I'm not Blockbuster Boy.

– Johnny Depp

Dear Reader,

Making promises is easy but delivering on them rather less so. As IPEX closed its doors last Saturday, it was clear that the organisers had done everything in their power to deliver on their promises. There were indeed 130 speaker sessions with 230 speakers, as well as 400 plus exhibitors and new announcements from important suppliers. Most announcements however, were in the business as usual category rather than being real block-busters.

Fortunately the news that the Konica Minolta KM-1 inkjet cut sheet B2 press goes into beta this year is very exciting. A senior executive from Tokyo told us there will be sites in Japan, the USA and in Europe. The KM-1 uses a revolutionary ink that apparently sits on the surface of the substrate rather than sinking into it, so the recyclability of its prints should be much easier. Interest in this press and its closest competitor, the Fujifilm JetPress 720, was high as expected: HuigHaverlag Printing in The Netherlands even bought the JetPress that was on the stand.

But it was hard to get away from the impression that IPEX's days of mass participation and market leadership are behind it. Perhaps this reflects the fact that the printing industry is no longer a blockbusting one having evolved into something more atomised and disparate. IPEX's heavy focus on content and networking have provided it with a strong foundation for survival. Ultimately the market will decide.

Enjoy!

Laurel, Nessan, Paul and Todd

In This Issue

Fespa Global Summit

Fespa recently held its annual Global Summit in Munich, which Laurel Brunner attended. The event was part of a Fespa program to help its members worldwide. Thus many speakers from various industries discussed their use of wide format printing and what they were expecting from Fespa members.

A new high-end monitor from BenQ

Paul Lindström has been testing a new monitor from the Taiwanese manufacturer BenQ. The PG2401PT monitor has a number of useful features that make it suitable for high end proofing work, as shown in this test.

Standards Moving Forward Ahead of Markets

ISO TC130, the technical committee developing ISO standards for the graphic arts, held a meeting during last week's IPEX show and discussed a number of upcoming standards. Laurel Brunner was one of the attendees and writes about the meeting and the work of the standards committee.

Regular Features & Special Treats

News Focus

Xaar has announced a new printhead, the 1002 GS6, designed to replace all versions of the 1001. This addresses newer markets, which now require better response and reliability. It's aimed at industrial inkjet applications, and in particular label and packaging markets. Richard Barham, sales and marketing director said: "We see larger and larger arrays being used, with machines over 2m wide in laminates so we wanted to make it easier for our partners to build these wide arrays."

Fujifilm has announced a new thermo-forming UV-cured inkjet ink, Uvijet KV, for its Acuity Advance Select flatbed printers. The ink has outstanding elongation properties of 300-400% when heated, returning to a 'normal' state when cool. Typical substrates that could be printed include polystyrene and PETG.

Heidelberg will start shipping an upgraded version of its Speedmaster CD 102 press this month. Heidelberg claims that it is ten percent more productive than the previous model thanks to features such as the Preset Plus Delivery. The range of substrates extends from thin, 0.03mm (0.0012 inch) paper to cardboard up to 1.0mm (0.039 inch) thick. The press is aimed at both commercial

and packaging printers in both emerging markets and industrialised countries.

Sun Chemical has partnered with **T+ink** to form T+sun, in order develop functional print solutions using conductive ink. This would be suitable for packaging, promotional items and for managing inventory systems, with the conductive inks replacing wires, lights and sensors.

Agfa has released v2.1 of its Apogee StoreFront web to print software. This makes it easier for business users to customise their web stores and adds support for Google Analytics to monitor buyer behaviour. For printer buyers there is a new order history search, which simplifies the reordering, correction and customising process.

Roland has launched a new UV flatbed printer, the VersaUV LEJ-640F, its first wide format flatbed printer. It has a print area of 1600 x 2500mm wide, and takes media up to 150mm in height and up to 200kg. It has CMYK inks, with white and clear for gloss effects.

WoodWing has updated its Enterprise software to version 9.2, which gains a new Wordpress connector that allows publishers and brands to transparently integrate WordPress as a new channel in their publishing and communication processes. It's now easier to repurpose content from Wordpress to other forms including social media, mobile, other CMS systems, in print and on tablets – and vice versa. It also supports Adobe InDesign CC and InCopy CC.

Chili Publish has teamed up with **A&F Computersysteme AG,** one of Switzerland's largest system integrators serving the graphic industry. A&F will use CHILI Publish's online editing solutions as part of its graphic production systems.

X-Rite has developed an app to add colour management to Apple and Android mobile devices. The ColorTrue app is a free download but only works with an X-Rite spectrophotometer. It can ensure that images stored in an X-Rite gallery on the device are colour matched to other colour managed monitors. X-Rite will develop an SDK to extend support to third party app developers.

Digital Information has announced SpectroPocket for Android, which works together with some X-Rite spectrophotometers to measure discrete colour patches on different substrates and display the recorded colour values on any mobile Android device. Measurements can be exported or imported as standard CxF (Color Exchange Format) format files, or transmitted to another Android device.

X-Rite has launched an X-Rite branded edition of ColorCert software, which is designed for process control and mainly used in packaging. The X-Rite edition integrates the eXact spectrophotometer and the cloud-based colour service PantoneLIVE.

Pantone has released a brand-new set of Pantone Plus Graphics Guides, which have an additional 84 new colours in a variety of hues and shades of pinks and purples and more vibrant blues and greens. The guides include over 1,700 spot colours which are now featured in a chromatic order making it easy to search for the right colour reference.

Kornit Digital has released its Avalanche Hexa six-colour system to the European market. This has red and green inks as well as CMYK and white and claims 30% more gamut than other textile printers. It uses a NeoPigment process that delivers intense colours and long term durability without needing any pre-treatment.

Callas has launched v5 of it pdfaPilot, an Adobe Acrobat plug-in. This now allows users to convert and archive emails in PDF/A format, including PDF/A-3. This version of the standard allows digital messages, including attachments, to be stored in a single archivable PDF/A document, which also includes the original-format files.

CGS has teamed up with Canon Solutions America to provide a subscription to the Oris Lynx cloud-based colour calibration system for ImagePress users. The combination, which has been called ColorLynx, gives users a single solution for profiling and maintaining calibration on these printers.

Jeff Clark, 52, has been appointed as CEO of **Kodak,** replacing Antonio Perez. Clark commented: "My first priority is to spend my time listening to Kodak's employees, customers, partners and other stakeholders as part of a detailed evaluation of our operations, market opportunities and approach for success." Clarke will also continue to work as chairman of Orbitz Worldwide, a global online travel agency

Agfa-Gevaert has published its figures for 2013, which show that revenue fell by 7.3 percent to €2,865 million. Agfa has blamed this on exchange rates, claiming that on a currency comparable basis, the decline amounted to 4.8 percent. However, the group posted a net profit of €49m, and net financial debt fell from €291m in 2012 to €217m and net pension liabilities were reduced by €313m, leading to a strong increase in equity.

Heidelberg has reorganised its Executive Management Board, with Marcel Kiessling leaving and being replaced by Harald Weimer who will be responsible for Services and Parts as well as Consumables and Re-marketed Equipment. The Heidelberg Executive Management Board now has just four members: Dr. Gerold Linzbach, Chairman, Dirk Kaliebe, Stephan Plenz and Harald Weimer.

Eckhard Hoerner-Marass is to step down as managing director of **Manroland** web systems. Uwe Lueders, CEO at L. Possehl & Co. GmbH, will take over his responsibilities, while Joern Gossé will take charge of the Sales, Service and Marketing divisions.

Kodak is to close its only UK plate manufacturing facility, in Leeds, starting at the end of this year up to late-2015. Kodak has instead invested in two other plants, at Osterode in Germany and Xiamen in China and is looking for a site in the Americas to produce its Sonora process-free printing plates.

