from design and content development through to publication.

There are three components: Apogee Portal, Apogee Prepress and Apogee Colour. Much of Apogee has been completely rewritten as a 64-bit system capable of shovelling large data volumes quickly. The Apogee Suite has moved to the Web in every sense. It is now a cloud-based service sold on a Software as a Service (SaaS)

Web-to-print comes courtesy of Apogee.

model. Agfa is using the IT architecture developed for its healthcare business, which manages millions of patient records in a secure environment. It is powerful, muscular and easily robust enough to handle the workload of graphic arts customers.

Apogee Portal

Apogee Portal provides customer facing web-to-print quality assurance so that customers can interact and optimise their files. The latest version has better job organisation and supports the functionality and openness required to drive all sorts of output. Agfa's goal is for Apogee Portal to become the interface of choice for all digital presses and MIS. Customers are automatically notified when the production system is waiting for pages

to be uploaded. Files are uploaded and preflighted and the preflight report either held or notified to customers to approve and/or reject pages. Pages are automatically placed, either as multiple or single page PDFs which Apogee can automatically disaggregate. Once pages are soft proofed, thumbnails of approved pages are created and messages for rejected pages go to the MIS. The MIS can also steer what happens in the RIP, for example, initiating Apogee Ink Save.

Apogee Storefront

Apogee Storefront is the web-to-print bit of Apogee Portal for business to business applications and publicly accessible sites. This SaaS web-to-print technology has nothing to do with EFI Storefront. It was developed by

Agfa with input from Chili Publisher and launched at drupa. It is available for newspaper applications and is expected to be available for commercial applications later this year. In common with many competing systems it is based on templates, although the associated workflow depends on the type of print product being produced. Thus the workflow for business cards is totally different to that of a catalogue. There is now a direct JDF link bridging the Apogee Prepress 8, Storefront and MIS technologies that can be initiated when required depending on the customer's workflow preference, so it is possible to steer Apogee from an MIS, defining prepress requirements via JDF. For inbound files coming into an MIS but generated from Apogee Prepress 8 or via Storefront, Agfa has coined the term "New JDF" to signify that the MIS is subordinate to the web and prepress production systems.

Apogee Prepress 8

Apogee Prepress 8 is a JDF production hub that automatically downloads and processes online orders. It is based on Adobe's PDF Print Engine (APPE) 2.6 with full support for variable data and screen workflows. Apogee Prepress 8 includes the latest version of Apogee Impose

Apogee has been developed and positioned for customers of printers so it includes features such as online payments and account history for easy reordering.

which now supports web printing and unbound folding products. Digital printing is also now in sharper focus because increasingly Agfa customers need to process files and manage colour across multiple output streams, including offset using JDF to drive different presses.

The latest version has an absolutely beautiful graphical user interface. It is flexible and easy to use with powerful onscreen tools for variable data management and a complete library of contents. Apogee has been developed and positioned for customers of printers so it includes features such as online payments and account history for easy reordering. The printer can control the look of

Storefront sites and use Storecentre, a production-centric view of the same system, to see what jobs are on order and in production.

Jobs are routed for conventional or digital output according to the ticket templates and their production specific parameters. This includes the output path, which might be an exported PDF that could be output by a subcontracted printer. Preflight checking can happen either at the main site or at that of the subcontractor. The new Apogee Preflight software can also check overprints and uses Enfocus's editable preflighting technology to correct overprint problems.

There is a merge jobs function that gangs lots of short run jobs that share the same print parameters, for example CMYK only, and paper types. Currently this tool is manual however, Agfa is considering making it a proactive feature, notifying operators if the economics justify a merged job. There is also no customer feedback mechanism once the job goes beyond Storecentre, such as email status notification or upselling options, but these are in the pipeline along with tools for offering discount options on higher quantities.

Imposing Views

Agfa has come a long way with its Impose technology since we first saw it at IPEX a couple of years ago. Jobs are generated via Storefront, MIS or hot folders and Impose version 6.0 adds a product tab, listing the print media product options available, along with their production parameters. Operators can add extra parts to a job such as cover and body, or job types. Once the pages of a job arrive in the run list the imposition page preview is created very quickly. Apogee can notify the operator of incoming file errors and an Inspector tool allows page corrections, such as unseparated spot colours or sizes that are wrong. Crop marks and colour bars are all added automatically and impositions can be optimised to make the most of the devices/presses available and stocks (sizes) available.

