



Four hostile newspapers are more to be feared than a thousand bayonets.

– Napoleon Bonaparte

Dear Reader,

The world is full of change, turmoil, chaos. It may just be that more effective and multifarious forms of communication mean that we get more information, so we are more aware of the mess. But perhaps knowledge aids resolution. These new channels are the logical consequence of digital technologies, with the scope to track and map and support new communications models, from Twitter to books on demand.

Digital technologies blur the boundaries between channels and increasingly the tools used to support them. This is obvious online and is becoming increasingly more so for offline media and their means of production. For instance, a digital banner ad online can be repurposed for output as a poster, a building wrap or truck dressing. A digital press can be used to produce labels, commercial work or posters. Machines are available to suit multiple functions such as the new FFEI Graphium press. This digital press, which Fujifilm will distribute, is positioned as a label press and yet has sufficient width for commercial applications. At Print 13 Fujifilm received a surprising number of orders for it from commercial printers.

Atomisation of printing and publishing technologies reflects the invasion of digital methods into every aspect of life. Quite how publishers and printers capitalise on this march is the great puzzle of our times. A puzzle that pretty much all industries face.

Enjoy!

Laurel, Nessian, Paul and Todd



In This Issue

The label is the message

Nessian Cleary reports from this year's Label Expo. It was a lively show with many new digital label presses. But more importantly, there was a feeling that the label market is finally ready for digital as a mainstream solution.

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Chili Publishing's Hot to Trot

Chili Publishing is just about to launch the fourth version of its eponymous software. It's an online document editor that provides document editing tools via a browser and that can be integrated into virtually any web-based application. This new edition has seen a complete rewrite signaling a move to an HTML5 codebase that should provide it with a stable base for the foreseeable future.

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Landa's Labours

Laurel Brunner met with Benny Landa for an update on the nanographic presses that were unveiled at last year's drupa. The presses have been reconfigured and are unlikely to be available until mid-2015, but nanography still looks like a leading inkjet technology.

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News Focus

Kodak and **Bobst** have formed a strategic development agreement to integrate Kodak's Prosper technology into Bobst's range of packaging production equipment in response to increasing demand for new solutions addressing flexible, folding carton and corrugated applications. Bobst had hinted that it was looking to develop a digital packaging press back at last year's drupa.

MGI has bought Ceradrop, a French company based in Limoges, which has developed advanced equipment for printing both 2D and 3D ceramic and organic electronic components with high added value, such as antennas, Organic Light Emitting Diode (OLED) display screens and solar cells. These components can be printed onto a wide variety of materials such as glass, metals and plastics as an alternative to conventional manufacturing processes.

Global Graphics has launched the Harlequin Digital Hub to offer colour management and screening for label printers. It uses proven Harlequin technologies, including ColorPro, which supports ICC profiles, including DeviceLink and N-channel profiles, as well as hifi spaces such as CMYKOGV and spot colorants including white and varnish. It also features Harlequin HDS Multi-level

Screening, which is used with greyscale heads and gives the appearance of a much higher line screen and increases the level of detail that can be retained in the screened result.

Roland has launched a new desktop flatbed UV printer, the VersaUV LEF-20. This is targeted at producers of custom promotional products, souvenirs, giftware, awards, signage, and consumer items, as well as industrial parts and packaging prototypes. It prints directly onto items measuring up to 508mm in width, 330mm length and 100mm deep. It uses LED curing and has CMYK plus high density white and clear inks.

The Ghent Workgroup has partnered with Ryerson University's School of Graphic Communications Management in Toronto, Canada. There will be two free seminars for publishing, packaging, and production companies held at the campus on Wednesday October 23. They will cover the new GWG PDF for Packaging specifications that streamline and ensure packaging design and production workflows and the latest on the GWG2012 specifications for the creation and preflight of PDF/X-4 files.

Atlantic Zeiser has launched BrandTracker, a data management software solution, primarily for the cosmetics industry. It monitors and analyses grey market streams to reduce product diversion; identifies counterfeit products; leverages enterprise-wide CRM systems to optimise communication with customers; and provides a high level of general brand protection.

Atlantic Zeiser has also launched MedTracker, to enable users to comply with the expanding legal requirements around the world associated with serialising pharmaceutical products. The system supports these different serialisation systems and automatically maps the related workflows. It generates unique codes based on random numbers, distributes them to all associated printers in the network and stores the codes in a database for authentication.