Image Test Labs is launching its colour management and press grading process in the UK, following success in the US. This measures the acceptance of an image rather than the image itself against a well-defined, objective list of performance parameters. Users need only load the PDF target provided by ITL, print three sets on the press or imaging device, and mail two sets to ITL, which then produces a report.

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Meadows Publishing has updated its AutoPrice tool for Adobe InDesign CC, though it also supports earlier versions. AutoPrice is a plug-in for linking text and graphics in any type of database to InDesign documents. It extracts and updates data via placeholders within documents that are linked to records in any type of database or spreadsheet. It can also be used to instantly insert or swap out product pictures, logos or any type of graphic image.

A survey by the **British Printing Industries Federation** found that around 90% of 16-18 year old apprentices questioned said they would recommend an apprenticeship to a friend. This is backed up by employers, with 96% reporting benefits to their business from taking on an apprentice.

Gallus is to distribute Prati products in the US, which include slitting/rewinding, converting, finishing, and inspection machines. Gallus will also provide expertise, aftermarket services and parts to support the equipment from its headquarters in Philadelphia PA.

Agfa UK has partnered with MGI Technology, the UK distributor for French manufacturer MGI, to distribute its range of digital printers in the UK and Ireland. Agfa already distributes MGI products in a number of European countries.

EFI has released v3 of its PrintMe Mobile solution, which includes a collection of new features specifically designed for educational institutions, including Chromebook support and easy to deploy mobile printing on shared devices in the classroom.

Arjo Wiggins Creative Papers division has launched new digital papers for both liquid and dry toner printing across all its brands: Conqueror, Curious Collection, KeayKolour, Rives and Pop'Set. There's a new set of reference tools to help customers find the right paper, and a new compatibility chart. In addition, all these papers are FSC-certified.

News Analysis

Undoubtedly the highlight of the IPEX show was Konica Minolta's KM-1 inkjet press. This is still in its early development phase, and so not much has changed since we first wrote about this two years ago at drupa. The basic specs remain the same. It can produce up to 3,300 sheets per hour at a resolution of 1200 x 1200dpi. However, following early feedback Konica Minolta has enlarged the cylinder so that it now takes a sheet size of 585 x 750mm, equivalent to 6-up production.

It uses Konica Minolta printheads, with 64 in total. There are in-line sensors that monitor every sheet and it can map between missing nozzles. The press uses UV-curable inks, which means that it's suitable for a wide range of papers, without requiring special treatment. It's a four colour press, with apparently no need for additional spot colours because of the wide gamut of the UV inks.

Konica Minolta is now actively looking for a beta site, with a view to installing a beta machine at the start of 2015 and full commercial launch by the end of 2015.

Despite the emphasis on the inkjet press, Konica Minolta also showed off a new dry toner device, the bizhub Press C1100, which can run at up to 100 pages per minute. It will be launched later in the year and be aimed at the commercial print, print-for-pay and central CRD markets.

Konica Minolta also showed off a roll-to-roll label press, the Bizhub C70RLC. This uses a Konica Minolta dry toner engine and is a joint venture with Miyakoshi. It runs at up to 18m/min. It was shown as a technology demonstration at last year's Label Expo but should be available commercially later this year.

Konica Minolta also launched a new certified Carbon Compensation project where customers buying systems will be compensated for CO_2 emissions. Konica Minolta's own stand, including the machines on display, were also 'carbon neutral'.

Earlier in the year Konica Minolta bought a 10% stake in the French company MGI, which has made an impressive range of dry toner printers and digital finishing equipment, all using Konica Minolta engines. Both companies have said that they will cooperate on future projects and to demonstrate this Konica Minolta showed off a new MGI product, the JetVarnish 3Ds, which is a B3 version of the existing model that can add spot UV coating. It will be sold exclusively through Konica Minolta and should be a good complement to the Bizhub range of dry toner printers.

The company itself has only been involved in production printing for around ten years, which has mostly seen continual growth apart from a brief drop around the 2008-9 recession. According to figures from InfoSource, Konica Minolta has gained 54 percent of the Western European market and 65 percent of the Eastern European market. Toshitaka Uemura, general manager for commercial printing, attributed this growth to offering a service business and new print engines, adding: "We expect four percent growth every year for the next four years."

Driftwood

4D Printing In the Ascendent

The current excitement surrounding 3D printing is about to be seriously eclipsed by a new alternative, 4D printing. 4D printing combines the familiar three dimensions, with a fourth one and it brings some amazing possibilities to the graphic arts market. Scientists and mathematicians have developed the prototype of a printing device that can combine conventional and well-proven dimensions with the fourth. Despite centuries of effort and the ubiquity of digital clocks, the fourth dimension has so far been impossible to harness. The groundbreaking 4D work is, has and will revolutionise printing and publishing.

Bringing together all four dimensions into a single unified technology is the result of work done, being done and to be done using complex Burwasian mathematical space settings, combined with underflated deviation in the time/space continuum. The device currently being trialled and previously trialled for future applications is based on a Bowdenian Symmetry (BS) space event and is both space-like and light-like. The printing device, finely tuned, cheap to build and incredibly robust, can print colours with previously and futuristically possible accuracy. It uses special, relativity-generated colourants whose appearance can be tuned to match any target or source expectation.

Experts herald the BS printing device as a next (and previous) generation technology that makes it impossible for designers and print buyers ever to have different concepts of colour appearance. Special Mitigator Causal Transforms (MCTs) adapt colour appearance to the brain's expectation using clever algorithms to calculate colour values according to prior and likely requirements. These MCTs essentially compute colour values using 4D realities. Algorithms to accommodate disappointment and satisfaction factors can be included in the colour space validity renditions. Colour management is just one of many tricky topics the BS 4D printer can, will and did resolve.

Another is variable data content delivery and, of course, the choice of delivery channel. A very special inner product space, linearly independent, determinant formula means that content does not need to be created, but can be calculated according to the results a print buyer or advertiser expects. This is truly a breakthrough for the communications industry, and we look forward (and backward) to tracking the progress of the BS and the applications it supports over the coming months and previous decades.

IPEX Highlights

The highlight of the show was probably the KM1 inkjet press, which we've covered in News Analysis on page 5 of this issue. But there were a number of other things that were also worth noting.

MGI announced a number of new devices, including the latest addition to its Meteor range of dry toner printers, the DP 8700XL+. According to MGI this is faster, with better print quality than previous models due to a new thinner toner. The main difference is that it takes a larger

documents from 330mm wide to 1200mm long. There are seven basic tools for producing horizontal and vertical cuts, horizontal perforations plus three interchangeable tools for positive or negative vertical creasing and vertical perforation. It takes substrates up to 350gsm.

In addition, MGI also demonstrated a new iFoil device, an inline option for the JetVarnish 3D, that adds hot foiling.

The main alternative for digital finishing solutions comes from Scodix, which launched its new Ultra Digital Enhancement Press, designed for B2+ sheets. This uses a digital process to add glossing and embossing to prints on demand. It's aimed at both commercial printers and

The MGI Meteor DP8700 XL+

330x 1200mm sheet size. There's an XLS mode that can produce up to 18,330x650mm sheets per minute. Normal production speed is 4260 A4 pages per hour up to 400gsm and it can auto duplex up to 300gsm.

MGI also announced a new finishing unit, the DF Pro, which works inline with the Meteor range of printers. It can produce up to 4260 pages per hour and can handle

folding-carton packaging converters. Typical applications include stationery, business cards, book covers, premium packaging, marketing and promotional tools, greeting cards, and photo albums.

Xeikon has been steadily building up customers in the packaging sector and at IPEX announced a new business unit - folding carton - to complement the existing divisions

of document, labels and prepress. Xeikon already has a specific packaging configuration which includes clear toner in the fifth imaging station, and the company has now added a second choice to its dry toner range, including orange toner as standard alongside CMYK in order to ensure a wider colour gamut. Xeikon also announced a new Web Cleaning module that sucks dust off the carton, even though this does not interfere with the printing process.