In addition to the merge jobs function there is automatic adjustment of folder values say 1 or 2mm less on a letter fold and new automation rules. For example, when printing several different sizes, rules can be applied to optimise sheet usage ranging from a little to "whatever
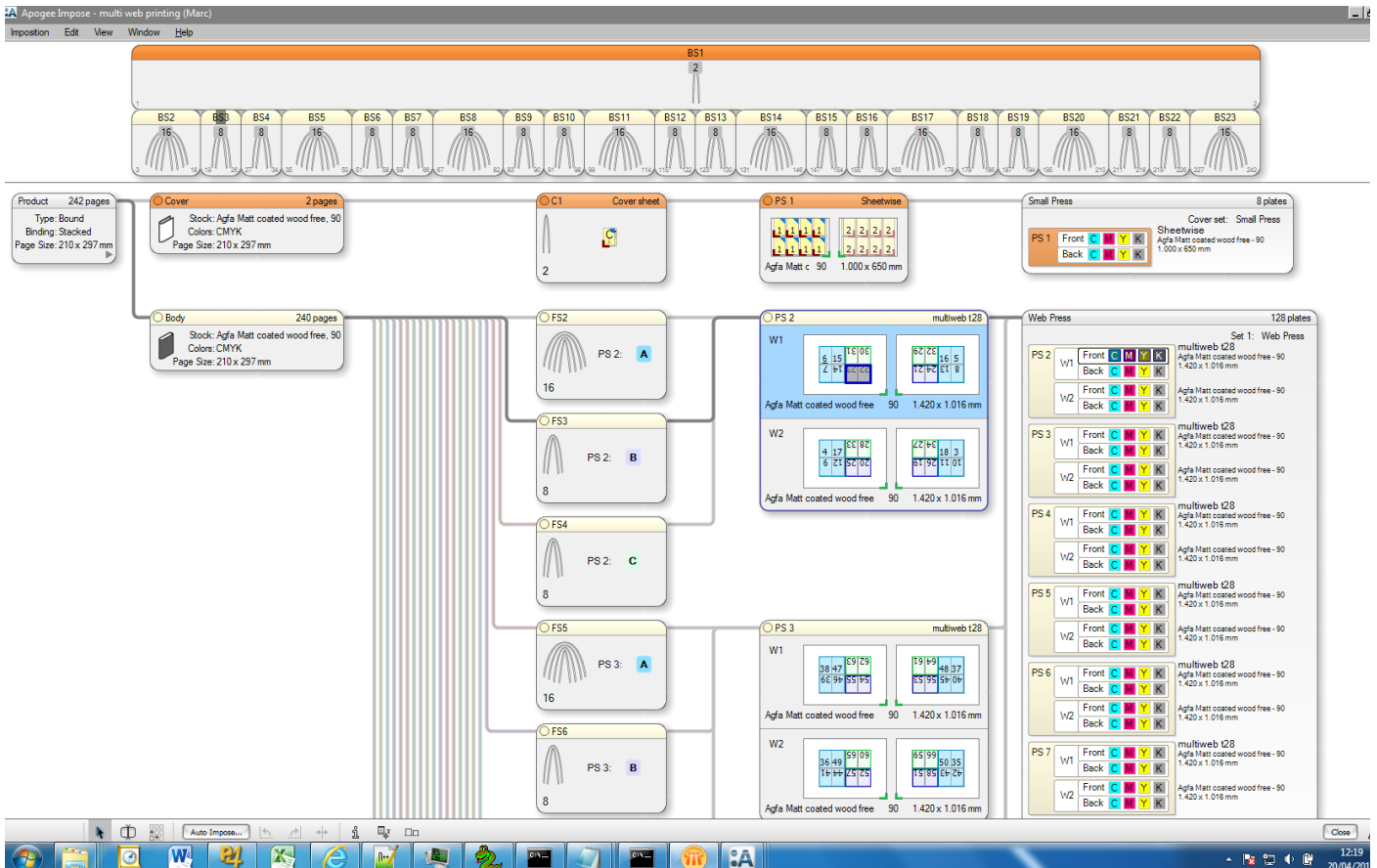
Apogee's Imposition module can take jobs from Storefront, MIS or hot folders and now includes a Product tab listing the print media product options that are available.

it takes" on a slider bar. Subject to what the print buyers will pay for (it may add copies to shorter runs on the same sheet), this is a handy tool for reducing waste and improving turnarounds.