Tucanna, which FourPeas distributes, has added an online job submission and collaboration system to its production workflow program, tFlow Production. The new tFlow Approval can be installed in the local network or in

Spindrift

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▶ the Cloud, and is accessible via a standard web browser. All files, comments, annotations, versions and job histories are stored in one place, eliminating the confusion that comes with having multiple files and conversation threads stored across many users' computers.

Goss is to open a new Packaging Technology Centre in January at its headquarters in Durham, New Hampshire (USA). This will demonstrate the Sunday Vpak web offset presses, as well as a wide range of print, technology and consumables testing.

Markzware has announced a Mac version of its FlightCheck 7 preflight software. This now supports documents created in the Adobe Creative Cloud. It's a standalone program but has Ground Controls that can auto-switch its rule set for PDF files or non-PDF files to manage printing quality. As well as checking files it can also package fonts, images, and print job files into one folder for easy sharing and can generate a detailed report to certify preflighting. It can be licensed on a perpetual or subscription basis.

Canto has said that it will shortly release version 9 of its Cumulus asset management program. This has a number of performance enhancements, such as the ability to allow freelancers to upload files without having to create their own account. There's also Video Cloud for automatically converting and streaming videos on any device within any browser.

Adobe is now claiming to have over 1 million Creative Cloud subscribers. It has also announced two new products for next year for use with an iPad in collaboration with stylus manufacturer Adonit: Project Mighty is a smart pen, while Project Napoleon is a smart ruler for adding straight lines to technical drawings.

Dalim has developed a new preview for print-ready PDFs that will give a true representation of the printed file to comply with the European Commission new product label preview requirements. The PDF PerfectPreview technology works with Dalim's ES collaborative production platform and automatically inserts the expected preview of the label within the PDF file—without changing the print file.

Drytac has launched a new cost-effective range of pressure-sensitive laminating films under the 'Dynamic' brand. The range includes gloss, matte and sandgrain options, with the films being 100 microns thick and available in multiple widths from 880mm to 1520mm. They should be good for up to one year outdoors if applied to water-based prints and two years if applied to a solvent-based print.

Inca Digital has developed a new variant of its Onset S40i flatbed printer, this time offering 4-colour plus white, as an alternative to the original CMYKcm. It uses Fujifilm's Uvijet OZ ink system and uses two white channels to optimise throughput. It will be distributed by Fuji and officially launched at the Fespa Eurasia show in Istanbul in October.

Colour Engine is offering UK clients a new Service for auditing and reporting on lighting conditions to ISO 3664:2009. Managing director Mark Anderton says that in his experience in both studio and press-side environments the lighting often doesn't correspond to D50, undermining the value of colour management solutions. Colour Engine has invested in specialised measurement equipment to offer a measurement, reporting, consultancy, training and tube replacement service.

Blackberry, which once dominated the business smartphone market, appears to have found a buyer, with Fairfax Financial, which already owns 10 percent of the company, assembling a deal worth \$4.7bn, though it's likely to be November before this completes. The company is to lay off some 4,500 staff, having already lost around 5,000 employees in 2012.

Meanwhile, **Apple** has launched its latest iPhone 5S and immediately run into problems. A German group, Chaos Computer Club, has cracked the flagship fingerprint security feature. The group posted a video demonstrating how easy it is to photograph a fingerprint from another surface, such as a glass, print it to plastic and then use it with another finger to unlock the phone. This undermines any potential security applications.





News Analysis

Bencis Capital Partners has now completed its purchase of Punch International's controlling interest in Xeikon, making Bencis the largest shareholder of the company. Bencis has formed a new venture, XBC BV, of which it is the majority shareholder, with Gimv-XL holding a minority stake of 20 percent. XBC now owns 65.68 percent of the share capital of Xeikon, having paid €5.85 per share for a total of €110,309,343.30.

The initial conditions of the sale, including the disentanglement of Accentis nv and the unconditional approval of the Transaction by the German competition authority, have been satisfied.

The next stage is for Xeikon to buy back as many of its own shares as possible, for the same price. After this, Bencis (through XBC) will launch a mandatory public offer at a price of €5.85 per share for the remaining shares. Bencis has already said that it has attracted committed financing to fully finance payment of the purchase price for the mandatory public offer.

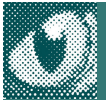
Bencis is an independent private equity firm that invests in medium-sized companies in the Benelux countries. Gimv-XL, managed by Gimv, is the largest investment fund for midcap companies in Flanders.