Xeikon also gave us an update on its Trillium liquid toner printing press. This was shown at the last drupa as a simplex mono machine but Xeikon is about to install its first beta at TagG Informatique, a direct mail printer in Savoie, France. This machine will be 4/4 running at 60mpm. Indeed this company is so confident in the technology that it has already bought the machine. The full commercial launch will come in 2015 and is likely to cost around €2.8m. Filip Weymans, director of segment marketing and business development for labels and printing, says that it's not cheaper than inkjet but is comparable to a high ink coverage device.

LumeJet demonstrated an unusual digital print technology with its new S200 printer. The LumeJet technology has been designed from the ground up to exploit the proven, continuous tone quality of Silver Halide media and its extended RGB colour gamut. The S200 printer takes 305mm photographic roll paper for page sizes up to A3 landscape double-page spread, full bleed, including trim (1000 x 305 mm maximum) and produces very vibrant colour images.

Oki demonstrated its latest desktop A3 printer, the ES9541, which has five print channels for CMYK + a fifth spot clear gloss or white, which allows for special effects to be achieved at very low cost. Oki has also said that it plans to develop a production printer.

Intec launched its ColorSplash range, which is designed to print to envelopes and to add personalisation to finishing lines for direct mail. There's a four-colour CS4000 and five-colour CS5000. These can print on boards up to 400gsm thick, with white and clear toner, and there are specialist feeders and media stackers available.

Hybrid software launched a new software concept with the Cloudflow Suite. This takes a very lightweight approach to workflow, integrating existing products together rather than building a complete workflow from the ground up. However, it does include a Harlequin RIP.

Alwan announced its Color Suite v5, which now supports two new standards ISO15339 and ISO17972-4, which are both covered elsewhere in this issue. But essentially it's a set of tools that will allow print buyers and printers to define and assess aims and tolerances for the printing of both process and spot colours. Alwan has named it the McDowell Suite in honour of Dave McDowell of the ISO TC130 committee. We'll take a closer look at it in the next few months.

Green Shoots

Here is our monthly round-up of the Verdigris Blogs. We have come across some weird and wonderful environmental stories this month. They range from a compact power generator, through to the Indian government's idea to ban plastic bottles.

Gadgets for Geeks & Printers

A few weeks ago we got asked by a trade journalist for help with an article so, through slightly gritted teeth, we did our best to help the guy meet his deadline. His article was supposed to be a list of gadgets that printers could buy to help them be more effective. There was really only one way to answer - colour management, preflight tools, new presses, computer-to-plate equipment - the list of amazing tools the graphic arts development community has to offer is endless.

Gadgets indeed. If the question had been for gadgets that help reduce environmental impact, the answer would have been rather harder to find. But this set us off looking elsewhere beyond the graphic arts for environmental technologies that would benefit printers.

After much Bing-ing and Yahoo-ing, we came across a quite incredibly inventive company with a truly ground-breaking technology. BeFree, a UK start-up, has developed an integrated power generator that exclusively uses renewables, while remaining linked to the grid. The various energy generation methods are configured into a single generation and storage system that gets over the problems of intermittance that plague wind and solar.

The BeFree Independence personal power station is small and uses solar panels, wind and geothermal linked together to provide an energy resource that is greater than the sum of its parts. And the energy can be stored in the unit's batteries. There's also an internal water processing unit that recycles waste water, and harvests and processes atmospheric and rain water for subsequent use.

Verdigris

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

The system can be configured and scaled according to a business or individual's energy requirements. So for printers from gravure and high capacity web offset down to the tiniest SME running a digital press, the Independence is a source of private energy. How much this technology costs depends on the configuration, but the utilities savings and independence from mains electricity will soon pay for themselves. BeFree's Independence is obviously attractive for a printing company (and any other) that wants to cut energy costs and emissions. It should also be attractive to companies who want to be able to demonstrate commitment to corporate social responsibility and environmental policies.

This technology is especially relevant in markets where there is lots of sun and limited water, such as Africa, India and the Middle East. It's a technology that provides independent and standalone energy supplies and an efficient means of water processing for only the cost of the machine. The Independence is one of the most impressive new technologies we have seen, a printer's gadget that starts paying back the moment it starts running. There aren't many graphic arts technologies you can say that about. See befreepower.com for more information.

Pulp Fiction

We recently came across an environmental story that is just too good to be true, and yet it is true. It seems that in every mile of the M6 Toll motorway in the UK there are 92,000 pulped copies of Mills & Boon romantic books. A novel approach to reuse indeed!

Mills & Boon has built its reputation on slushy tales of romance; however, millions of unsold copies of the publisher's books get returned every year. The unwanted copies are sold on to recycling companies, where they are pulped for subsequent use. Tarmac Central, the company that built the road, used the pulp to improve the road's quality.

The pulp was supplied by a local recycling plant and is mixed in with the tarmac and asphalt to provide the final top layer of the road surface. The addition of the pulp helps to make the road more solid and prevents splitting. It also provides sound absorption. And it is expected to help the road surface to last longer with reduced repair rates and congestion due to road works.

This is by far the most unexpected use of recycled pulp we have come across. The pulp has apparently become a vital ingredient for road construction, reflecting the rising interest in recycling worldwide. Tarmac, with or without the

The pulp has apparently become a vital ingredient for road construction, reflecting the rising interest in recycling worldwide.

added pulp, can be recycled and there is a healthy market for it in developing countries, particularly the tarmac scrapings removed during road resurfacing. Raw materials based on virgin resources are often more expensive than using recycled materials. They also may bring additional benefits, such as the absorbency of pulp that can prolong the life of a road surface.

This is of course not an argument for the wanton production of books that no one wants to read. Mills & Boon is only one of many publishers still working to a traditional printing and publishing model, producing many more copies than they need in order to cover all distribution bases. However, it is an argument that supports paper's sustainability credentials. This idea of adding pulp to tarmac and asphalt

is just one example of many for reusing paper once its life as a publication is over. iPads and laptops can be refurbished for subsequent reuse, but they're unlikely to make any great contribution to road quality.

PET Peeves

Polyethylene terephthalate, otherwise known as PET, is used in packaging worldwide and is readily recycled. PET provides the raw material for bottles and containers and for all sorts of food packaging, and can even be used for paper making. But in India there is a bizarre recommendation that the government should ban the stuff.

Bottles made from PET are widely recycled and are easily identified with the universal recycling triangle. PET is used for drinks, soaps and cosmetics as well as edible oils and medicines, making it just about the most commonly used consumer plastic on the planet. Recycling supply chains are well established and proven and in some countries, such as Sweden, there is even a container deposit scheme to encourage container recycling including PET containers. The Swedes were just one national cohort contributing to the 7.5 million tonnes of PET collected worldwide for reuse in 2011.

But the Indian government doesn't seem very interested in the success and proven safety of the use of PET in the market. The test base for PET is its successful use over many years as a packaging material in all sorts of markets. There is a paucity of evidence that PET is in some way dangerous. Yet when it comes to packaging pharmaceutical syrups and liquid medicines, the government of India wants to ban its use, based on the suggestion of the government appointed Drug Technical Advisory Body (DTAB).

The board members want an immediate ban because of potential health risks possibly arising from PET's possible instability under extreme temperatures. Their request for a ban is based on supposition rather than on proven facts, on fears of possible leachability of PET's chemical components under extreme temperatures. This fear is reasonable enough except that PET is noted for its high heat resistance and chemical stability. It is resistant to

acids, oils and fats, and even some solvents. PET is also used in baking bags.

There is no scientific evidence that PET packaging poses any risk to health. On the contrary there is plenty of evidence worldwide that PET does not, even in countries where temperature extremes are the norm. In Saudi Arabia Savola packaging does a thriving trade providing PET packaging to the Middle Eastern market.