There are also new imposition tools for web presses based on the web width and using production schemes based on individual web presses which include many means of inline folding. A scheme associated with a specific press can only be available to that press, unless the operator allows an additional press with the same capabilities. Operators roles are now administrator defined for more efficient resource management.

Apogee Colour

One of the big investments Agfa has made into its Apogee Suite has been for improved colour handling, and much of the new technology comes from Intellitune, well-entrenched in newspaper production. In line with its competitors Agfa has long supported common practice: ICC workflows with smart profiles and a dumb Colour Management Module (CMM). But as time goes on this model is looking increasingly rigid and unable to match the colour requirements of modern cross channel workflows. Technology should aid innovation so that print media optimises other media channels and Agfa sees a need for flexibility and an advanced CMM. Rather than profile editing tools or fiddling with Device Link profiles for one to one conversions, Agfa's latest colour technology provides for one to many colour conversions.

Agfa's latest CMM is workflow-centric because it is in the workflow that printers can add value. The knowledge to achieve high quality colour reproduction is now built into the Apogee Suite. It has the means to optimise profiles, so that the workflow itself creates optimised device links, building on the basics of an ICC methodology with the Agfa Advanced CMM for dynamic colour management.

The Agfa Advanced CMM is 100% ICC compatible and includes Agfa tags to connect an ICC workflow to the Agfa CMM. This processes data based on its spectral rather than

colorimetric values which is expressed as mathematically defined tristimulus values, such as LAB, rather than actual wavelength data. This means that spectral colour values can be recomputed for different illuminants, unlike colorimetric data. The data processing ensures accurate linking and colour processing.

Profiling quality is important to achieve smoothness in colour transitions, so connected colours are mapped in a gamut path from one colour space to another. Thus in a CMYK to LAB connection each colour has a unique connection path. Agfa is developing Apogee Colour to achieve connected colour paths regardless of ink limitations and GCR settings, using a regularisation approach so that the ΔE change in measurements and results characterisation data for offset has an average ΔE of <1 and maximal of ΔE 1.5.

Mad Colours Made Sane

However, there are always colours that don't behave as they should and the percentage of incorrect regions in a given colour space depend on the destination space, including digital press outputs. Agfa has found, for example, that in the Fogra 28 around 12% of colours render inaccurately and in Fogra 47 it is 9.36%. Digital printers vary from 16.81% to 28.6% based on ink limited targets and printing with 240% and higher ink coverage. Higher ink coverage can increase the percentage of misbehaving areas in the colour space.

Apogee Colour supports various workflows: standard ICC colour conversions with GCR defined by the destination profile; press repurposing, ie CMYK to CMYK, with GCR defined by input data; InkSave CMYK process transforms with zero ΔE colour change; spot colour conversion (including mixed); proofing with minimum ΔE; and digital print workflow (side by side, media relative conversion to optimise colours for press). Agfa is using Smart Input Space Recognition (SISR) technology to preserve colour continuity in neighbouring objects, sitting behind transparent objects, for instance.

This is also the underlying technology for its spectral data processing that has an automatic illuminant with observer correction to change from an offset to digital print output profile. SISR is about assigning CMYK profiles

to untagged CMYK based on ink limitations, CMYK combinations and intelligent processes which can be part of preflight routines. Apogee Colour validates PDFs and warns for incorrect tagging, supporting automatic press repurposing because it determines document output intent to enable common colour management policies for different output devices.

Essentially Agfa is extending ICC colour management to take different illuminants and observers into account but all of this is hidden. Device links are created on the fly according to the output path requirements. Everything is dynamic with, for instance, dynamic spot colour

> ## Everything is dynamic with, for instance, dynamic spot colour rendering based on dot gain, solid density and trapping according to the spectra of spot colours, with on-the-fly calculation of overprinting.

rendering based on dot gain, solid density and trapping according to the spectra of spot colours, with on-the-fly calculation of overprinting. Spots and process colours are rendered simultaneously to the same output intent. This is a natural candidate for the Pantone Live project, but Agfa has nothing to report at this stage.