There was a notable air of relief on the Xeikon stand at Label Expo as it gives the company a level of autonomy. Specifically it also means that Xeikon now has the capital that it needs to continue developing new products, in particular the Trillium liquid toner press. This is due to shortly start beta testing and should be available next year.

The initial model will be aimed at the document market, with a label printer to come later. To start with it will run at 60mpm but Xeikon will develop a new imaging head so that future generations should be faster, at least up to 200mpm, which would make the Trillium presses extremely competitive, assuming that they have the sort of print quality normally associated with high end toner machines.

Meanwhile, Wim Maes, the former CEO who stepped down at the end of last year is to come back as CEO, following the departure of Frank Deschuytere. He commented: "I'm pleased to once again lead Xeikon and increase the level of innovation we started a few years ago."





Green Shoots

This is what we have been writing about online as part of the Verdigris project. The best news we have had since ISO 16759 was published is the fact that companies are already pursuing certifications, starting with Ricoh.

Ricoh First Company to Attain ISO 16759 Accreditation

It is great news to hear that Ricoh has achieved accreditation to ISO 16759 for the Ricoh carbon calculator. ISO 16759 (Communicating and calculating the carbon footprint of print media products) is a framework methodology that provides developers with the information necessary to create sound and reliable carbon calculators for use in the graphic arts. It was only published in July and is relevant for all players in a print media product supply chain, from designers through to printing and distribution.

The accreditation was conducted by Print & Media Certification, a UK body that works with an international client base. Print & Media Certification is the only formally recognised accreditation company specialised in printing industry certifications. We understand there are other certifications for calculators that follow ISO 16759 in the pipeline, and we hope that they too will want to achieve formal certification. In the meantime Ricoh has stolen quite a march.

Ricoh has long been an industry leader in sustainability. Its carbon calculator, which we have not seen, was developed as part of the Ricoh Carbon Balanced Printing programme. The basis of this programme is an optimisation plan that takes a structured approach to reducing a company's carbon footprint. It is designed to educate printers and raise their knowledge of sustainable printing and related practises. The project has been underway for about a year and a number of printers have adopted the programme.

ISO 16759 outlines what is required in a carbon calculator and although it can be used to calculate print's carbon footprint, it is not in and of itself a calculator. So it does

Verdigris

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

not compete with carbon calculators on the market, but instead is designed to provide a common reference point. Print buyers will be able to trust the data gathered for any carbon footprint study that complies with ISO 16759. When two studies are identical in goal and scope it will be possible to make direct comparisons. In such situations they will be in a position to make media investment decisions based on carbon footprint data. We are a long way from that at present, but at least there is one carbon calculator that complies to the standard. This is a great start!

The Ricoh accreditation is also fantastic news for the ISO working group responsible for the development and content of ISO 16759. Ricoh's development of a calculator that follows the standard's guidance is a reward for all the group's hard work. The accreditation is also an excellent endorsement of the standard's robustness and relevance.

WWF's Living Forests Project

Printers and publishers are probably not all that fussed about what the World Wildlife Fund (WWF) gets up to, unless it involves commercial projects. However, amongst the WWF's many worthy efforts is the Living Forests Project. It's interesting for various reasons, not least of which is the fact that it provides a catalyst for debate on the role and value of forests. The WWF sees potential for a new future, where we live within the planet's ecological limits with fair resource sharing – "equitable" resource use for all.

The aim is Zero Net Deforestation and Degradation (ZND) by 2020, a target for the Living Forests model developed

by the WWF and the International Institute for Applied Systems and Analysis (IIASA). This is long and detailed work, mostly presented in a balanced and accessible way. Even if printers and publishers don't care about it, their customers may well do. The Living Forest project chapters are something to at least peruse if not read word for word.

Deforestation does not just affect paper prices. Paper accounts for a minority percentage of the world's dead trees. Regardless of what the wood gets used for, the

Deforestation does not just affect paper prices. Paper accounts for a minority percentage of the world's dead trees.

WWF believes we must shift to a new sustainable model of forestry, farming and consumption. Before long we will need to sustain more people, deal with more pollution, protect habitats and ensure wood-based product provision including paper.

There is every confidence that ZNDD will be achieved however, a major factor will be market balance. For printing and publishing, this means adopting policies to encourage better forestry management. According to the Living Forests work we can expect timber production to increase by 300 million hectares by 2050 and for deforestation to fall substantially from the current 13 million hectares per year.