If this ban goes ahead it will inevitably add to the cost of medicines in India, and may encourage the use of packaging materials that cannot so readily be recycled. India does not need regulations based on specious fears but instead should be encouraging the use of cost-effective materials for which there are proven recycling supply chains.

April Blooms

Hostilities between the WWF and Asia Pacific Resources International Limited (APRIL) are not about to cease, but tensions may be lessening slightly. The WWF has announced that it welcomes APRIL's recently launched Sustainable Forest Management Policy (SFMP). This policy commits APRIL to forest conservation efforts in "areas equal in size to its plantations". This is quite an undertaking and one that apparently sets a new standard for Indonesian pulp and paper companies. It looks like the WWF reckon that APRIL's policy is bolder than that of its rival Asian Pulp & Paper (APP). Together APP and APRIL are responsible for mass destruction of huge areas of Indonesian rain forests and habitats.

The complexities of APP's Sustainability Roadmap and its Forest Protection Policy are beyond the bounds of a humble blog. Suffice to say APP is doing much to make amends for past environmental misdeeds, and seems to have set an example APRIL wants to follow. APRIL's new policy commits it to a moratorium on clearing forest concessions that have not been independently assessed for their conservation values. Although APRIL's policy only applies in Indonesia, it also commits the company to engage with other pulp companies in the Royal Golden Eagle Group (RGE), APRIL's owner. These others are Asia Symbol a pulp producer in China, and Sateri which operates in Brazil and China and uses pulp to produce various specialty products, ranging from baby wipes to tyre cords.

APRIL's new policy also commits it to support a pilot study to develop a common basis for assessing and protecting High Carbon Stock forest and peatlands. If this ever happens and if it has teeth, such a framework will be extremely valuable in Indonesia and elsewhere. An assessment framework provides a model for countries such as Vietnam and Thailand where there are unprotected trees aplenty and where APP and APRIL are turning their voracious gazes.

The bad news is that the policy does not cover commitments to use only plantation wood in the APRIL mills in Indonesia until 2019. This is a long time in logging years. Far better for Indonesia would be a commitment to stop using tropical forests completely. A cynic might think that by 2019 there won't be enough forest left to worry about and that neither APP or APRIL really give a toss about forest preservation. Sustainability policies are however a necessary part of doing business these days, which is why APP has gone to such lengths to develop its Sustainability Roadmap. Even if APP completely reneges on it, in prompting APRIL to come up with something similar the initiative may have done some good. You can find the APRIL and APP policies here:

http://www.aprilasia.com/news/APRIL%20 SFM%20POLICY.pdf

http://www.asiapulppaper.com/sustainability/ vision-2020

For more green news, check out The Verdigris Project:

Verdigris

http://verdigrisproject.com

An Interview

Wim Maes, CEO of Xeikon

Whilst at IPEX we sat down to talk with Wim Maes, CEO of Xeikon. The company recently changed hands with Bencis Capital Partners now owning the majority of shares along with the investment fund Gimv-XL. Maes, who had previously been CEO, was persuaded to come back to run the company.

Apart from its digital presses, the company is still active in prepress. Maes explains: "Last year our revenue was €120m of which €100m was digital and the rest

have given Thermoflexx some advantages in terms of automation.

He says that Xeikon's strategy is to focus on particular market sectors, which includes direct mail and documents and packaging, which is "almost all labels" and has seen some notable growth for Xeikon recently.

However, Xeikon did not show a Trillium press, though clearly this liquid toner technology has the speed and print quality to help Xeikon compete against the high speed inkjet presses. However, Maes says that the liquid toner will not be used to replace dry toner. Instead he says that the Trillium will help grow the document market for Xeikon, noting: "We already see a lot of interest from the

The BasysPrint CtP devices, such as this 860x that was on the stand at IPEX, work with UV sensitive plates.

was prepress." The prepress side is split in three parts: newspaper technologies, sold through Agfa on an OEM basis; BasysPrint, which uses UV-sensitive plates and is stable; and Thermoflexx, which has doubled its revenue from 2012 to 2013. Maes says that Thermoflexx has offered customers an alternative to the Esko system that dominates the market but that the recent additions

market in using Trillium in areas like photo book printing, catalogues and magazines so that we see that Trillium will open these areas."

The Trillium uses the same imaging heads as the 8000 series but the liquid toner is an inherently faster printing process than dry toner. Thus the current Trillium runs at

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60mpm but although Xeikon has said that it could double this to 120mpm by introducing a new imaging head, that doesn't necessarily mean that the dry toner machines will become any faster.

Maes claims that despite the appearance of inkjet label printers, Xeikon has grown its share of the label market from around five percent to 25 percent "so that proves that we have a good product but sometimes it's about having marketing and sales resources."

He continues: "But in the label space we see that inkjet has stuck around 25 percent and we don't see that growing." He says that toner offers better quality adding that image quality is very important in the label market.

"In the document printing world we have seen big volumes go to inkjet, typically for statements and invoices. With Trillium we will get more and more volume back to toner."

As for the Trillium technology itself, it's widely known that Xeikon acquired the technology from Research Labs of Australia, and that Miyakoshi had also licensed this technology. However, although Miyakoshi has demonstrated a liquid toner press Maes points out that it has not been commercially released yet and says that Xeikon owns the technology.

The first Trillium beta press is due to be installed later this summer at TagG Informatique, a direct mail printer in Savoie, France, that has already bought the printer outright, proving Maes claim that the image quality, coupled with the speed of the press, will give it a unique advantage in its target markets.

Did You Know?

Key ISO standards updated

One of the most commonly used ISO standards within graphic arts production, the ISO 12647 series, has recently been substantially updated.

While some might argue that there hasn't been much change in litho offset technology of late, which is a mature and stable print technology, a closer look at the new version reveals some significant changes which will be useful.

'coated' and 'uncoated', was considered for simplicity, the new version actually introduces eight paper types. The selection of which paper types should be included is based on research done by paper manufacturers, and the paper types chosen reflect those that are popular in the market, and where the characteristics are so different that it's necessary to use a unique ICC profile for the paper.

In practice, most printing houses will still decide which paper types are most common in their print production, and select only a few to be the default choice for ISO compliant print production. At the moment the FOGRA characterisation data sets FOGRA 39 for coated paper and FOGRA 47 for uncoated paper are commonly used

The ISO standards for graphic arts production are developed and updated by TC 130. Here, a picture from the recent spring meeting, held in London during the IPEX exibition. In the centre (the elderly gentleman with a grey-bluish woolly jumper) 'Mr Standards', David McDowell, who retired as the head of the US delegation as well as convenor of Workgroup 2 (Prepress data exchange). McDowell has served the ISO standards work since 1989, which means he can retire looking back at 25 years of diligent service. Many of us are grateful for his contributions.

Perhaps the most urgent need was to establish the use of CTP in the process, and strip out any references to older prepress technologies using repro film. The 2007 version of the standard actually assumed the use of repro film as the default, and this is, of course, totally out of date today.

The other big change is that the paper types have been modified and expanded. While the option to reduce the number of paper types from five to two, keeping only

as the base for ICC profiles, but those will need to be replaced by new characterisation data sets currently under development.

This leads us to the next big change in the ISO 12647-2 standard. This is the introduction of the M1 measuring mode as of ISO 13655 standard for spectral measurements, updated in 2010. The M1 mode uses the UV part of the light spectrum in the analysis of the

measurements, crucial when trying to detect the amount of OBA (Optical Brightening Agents) in the paper. The use of OBA has increased over the years, particularly in uncoated stock, and new ICC profiles need to be made from measurements using M1.

For FOGRA, this means that it needs to evaluate how new datasets behave, and when it is comfortable that the colour data sets work as expected, it will publish new FOGRA references for the new paper types. At the moment FOGRA is concentrating on a new reference characterisation data set for coated paper that will be numbered 51, and one for uncoated paper which will be given the number 52.