CMYK to CMYK links preserve overprint behaviour during PDF rendering by converting colours by object layer. This also preserves primaries, secondaries and text (solid K) to ensure super smooth gradations. Agfa is using black point compensation as the basis of how it ensures smooth transitions between greys and CMYK objects. Apogee Colour warns if there are objects in PDFs that are likely to have unreliable or uncertain colour conversions, for instance, for abnormally blended transparencies. Apogee 8 has document-based colour management to make setting of colour management simpler and can generate PDF-X/4 files.

These are impressive developments but still the most important thing that Agfa is doing with Apogee Suite is

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making it a cloud service. Agfa's service is a subscription model starting at around €280 per month. There are different levels of service, Bronze, Silver or Gold with each differentiated by the number of online stores being supported and the functionality. Agfa is in the vanguard. According to Kodak representatives at drupa, there is no benefit for users to have a cloud model. Esko Graphics has it under consideration but hasn't yet done much. Only Fujifilm has made real steps in the cloud direction with XMF and we look forward to learning more about this work in the coming months.

The cloud also has other benefits for Agfa. Because of the size and diversity of its customer base Agfa has rigid quality assurance procedures for new releases, prior to release. The quality assurance process, also cloud-based, helps to avoid chaos and instability, which is especially important for newspaper customers. This need for non-disruptive development is part of the rational for Agfa's move to the cloud and for extending Apogee to the Web and for mobile applications. But it also has considerable commercial benefit, which ultimately benefits customers.

– Laurel Brunner

GWG turns 10

We at Digital Dots have repeatedly stated that there are four standards organisations that every printer and publisher should follow closely in order to keep up with workflow efficiency and quality management in general. This "gang of four" are the CIP4, GWG, ICC and ISO. In this article we focus on the Ghent PDF Workgroup (GWG), which celebrates its 10th anniversary this year.

So what is GWG, and what does it do? When Peter Camps, then at Enfocus, initiated GWG in 2002, he wanted it to be a user group, dominated by users. After a few years the GWG adjusted its membership rules to include vendor, industry, and education members in order to round out the knowledge base. This spirit is still maintained, with a mix of industry professionals on the board, called the Executive Committee. The chairman is David L. Zwang, and the work is split between 11 subcommittees, each with a different focus. The subcommittees cover quite broad topics like colour management, cross media, job ticketing and process control, as well as specialised areas like packaging and variable data printing.

But why a special workgroup for PDF processing? Well, this goes back to when PDF was a fairly new file format, and not considered to be fully tested for high end graphic arts production. There is also a strong connection between GWG and the work within ISO, especially in Technical Committee 130, responsible for the standards used in Graphic Arts Production. Initiated outside ISO, but eventually handed over to them, PDF/X came to be published as an ISO standard in 2001. While the general PDF standard, ISO 32000 and the different versions of PDF/X (the ISO 15930-series) are updated through ISO, it is the way that they are best implemented in real life graphic arts production that is the main task for GWG.

To check if a PDF is compliant to PDF/X (where the 'X' stands for exchangeable) you need to perform some type of preflight. While all PDF/X files are standard PDF files, not all PDF files comply with a specific PDF/X-standard. This is where the GWG comes into play, presenting what is called PDF/X Plus. The 'Plus' part is a specification for

both creation and preflight of PDF files meant for high end graphic arts production, including advanced job ticketing to facilitate automated workflows.

We at Digital Dots have followed the work of the GWG from the very start, and welcomed an invitation to join a work meeting held in Ghent this July. The main focus for the GWG right now is to finalise the details in the latest version of the GWG Specification. Version 1 was published in 2003, and version 4 (present) in 2008. The new version will not be called 5, but instead "GWG 2012 version", possibly to avoid confusion with PDF/X 4 and 5, which both are the latest versions of PDF/X. Confusing? Well it can be, especially if you also take into account that

Ten years later, and still going strong. The Ghent PDF Workgroup 2012 summer meeting in Ghent drew attendees from almost all of the 11 subcommittees, with experts representing users, trade organisations and vendors.