Obviously we should be choosing FSC, PEFC and recycled papers wherever possible. Recovered paper currently accounts for 53 percent of recycled fibre and the WWF hopes that by 2050 it will account for 70 percent. A percentage of virgin fibre comes from non-wood sources such as bamboo and cotton, widely used in developing markets such as India. The use of non-wood fibre sources could reduce the amount of forests required for paper, as technology advances and as recycling and recovery efforts spread. Some markets are better than others: South Korea recovers 90 percent of paper products and Europe's overall recycling rate is 74 percent. But in

places such as India and the USA recycling rates are pretty abysmal and fall far short of where they should be. The USA, as the world's largest and most developed economy, is especially culpable.

Undeniably conservation and resource protection is a good thing however, it cannot come at the cost of peoples' livelihoods and welfare. This is where it gets complicated and far beyond the bounds of a humble blog. The Living Forests Project raises the questions but businesses, especially those dependent on forests, should be considering their own answers. Everyone in our industry could keep in mind that changing the big things starts with changing the little things which generally are easy to fix.

Take it to the Max

There is a fast food burger chain in Sweden that alongside the price and product name states the carbon footprint of each item on its menu. Max Burgers started some fifty years ago and has grown rapidly to have a presence in most Swedish cities, trading on its reduced environmental impact and the fact that its meat all comes from Sweden. It's a big success story, one that shows how effective labelling and packaging can be in reducing environmental impact. Putting the CO₂e values of different dishes on menus, product packages and labels has helped raise environmental awareness amongst Swedish consumers. It has also given tiny Max an edge over its rather more mighty competitors.

The company's founders decided to go green some five years ago, expecting that the paper they use to wrap their burgers was going to be a major contributor. But it turned out that the Swedish beef in their burgers is by far the biggest source of emissions. Packaging contributes a mere two percent to Max's overall environmental impact. Demonstrating awareness of the need to be more environmentally sensitive has paid off; since introducing eco-friendly packaging and adding climate labels to its products, Max has seen a 28 percent increase in sales. A Max Chicken Burger, for instance, accounts for 0.4kg of CO₂e. It seems that people, at least in Sweden, do care about the environmental impact of what they eat.

▶ Max now wraps its burgers in paper instead of cardboard and recycles energy from food waste, paper and plastics. It uses FSC and Swan-certified tray liners and recycles the materials in cardboard and sheet metal. The company has a long term plan that is already well established and yielding results. For instance, between 2007 and 2011 Max conducted an inventory of activities, including those of the company's suppliers to come up with a list of climate impacts that could be analysed using ISO 14065 (Requirements for greenhouse gas validation). The inventory included agriculture and ingredients production and refinement, transport, food processing, office activities and warehousing. Print was not on the list.

The Max website (<http://maxburgers.com>) has masses of information about the company's initiatives, but makes scant mention of print. Why is that? Packaging may make only a two percent contribution to this company's overall footprint, but surely there are all manner of other forms of print that Max uses and that may have an impact? Could it be that print is only seen as a source of waste? It is an interesting question and one that we have posed before, particularly at carbon conferences. You hear all this microscopic detail about how an environmental scientist has calculated every aspect of the impact of a kilo of prime steak, but a question about how they calculated print's contribution yields a response of puzzled bewilderment. Is print simply taken for granted? Is it somehow invisible as a source of emissions? Something to ponder while chomping your next burger.

It Goes Deeper than the Label

Preparing for LabelExpo, the next big trade show in the graphic arts, one wonders when there will be a label expo that is all about certification labels, especially environmental ones. There are just so many of the blighters. It seems their proliferation these days is mostly about money and capitalising on different market needs. Apparently even the FSC logo costs, if a company wants to use it once achieving certification.

There is no doubt that such labels are a money spinner but some are obligatory requirements, for instance, energy

stickers on cars and appliances. The graphic arts industry is thankfully not yet required to put a green sticker on a press or on printed documents, but that day could come, particularly if the industry does not demonstrate an independent commitment to improving environmental impacts.

In the meantime there are plenty of options for printers and print buyers, but how to decide which labels to go for? Do they opt for ones that consumers recognise, such as FSC or the US Energy Star label? Or do they go for the things other businesses seem to favour in their region, such as the Nordic Swan in Scandinavia, the Blue Angel in Germany or the EcoMark in India? Perhaps a sector-

With so many possibilities it is easy to forget that the point of environmental labels is to provide some validation of sustainability measurement.

specific label is the way to go, like those that farmers and winegrowers have? We have spoken to a number of sector-specific label providers and curiously few include the associated print, such as the packaging or product labels, in their certification scopes.