But as before, any printing company can of course make its own profiles, custom made for the paper type at hand. To be ISO-compliant though, the final print will need to be towards the aim values of the ISO standard, and colour deviation and variation should be within the tolerances in the standard referred to.

There are other parts in the ISO 12647 series that have been updated more or less simultaneously with part 2, such as part 3, for newsprint, and part 1, Parameters and measuring methods. The flexo standard was dramatically updated in 2012, and is about to be widely implemented.

But a printing standard on it's own is of limited use, if other key parts of the process aren't also standardised and optimised. TC 130 is about to release several updated standards including one for softproofing.

Currently there is a standard for high-end graphic arts monitors, ISO 12646, but a monitor is not used on its own – it's normally used in tandem with a viewing booth and a softproof viewing software. The upcoming standard ISO 14861, combines the demands specified for quality monitors, the ISO 12646 standard, with the standard for viewing booths, ISO 3664, to specify how a complete softproofing system needs to be setup for a controlled and optimised proofing environment. This is important if you want to replace hardcopy contract proofs with electronic softproofs.

Another standard that has come close to release is ISO 17972, a colour data exchange format. This is based on what was formerly X-Rite's proprietary colour format, CxF, but has now become part of the ISO open standards work. The colour data exchange will be based on spectral data with the addition of the metadata that describes how the measurements were made. This will be of importance to, for example, packaging printers who normally print with more than the basic process CMYK colours. The ISO 17972 standard will offer better predictability of how spot colours will be reproduced, including solid spot colours as well as gradual tints.

There is also work on standards suitable for different digital printing processes, such as the upcoming ISO 15339 standard, Printing from digital data across multiple technologies, which has a reference to an "extra large gamut", can be useful when trying to optimise and standardise high quality photographic print.

For now FOGRA 39 is often used as a reference for many types of print, but actually only has a colour gamut of about 400,000 colours. A 12-colour inkjet system has roughly double that colour gamut, and it would be silly to reduce standard print from such systems to the limited gamut of offset on coated paper. This is not what standards should do. Instead they should help print providers to offer high quality print in an efficient and quality managed process, to reduce errors and waste, and so offer profitability both to themselves and their customers.

The updated version of ISO 12647-2 will hopefully fit better with best practices in the printing industry, and the standard will continue to play an important role as a reference in standardised, quality print production.

Fespa Global Summit

Fespa's annual Global Summit took place recently in Munich where the full-on Fespa 2014 exhibition happens in a few weeks time. The summit is an annual exclusive event that brings together innovative printers and manufacturers for two days (and nights) of intensive networking.

The Global Summit is part of Fespa's Profit for Purpose programme which reinvests the organisation's profits back into the industry for the good of Fespa members worldwide. Under the scheme Fespa has invested €3.8 million back into the industry. The Global Summit is about talking heads, ideas and identifying new business opportunities.

The success of any event depends on organisation and content, and creating a highly dynamic atmosphere. Fespa's events team did a fantastic job to achieve this. The Fespa Global Summit combines a diverse audience and varied presentation topics, with excellent opportunities to chat with fellow delegates.

Steven Althaus, director of brand management for BMW and marketing services for BMW Group, gave the Global Summit Keynote presentation. He was even more interesting for presenting a couple of hours later than planned, following the launch of the new BMW X4, and after delegates had downed a glass or two. His presentation echoed the requirements of print buyers worldwide: that marketing must pursue any and all media channels to get its messages understood in the marketplace. Marketing is about ideas and imagination, and about making a connection with customers and prospects so it must operate across mutually supportive channels.

He reminded Global Summit delegates that print is an important part of the media mix, but it's not the only part. BMW buys 1.9 billion pieces of print every year including print-on-demand, signage and other forms of print. How that print gets used depends on marketing goals because it is part of a complex strategy to communicate and reinforce the brand and its values.

About the Brand

BMW takes brand very seriously and even has a special training facility dedicated to its appreciation. Althaus says that "the Brand and Customer institute … is about the business" because it is where BMW provides group employees with in-depth appreciation of its brands, customers and markets worldwide. The market now drives product development instead of engineers coming

Steven Althaus, director of brand management, BMW.

up with products that marketers then have to promote. This reflects how consumers behave now that online media allows them to participate to extreme levels in supplier/customer relationships.

Online conversations allow consumers to inform product and brand development and for BMW this is fundamental. As Mark Cruise head of print management for Sky had said in an ealier session, it's about "people getting want they want, where they want it and how they want it".

Althaus believes that dynamic and interactive mass communications are changing how brands develop their offerings, and inevitably this affects their relationships with the printing industry. In a multi-option world, getting people to make the choice a brand wants them to make is hugely complicated. It is especially hard because of the massive range of choices consumers have.

In BMW's case alone by 2015 there will be 83 car models including Rolls Royce and Mini. All of these have to be presented in ways that are meaningful for their target markets. Obviously print plays a role, but it is not the only channel. Clever printers come up with ideas that use print to leverage and reinforce the strengths of other media.

To sell a new car such as the X4, due for release to market in 2015, BMW will use print, online media and an iPad app. Althaus's message to printers is that "we wait for good ideas from you guys". He suggests that ambitious printers should work with motor shows in order to get more business and to develop ideas for the car industry. Ideas are what sells product, and they are central to the BMW model. He went on to say that the "innovation attitude, I believe, is a conscious attitude" and we can "learn from failure because boy did we make mistakes on the i3".

Soft Options

Althaus says that there are several strategic principles that BMW follows in developing brand appreciation based on a "trend from focus of owning a car to using a car. Across industry [we see] a shift from a wholesale to retail perspective … and we see a shift in the business model from hardware to software. The software in a car is of increasing importance." How this gets communicated depends on print as well as all other channels to nurture the relationship between customers, the brand and dealers because "joy [is] at the heart of the BMW group brands". Thus Althaus is fostering multichannel marketing campaigns with strong digital focus to "get people to drive the car", which is the ultimate interactivity.

This is about communicating in a way that is meaningful for the target audience. For instance, BMW's i3 electric car is being marketed to the e-community, with messaging based on the story behind the car and its holistic sustainability. Althaus says: "It's not marketing, it's simply facts". The car uses 50% less energy and 70% less water than its closest competitor and is built using 100% renewable energy at the BMW plant in Leipzig, Germany.

This is important information for the new target groups BMW wants to reach for the i3: those who have previously chosen not to buy a BMW. Althaus says this has required "a step change into how we looked at marketing" because

"we had to reinject the different insights coming from the customer into the product". Marketing across channels allows BMW to do whatever it takes to get prospective customers behind the wheel. What this means for print, including commercial and wide format, is that ideas and media integration should be driving business growth.

Growth

Business growth was a common theme throughout the Fespa Global Summit sessions, with most speakers seeing rising optimism amongst printers. Textiles were frequently cited as a new growth market, with decoration

Members of the audience at Fespa Global Summit come from a wide range of backgrounds.

in hot pursuit. That digital technologies are invading both spaces was undisputed however, conventional printing methods are still preferred for long runs because of consumables costs. Digital inks and toners are still priced too high to convert long run work to digital. There is a widespread assumption that quality is a given, which suggests that printers who cannot guarantee their output quality must improve processes.

Inevitably, mass customisation of textiles and decoration will drive the shift to digital, particularly once consumers get the habit of changing curtains and cushion covers on a whim. Laminates and surface coverings not made of original materials are a means of keeping up with changing trends and cost sensitivities according to Felipe Araujo of Egue & Seta corporate image and interior architecture designers. He went on to say that digital wide format printing can "simulate to stimulate".

Social media plays an important role in driving such on-demand applications; however, according to Mark Cruise of Sky "print is working better than some of the digital avenues". Service providers must be prepared to invest in making print ordering mindless and as idiot-proof as possible, particularly for colour work. Neil

Folker Wrage of Wrage und Antwort advertising agency.