PDF itself is now in version 1.7, but will soon jump to version 2.0 (soon being a relative term in standards work as we are probably looking at the later part of 2013).

Since the general file format for PDF has a very wide functionality, not all of this functionality is allowed in a compliant PDF/X file. The GWG specification tells both a PDF-creating application how to generate a PDF/X compliant file, as well as telling a preflight application what to check for in a PDF when validating if it is compliant to the PDF/X-version required. The GWG 2012 specification accepts some, but not all, functionality of PDF 1.6, all according to the present PDF/X standards.

At the moment probably the two most commonly used versions are PDF/X-1a and PDF/X-4, where PDF/X-4 has

replaced PDF/X-3. But there are some users of the special versions PDF/X-4p and PDF/X-5g, 5n and 5pg. Let's not lose ourselves in explaining those special versions here, but only briefly clarify that PDF/X-1a means a CMYK workflow, while PDF/X-4 allows an RGB workflow, with late conversion to CMYK, for example, in the very moment when the PDF file is created. PDF/X-4 also supports layers and transparency, while PDF/X-1a forces pre-flattening as when using Postscript. So in consequence you can create PDF/X-1a using Adobe Distiller, but not PDF/X-4, since Distiller needs a Postscript file as input.

Much of the focus in the GWG 2012 Specification is about reaching true compliance to PDF/X-4, and the subcommittee for Compliancy Testing, lead by Didier Haazen from VIGC, the Belgian graphic arts research centre, has brought about its own test suite for compliance to PDF/X-4. GWG cooperates to some extent with another user group, the ECI or European Color Initiative. ECI has released part of its Altona Test Suite v2, and GWG and VIGC share test objects as a part of their

> **Both Adobe and Quark are very active in GWG – important since it's crucial that PDF-generation is made in as 'print safe' a way as possible.**

tests. But VIGC mainly uses the GWG suite of tests, as well as some additional test documents developed by VIGC, in its compliance testing. At the moment no preflight vendor seems to be able to perform a 100% compliant PDF/X-4 processing of all the tested documents and elements in the tests that VIGC uses, but some vendors can process what VIGC considers "necessary" elements in the test suite.

The preflight applications that will fully comply with the GWG 2012 specifications should start to be available in the very near future. Anyone who wants to learn more about the VIGC tests should buy the full report from VIGC. However, the Altona Test Suite v2 Technical Page is free to download from the ECI website, if you want to conduct you own tests. It's worth pointing out that the Altona Test Suite v2 does not test full compliance with the

GWG 2012 Specification, nor with any of the released RIP software at this point. Such compliance tests will be done by GWG when the specification is finally published and implemented by interested software vendors.

The list of vendor members of the GWG is quite impressive – basically all the RIP- and proofing vendors have joined, as well as vendors of preflighting and softproofing

Vikki Blake, CGS, and Executive Director for GWG (to the right) lead the general meeting, after which each chairman for the subcommittees leads the work meetings covering everything related to PDF processing, including cross media publishing.

applications. Both Adobe and Quark are very active in GWG – important since it's crucial that PDF-generation is made in as 'print safe' a way as possible. One might have thought that print technology would have reached a fully mature and stable state by now, but when it comes to advanced and complex designs, including transparency, spot colours, layers, blend modes, different flattening options, overprint (or not), colour management et cetera – there are still many places where things can go wrong. The ongoing task for the people in the GWG is to help the vendors to find those gaps in the workflow, and plug them with solid solutions.

But it's not only print production that is of interest to GWG. Many of their members from publishing houses live in a cross media production environment, and need to find best practices for both distribution and long-term storage of documents. The Cross Media subcommittee follows the developments closely, and at the recent Ghent meeting Leonard Rosenthol from Adobe pointed to the Open Ajax Alliance for possible bridges between PDF and ePublishing. At the heart of the work of the

Didier Haazen from VIGC is chairman for the Compliancy Testing subcommittee, and reported on the findings so far from a series of tests VIGC has conducted on PDF/X-4 processing compliancy. There are still issues, but hopefully most of them will be ironed out when the new GWG PDF/X Plus Specification of 2012 is fully implemented by the vendors.