Falconer, a consultant speaking at the summit said "[the] knowledge leaders in the industry will be marketing IT lead businesses to differentiate themselves from traditional print". However, as Folker Wrage of Wrage und Antwort advertising agency said, "creativity should be a part of every aspect of your business".

Combining IT awareness with print knowledge is already the basis for some very successful wide format printers, many of whom have extremely creative business models. Cactus Imaging in Australia, for example, pretty much owns that billboard market which is growing at around 7% per year. According to founder Keith Ferrel, Cactus is the "largest large format printer in the Asia Pacific region". This company has all manner of kit but also does its own development. For instance, the Cactus finishing system can finish a 42m² billboard in three minutes, and process automation means Cactus can offer a less than eight hour turnaround. It has customers in Thailand and Vietnam, plus one customer in Pakistan buying 500 billboards per month.

Ferrell says that he owes his success with Cactus to its people, noting that "You're only as good as your staff," as

well as his industry knowledge. For Cactus the secret is in a stable staff base, face-to-face selling (ie not social media) and technology and IT investment.

The Cactus Production System is a home-grown MIS for tracking, measurement and control. As Ferrel says, "I'm a firm believer [that] if you can't measure it you can't manage it". He has a full time IT manager and a half dozen people who work on keeping the MIS and production systems up to scratch.

Cactus' biggest client has 26,000 sites each of which is numbered in the system so order entry is highly efficient. Cactus also does extensive substrate testing to check materials for their receptivity to inks and performance producing comprehensive reporting on product performance to help customers with substrate choice. There are no paper billboards in Australia so this work is exclusively for vinyls.

Rag Trade

Digitally printing onto textiles and decorative materials has massive potential. Mark Gervais is director of screen print for Shenzou Knitting Company, the largest knitware manufacturer in China serving major brands including Nike and Adidas. It has 52 screen printing machines printing 100,000 m² per month and is moving beyond 2D to 3D and functional graphics printing. This includes augmented reality with image recognition software built into clothes, so that garments become functional and trigger applications such as reminders to take medicine or to get some exercise. These tools can be used, rather creepily it has to be said, for predicting customer behaviour. Mark Gervais also sees huge potential in apparel customisation with a web-based business with investment into colour management and standard production models.

Shenzou has already tested this concept but did not launch it, though as Gervais notes: "We have an immediate need for direct digital printing". The company produces 50 million metres of printed textiles that are used for 30 million garments per year. Digital technology allows them "to produce more looks into the market" for customers so "we're going to be growing into digital" gradually starting with 10% of the 50 million. Gervais adds: "I am sure the

machine we buy this year will be replaced or upgraded with the machine we buy next year". Even producing only 10% of the total he estimates will require a herd of digital printing devices printing 1000 metres per hour, 24 hours for 200 days. An opportunity for machinery suppliers and for brands indeed.

Another speaker was Barry Forester, managing director of Standfast & Barracks, a textile and wallpaper maker that has been into digital fabric printing for eight years. He also sees opportunities for digitally printed wallpaper. This traditional screen printer has been trading for 90 years and prints three million metres per year, 65% of which is for home furnishings. Standfast & Barracks prints up to twenty colours on rotary screen printers, plus two flatbed printers that print up to 24 colours onto cotton, linen, wool, silk and some polyesters.

The company competes on the basis of its production skill and design expertise. This year Forester expects the company will print over 500,000 metres of fabric digitally. The technology has fewer technical restrictions, offers more creative freedom, is more timely and cheaper, and things can be done digitally that are impossible, in terms of design, with conventional methods. That said, conventional still has the edge for long runs because of consumables costs and digital reactive dyes have inferior light fastness.

21% of visitors to Fespa 2013 were interested in textiles, so it is expected that this application will get a boost at Fespa 2014. The show will have over 400 exhibitors organised around four content hubs: digital, fabric, wrap and signage to make the show easier for visitors to negotiate. There will be free technical seminar sessions in German and English sessions covering workflow, web-to-print, colour control, and various other topics. As Fespa CEO Neil Felton says, the "key to all of our shows is content". Content drives ideas and insights that printers and publishers can apply in their businesses. Fespa's

commitment to ideas, both at its exhibitions and through its Profit for Purpose programme, is helping to push the graphic arts industry forward.

– Laurel Brunner

A new high-end monitor from BenQ

The number of manufacturers of high-end monitors has shrunk in the last few years, despite the intense development in monitor technology. But now the Taiwanese manufacturer BenQ has entered this exclusive group with the Pro Graphic series of monitors.

The first model in this suite of monitors, all capable of full hardware calibration, is the PG2401PT. Calibration is done through the Palette Master software, which is an enhanced version of the X-Rite i1Profiler calibration software. BenQ has extended the core of i1Profiler so that it can perform a true hardware calibration, as well as a series of validations, for example, of the uniformity of the monitor.

The PG2401PT uses an IPS panel, where IPS stands for In Plane Switching LCD panels, and this should guarantee that the appearance of the colours doesn't depend on the screen viewing angle. Combining true hardware calibration and large colour gamut as well as using an IPS panel makes this initiative from BenQ very promising. BenQ monitors so far have been promoted as being flicker free and with good ergonomics, and now BenQ has added a monitor for high end retouching and softproofing to its portfolio.

There are five main criteria to look for in a monitor that is to be used for colour critical work. The first is to ensure that the monitor has a large enough colour gamut to match the printing condition you want to proof. A good rule-of-thumb says that if a monitor matches the gamut of Adobe RGB, preferably with some margins, it will also match the gamut of offset-based printing on coated quality paper. If you want to match spot colours you need a slightly larger colour gamut than that of Adobe RGB. The BenQ PG2401PT is said to achieve 99% of Adobe RGB, so should be good enough for proofing offset printing, and since in some areas it actually exceeds the gamut of Adobe RGB, it

will be able to reproduce many of the spot colours, often used in packaging production.

The second criteria to check is that the monitor has a high enough brightness and contrast to match conditions in a viewing booth. While most LCD-based monitors can achieve quite a high brightness of 300 cd/m² or more,

The BenQ PG2401PT is an IPS-based monitor that can be hardware-calibrated using the Palette Master software.

you need to reach up to about 700 cd/m² to really match the brightness of a viewing booth. The PG2401PT has a maximum brightness of 350 cd/m², so like most other proofing monitors you need to dim the light in the viewing booth slightly, if you make side-by-side comparisons between prints or hardcopy proofs and the softproof on screen.