OAA is the Open Ajax Metadata specification, an open source-based format for data exchange, especially for web programming. OAM is based (of course) on XML, and the different components of a publishing project can be packed into a compressed container, like the Adobe UCF (Universal Container Format) for XMP, used in all of Adobe's applications as the placeholder for metadata.

When it comes to metadata, the GWG have developed several specifications to help in sub processes in publishing, like job tickets for ad placement as well as softproofing. The work of the GWG is not so much about writing new standards or code, but to find best practices, using *de facto* standards which might already exist. For a specialised area like packaging this might mean that colour related metadata could be encoded using another XML-based standard, the CxF-format, used already in commercial applications like Pantone LIVE. For the GWG, it comes in handy that Esko is a member and that Esko is heavily involved in the future development of CxF and Pantone LIVE, together with Sun Chemical and X-Rite. Another cross-over between the GWG and ISO TC 130

is that CxF is about to be published as an ISO standard for colour metadata exchange typically embedded in PDF files.

But coming back to the core of the GWG, proper PDF-creation and validation (preflighting), in Ghent VIGC previewed a nifty little feature called VIGC Output Essentials, due to be launched in August. This tool is to be used in tandem with the live preflight function in Adobe InDesign, and in Photoshop. VIGC has used the new Adobe Configurator 3, to build a customised panel for live preflight, as a complement to the existing one in InDesign. The panel has two columns, the left for preflight related to web publishing and the right for preflights for print publishing. This is a small example of how the different members of GWG share knowledge and experience, not only with each other internally, but also in publishing those tools and settings publicly for anyone to use.

So if your ambition is to reduce the number of errors in document creation for your organisation, or you want to increase the level of automation in your workflow, we suggest that you use PDF/X in the first place, and learn from GWG how to best create and validate PDF/X files through the recommended settings for each and every application relevant for those tasks. The active members in the GWG, including single companies, trade organisations, and all the vendors, deserve credit for the work they put in – it seems to go largely unnoticed in our industry as a whole.

If you use the GWG PDF/X Plus already then watch out for new settings based on the GWG 2012 Specification, which will be published later this year! And also take the opportunity to attend any of the free seminars that the GWG arrange worldwide, often in conjunction with bigger trade shows. Using the GWG Best Practices might very well save time and money for your company!
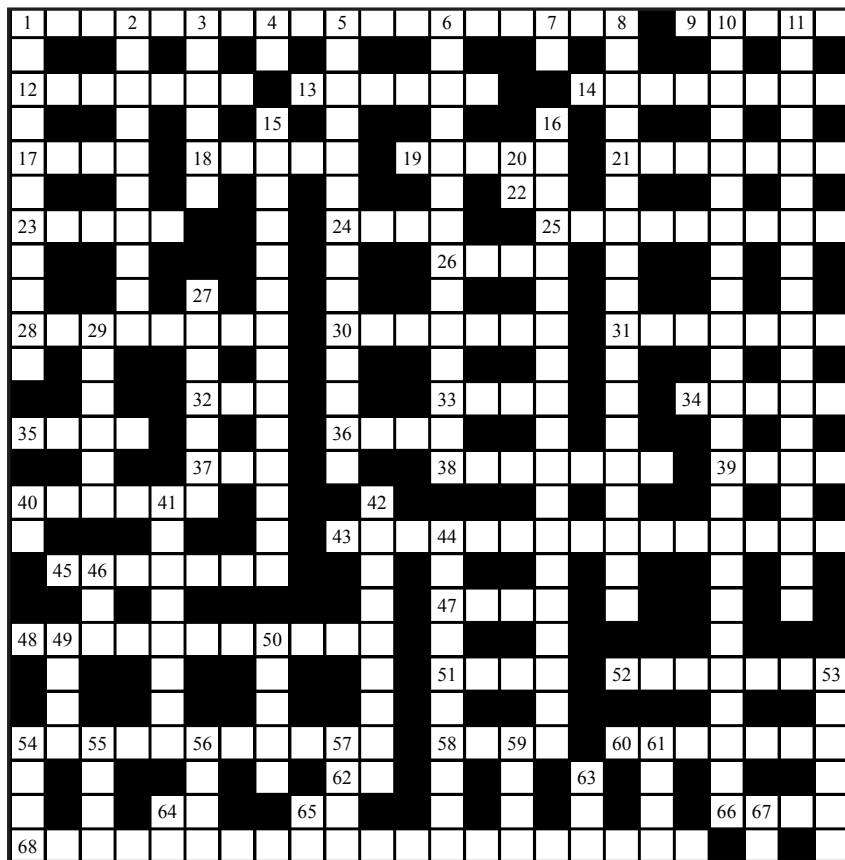
– Paul Lindström

X-word Puzzle

Number 38*

Remember the summer stretches long before you, so we thought we'd give you something to really get your teeth into. This puzzle took a while to create and we have to admit to getting a little off track occasionally (well actually more than occasionally). We hope you will enjoy it anyway. Have a great summer break.

Across

1. Boxing clever technology options and systems. (9, 9)

9. The basis of everything, from thought to execution. (5)

12. A poison rub intoxicates. (7)

13. Nutter on film. (6)

14. Something emitted. (8)

17. Not fat. (4)

18. Eighth letter of the Greek alphabet. (5)

19. Books at least need one. (5)

21. Outdated practice teasing. (7)

22. Bachelor of Arts. (2)

23. Betray or deceive. (5)

24. Not army or airforce. (4)

25. Besides technology, required to prevent bad files reaching the workflow. (9)

26. You're reading one. (4)

28. Something sticky. (8)

30. Not legal. (7)

31. Do this before anything else. (7)

32. Initial Public Offering. (3)

33. Small metal spike at your fingertips? (4)

34. Posh people an English slang. (5)

35. Bullets and such? (4)

36. Colour variant. (4)

37. Consume. (3)

38. Male word doctor. (4, 3)

39. A Japanese noodle. (4)

40. Of emails that depressingly long list crushes the soul. (6)

43. Reasoned, reduction, contraction, job losses all in one. (15)

45. What you need to protect your invention. (1, 6)

47. Successful printers fulfill it for their customers. (4)

48. Careless, undistinguished. (11)

51. Yummy, yes please, red or white's fine. (4)

52. Not this one. (7)

54. Do this by hand? Replace it with a wide format print. (7, 4)

58. When this value increases its the same as dot gain. (4)

60. Portent of ill fate? (3, 4)

62. The Common Era? (2)

64. Not you. (2)

65. After omicron and before rho. (2)

66. Not unduly fast. (4)

68. Nanography an example of? (3, 10, 7)

*Answers in the next issue

▶
Down

1. Paper makers would love it, oil companies wouldn't, the environment might. Put less attention so time is captured, not? (8, 3)

2. Solving a problem one of these always helps. Familiar worth? (5, 5)

3. What business and economics strive for. (6)

4. Negative. (2)

5. The talent to keep at it, topping the business agenda. (14)

6. Poor service misery for customers. (7, 7)

7. Yiddish for hey! (2)

8. Flexible sleeves or boxes even? (4-5, 9)

10. InDesign and Xpress for example. (6, 3, 10, 5)

11. Rub with oil a supreme Russian leader for rainbows under control. (6, 4, 2, 6)

15. Describing some UV prints, with low energy exposure. (3, 5, 6)

16. A tactic some printers use for dealing with tricky data files. Don't touch, pray. (5, 2, 5, 3, 4)

20. Note bene. (2)

27. Boundless it's not, Ltd. (7)

29. A tool reinforces home the point. (6)

40. Not down. (2)

41. Unwanted image content on scan or output. (8)

42. It's the direction pundits want to see and follow, in general. (4, 5)

44. Ideas and imagination and novelty. (10)

46. Print on demand. (3)

49. A valley in California noted for its wines. (4)

50. Lift up and increase. (5)

53. A refresher reminds, replaces and makes over. (6)

54. A pleb. (4)

55. My response to polite Japanese greeting? (1, 3)

56. Chances of 1:1. (4)

57. Style of movement a horse's paces. (4)

59. Offline, inline and alternative finishing. (4)

61. A crushing hurt excruciates. (4)

63. Affirmative. (3)

64. See 62 Across. (2)

65. Personal assistant. (2)

67. Somewhere between Malibu and Long Beach? (2)

Number 37 – Answers

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