The third, and perhaps the most critical aspect, is to be able to do a full hardware-based calibration of the monitor. This term is often misunderstood, and compared to doing a software-based calibration. In reality we, of course, always use software to perform the calibration, and hardware-based calibration doesn't only mean that we use a measuring device in the calibration process. What's important here is that the monitor can be fully controlled by the calibrating software, so no manual intervention
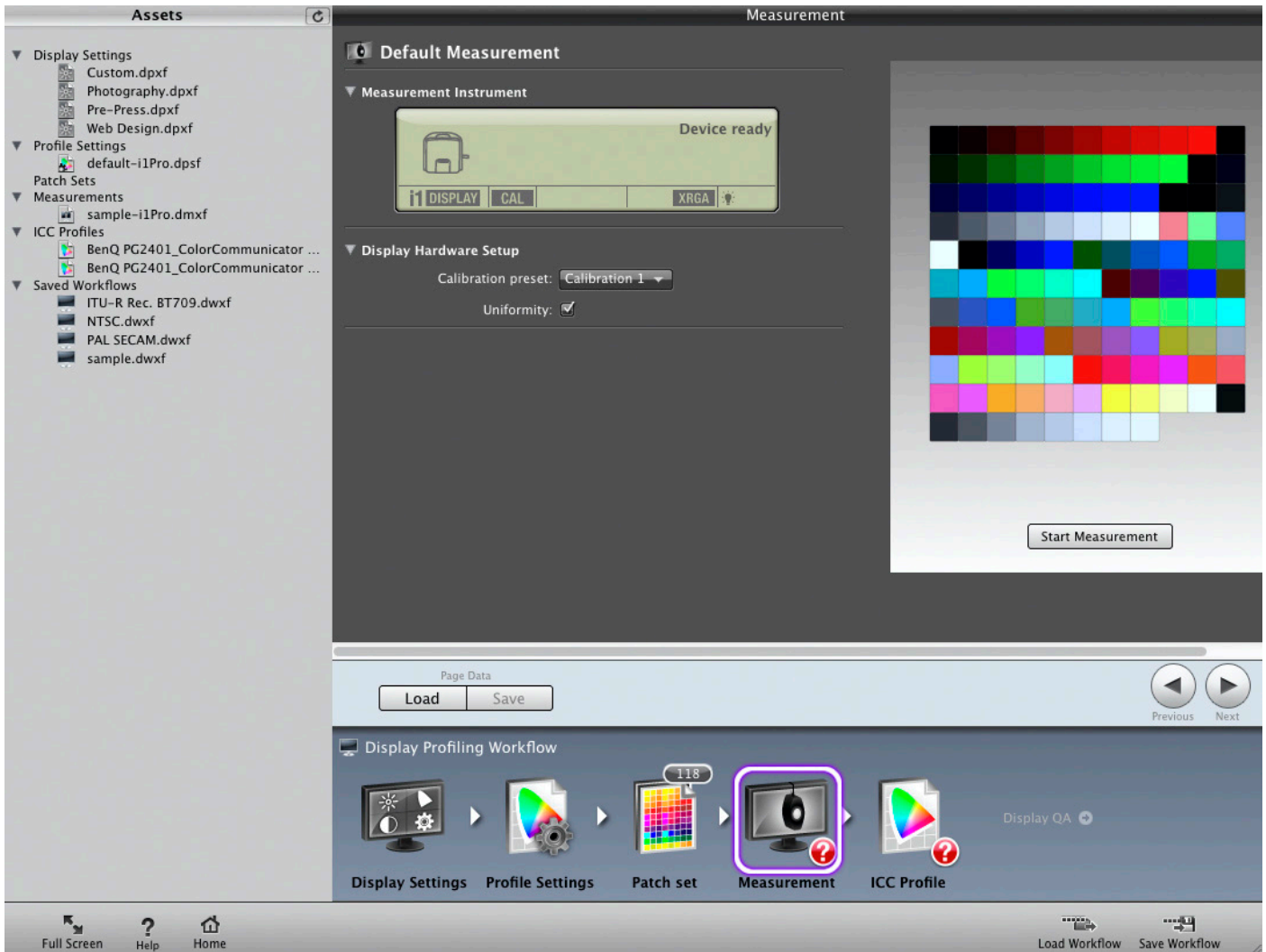
BenQ uses the X-Rite calibration technology as the base for the Palette Master software, but has extended this to be able to perform true hardware calibration. It's also possible to switch on a function that enhances the uniformity of the screen.

is needed from the operator, once the settings have been decided on.

The calibration should also be made with 10 or 12-bit signal processing, to achieve a smooth gradual tone reproduction, and high level of accuracy. The PG2401PT is calibrated through the Palette Master software and connected to the monitor through a dedicated USB cable. The video signal can come through the DVI, HDMI, or the Display Port (there is also a VGA port, but this shouldn't be used for high end work). BenQ provides this calibration software for both the Mac and Windows platforms, and it supports most of the common measuring devices on the market.

A fourth point to investigate is the uniformity of the monitor, so the colour reproduction across the whole monitor surface is stable and even. Only monitors built to tight tolerances will pass this test. The PG2401PT was a bit on the edge here, at least in the very dark grey areas, where it had a maximum deviation of 10% across the surface. This should ideally be below 10%. BenQ offers a special solution in the calibration process to try and improve the uniformity, but if you activate this you limit the maximum brightness somewhat, to around 130-140 cd/m^2. We prefer to calibrate a softproofing monitor to around 160-180 cd/m^2, and didn't find that the uniformity function made much difference, so switched it off.

The fifth criteria, often overlooked, is that the appearance of the colours has to be independent of the viewing angle you use. Since the PG2401PT uses IPS panels, the colours shown don't vary with the angle that you look at the monitor, and this is very good.

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Table 1: Colour gamut

Model	Total colours at D50	Total colours at D65	% of Adobe RGB at D50	% of Adobe RGB at D65
Adobe RGB 1998		1208000	N/A	100
BenQ PG2401PT	1280000	1344000	106	111

Table 2: U-DACT validation and viewing angle

Model	Multi Color	ISO 12647-2*	Uniformity (av)	Uniformity (max)	View angle (1-5)
BenQ PG2401PT	Yes	Yes	2%	10%	5

* ISO 12647-2 Offset printing on coated paper

Table 3: Specifications

Model	Screen size (inch)	Resolution	Price EU (approx)*
BenQ PG2401PT	24	1920x1200	1000

*VAT excluded. Calibrator not included in the price.

An additional and sort of given criteria for professional image editing is that the monitor should be equipped with a hood to screen off incoming light. BenQ has acknowledged this, and the PG2401PT comes with a custom made hood, with a practical little opening at the top for the measuring device cable.

How the test was done

We test four of the five main criteria using the UGRA U-DACT v 2.0 analysis tool, while view angle sensitivity is tested through visual evaluation of a test form developed by Digital Dots. We give marks between 1 and 5, where 3 means acceptable view angle sensitivity, and 5 means the colours and tone values don't change their appearance even if you move sideways or up and down in front of the monitor.

The colour gamut is calculated using the Chromix ColorThink Pro software, where the total number of colours is extracted from the ICC profile. Monitors at or above the gamut of Adobe RGB will also do well when doing softproofing of spot colours and multicolour printing.

The results in numbers

Our test results are summarised in Tables 1-3. For colour gamut we use Adobe RGB as the reference, since it's usually the preferred reference among professional photographers. But Adobe RGB has a white point close to 6500K, and for softproofing prints according to ISO standards you should calibrate the monitor to the D50 standard whitepoint (5000K). So we show the results after having done calibrations to both of those common white point references.

BenQ has really thought of everything that is important in a high-end monitor – IPS LCD panels, a large colour gamut, true hardware calibration, validation to different relevant standards, also verified by the UDACT analysis tool. The uniformity can be an issue – you should ideally be well below 10%, but if BenQ can ensure that it only uses panels that are checked for high uniformity, the PG-series will be a worthy challenger for the other monitors in the high-end section of this market.

– Paul Lindström

Standards Moving Forward Ahead of Markets

ISO TC130, the technical committee developing ISO standards for the graphic arts, recently met in London. This was a working group meeting to move a whole range of standards forward and to discuss ideas for new ones.

Our involvement with this work is well-known, particularly for standards relating to the environment and sustainability which are developed in Working Group 11 (WG11). In London, WG11 considered ideas for improving ISO 16759 (carbon footprinting of print media), paper profiles, and standards relating to deinking. This is a topic close to the hearts of many developers, particularly those in the inkjet printing business.

Deinking is inextricably linked to the recyclability of print, however there are as yet no universally accepted standards for deinking. WG11 is looking at ways to

> ## For us it is very important that all standards and market evolution proceed in tandem, however, that link is by no means a given.

address concerns in this area, with the hope that whatever gets developed will have the scope to grow in line with the market, especially as digital printing volumes grow.

For us it is very important that all standards and market evolution proceed in tandem, however, that link is by no means a given. Standards grow in several ways. The best way is along an organic growth path that the market actively defines. In the graphics industry the best example of this type of growth is probably PDF.

Although it wasn't designed for graphic arts production, the market embraced PDF for prepress workflows and it rapidly became a de facto standard, warts and all. It was formalised as an ISO standard several years ago, along with its various iterations. The PDF/X series for graphic arts applications, provides tighter control over how PDFs get written to ensure their fitness for purpose in print media production workflows.

But not all standards have such an easy birth. Most of them come about as the result of hours and hours of tortuous and often heated debate amongst experts struggling to write cohesive standards documents. Arguments, passion and religious fervour characterise this type of development which can also get locked up in a vortex of disharmony. Sometimes things go better than others because of the tenacity and commitment of the people working on the standard. They want to provide standards that help the market and to develop them to solve obvious problems.

The ISO 12647 series is the best example of this type of development. The latest revision was published last year with updated content. It keeps the series in line with modern workflows outputting direct to plate, and the requirement for a wider range of paper types than had previously been supported.

ISO 12647-2013's publication roughly coincides with the final stages of ISO 15339 for printing from digital data, regardless of the printing process. This is a fundamental departure from the design concept of ISO 12647, which is process-specific, with different parts in the series defining process control requirements for offset, gravure, flexo, newspapers and so on.

ISO 15339 is an example of the third category of standards evolution, which anticipates what the market should require, given the current state of technological sophistication. ISO 15339 anticipates the time when a method-based approach to process control will be redundant. The two approaches enshrined in ISO 15339 and ISO 12647 are, to say the least, divisive. The choice boils down to whether you have faith in quality control at the printing press, or prefer to trust everything to the data. ISO 15339 is the standard that digital printing companies have awaited for many years. Its birth is proving difficult, but the standard should be out this year. How well it will

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be adopted in a market still baffled by ISO 12647, which was first published in 1996, remains to be seen.

About the Data

There is no doubt that the future belongs to ISO 15339, but ISO 12647 will be around for awhile yet. This is because too few printers understand the value of data control, despite the efforts of developers to provide easy to use tools and support. Data is a large part of the ISO work, however development of these standards is heavy going.

For instance, ISO 17972 that specifies colour data exchange using the CxF format, is far ahead of markets where printers are loath to invest even in decent colour monitors. Despite its ubiquity, even the uptake of PDF in the printing industry is inconsistent: printers too rarely specify that files should be delivered in PDF/X preferring instead to spend unbillable hours fixing poor PDFs in prepress.

As commendable as the ISO work is, a focus on implementation and communication of the business benefits of standards is missing. Standards such as ISO 17972 or 16760 for preparing and viewing RGB images used in RGB-based workflows are powerful tools for improving production efficiency but appreciation of them is still too patchy.

Promoting standards is a funny game though, because the people who develop them work voluntarily and have no direct commercial incentive to increase their uptake. The work is done because companies and individuals want to make improvements to processes they recognise as being inefficient. But there needs to be far more support from industry associations and national standards bodies to get the benefits of standards into the hands of those who most need them.
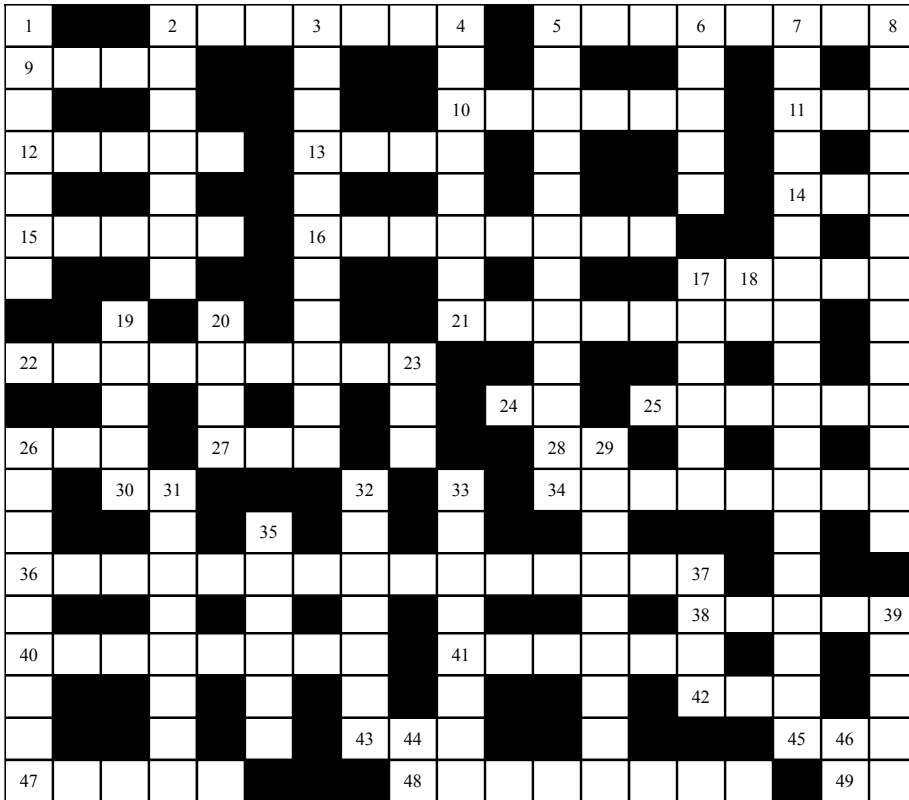
– Laurel Brunner

X-word Puzzle

Number 51 *

This one's pretty tricky, so take it slow. There are plenty of super-easy clues to get you started, but maybe begin with the Down clues as they seem to be marginally easier.

21. Gives authority. (8)

22. Barrier between contents and the great wide world. (9)

24. Not you. (2)

25. Trashed. (6)

26. Opposite of PPI? (3)

27. Put your job in here Mr Printer. (3)

28. Saint. (2)

30. Tuberculosis. (2)

34. A pipe conveying dirty water. (4, 4)

36. Along with food and beverage, the industry sector most keen on packaging. (15)

38. Opines. (5)

40. Tiny particles make an interesting alternative to conventional marking technologies. (4, 4)

41. Building blocks. (6)

42. Folder or assistant is either useful or attractive. (3)

43. Windows antecedent. (3)

45. Not madam? (3)

47. Google's computer? (5)

48. Not absolute. (8)

49. New Technology. (2)

Across

2. Solved but the broken surface is lined. (7)

5. To keep up to date or continue making sure stuff works. (8)

9. The guy with the ark and the animals. (4)

10. Irish, Red, Gordon and dogged? (6)

11. Vigour? (3)

12. Cost. (5)

13. Opposite of West. (4)

14. The press prints one, not walking. (3)

15. What happens to ink left to dry out or something to have with tea? (5)

16. Transferring data from one computer to another. (8)

17. Talent, gift or acquired as a result of training. (5)

Down

1. To examine. (7)

2. Stopped or halted, or confirmed correct? (7)

3. Processing of pressing a substrate between rollers to create extreme smoothness. (11)

4. Physical space between two points. (8)

5. An alternative method for achieving accurate colour. (5, 2, 5)

6. Opposite of south. (5)

7. Form of direct mail placed inside a newspaper, but not of the newspaper. (11, 7)

8. Main accounting record for a business. (7, 6)

17. Type of computer link where data transfers one bit at a time. (5)

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18. Kings of Leon. Not. (2)

19. Old word for write or document or script. (5)

20. Sharp bit on something pointy, but facing the wrong way. (4)

23. Perfect with ice, a slice and tonic. (3)

26. An increase in colour's saturation or making less shallow? (9)

29. The final price should be this. (5, 4)

31. Machine-readable representations of data. Lots of lines. (3, 5)

32. Lubricated. (7)

33. A list or series of records of any kind. (8)

35. Opposite of lost. (6)

37 A band, decorative ribbon or window frame? (4)

39. Begin. (5)

44. Either. (2)

46. Not out. (2)

*Answers in the next issue

Number 50 – Answers

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