With so many possibilities it is easy to forget that the point of environmental labels is to provide some validation of sustainability measurement. This basically means that the environmental management system for a product, company, service or whatever, meets the criteria laid out in the certification scheme for a given label. The label is thus a stamp of approval, confirmation that the thing bearing it is up to the mark, literally. The difficulty is that there are so many labels and logos that it is very hard to assess their relative values, either to the company undergoing certification or to that company's target audience. It is particularly confusing in the printing and publishing industries because print is so often invisible: a component of a product rather than an independent product.

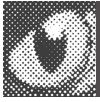
▶
The question of which label to choose, deciding which is best or has the longest legs in terms of marketing value, is tricky. Go for one that is easy to comply with and it may be of limited worth to end customers. Choose a really tough option and it could cost a fortune. The choice probably lies somewhere in between, but at least there are plenty of options.

For more green news, check out
The Verdigris Project:

Verdigris 

<http://verdigrisproject.com>





A Review

Fast and automated calibration - Canon iPF6450

Canon introduced the iPF-series of 12-colour printers back in 2008 with the intention of breaking into the proofing market. But what was missing was the option to have a spectrophotometer mounted inline, inside the printer, for hands-free and automated calibration and quality management. With the iPF6450 this limitation has now been fixed, and Canon now offers an automated, fast printer for both proofing and high quality photographic production.

The iPF6450 is part of what Canon calls the X400-series, where the largest printer is the iPF9400 with a maximum printing width of 60ins (1524 mm) borderless printing. There's also the iPF8400, which is a 44ins (1118 mm) printer, and the iPF6400 and 6450 printers, which both have a maximum printing width of 24ins (609 mm).

We have tested the printer both "as is", that is, using the driver and free software that Canon bundles with the printer, as well as using a third party RIP, in this case the EFI Fiery XF. It's important that the built-in spectrophotometer can be used in third party RIP and proofing systems, and EFI and others have acknowledged this and support what Canon call the SU-21 spectrophotometer in their systems.

You can actually manage quite well using the printer driver and associated software from Canon, which supports both Mac and Windows OS. This includes a print/export plugin for Adobe Photoshop, which supports 16-bit output of high dynamic range images, and a colour management solution called Color Calibration Management Console (CCMC). Some software is for PC/Windows only, like the plugin for Microsoft Office and the PosterArtist Lite application, but in this review we have focused on the more professional solutions and software supporting Mac OSX.

The printer driver and control software comes with a large set of predefined paper specifications, a paper library, with support for more than just the Canon range of papers.

Thanks to the built-in spectrophotometer the user has the option to create custom paper profiles, as well as to update and re-calibrate the existing paper profiles.

We used a series of test images from VIGC when analysing the prints, and found that we achieved both pleasing colours and smooth gradation when using the existing paper profiles after a quick update of the calibration of that paper. This only takes some 3-4 minutes, compared with creating a new ICC profile, which will take 20-30 minutes even using the built-in spectro.

It's also possible to perform centralised colour management through the CCMC application, where an iPF6450 with its spectrophotometer performs the



The Canon iPF6450 large format printer (well, 24ins), has a built-in spectrophotometer for automated calibration and quality control.

colorimetric measurements of ink and substrate, while any other printer in the iPF X400-series can be managed over the network, and its calibration aligned. For this to work the printers both have to be from the new X400 series of iPF printers, with the enhanced multi-sensor inside.

This is not a full spectrophotometer, but an LED-based sensor that can perform functions similar to that of a densitometer. The test form to be used for calibration, and the final ICC profile, is distributed to all the printers in the network. We haven't tested this feature in real life

4 / 5 View Settings

Name: TC 2.83 RGB

Print Settings

Chart:	TC2.83 RGB I1.txt
Roll Paper Width:	24-in. Roll (609.6mm)
Media Type:	Canon ProofingPprSemiglossy 255g
Print Priority:	Image
Print Quality:	Standard (600dpi)
Automatic Cutting:	Yes
Label Print:	Yes

Color Measurement Settings

Drying Settings:	Standard
Illumination:	D50
Observer Angle:	2



Width: 609.6 mm
Length: 255.1 mm

? Add to Favorites...

Back

OK

The colour library provided with the driver contains a lot of paper profiles, and not only for Canon papers. This can easily and swiftly be extended to include even more paper types from third party manufacturers.

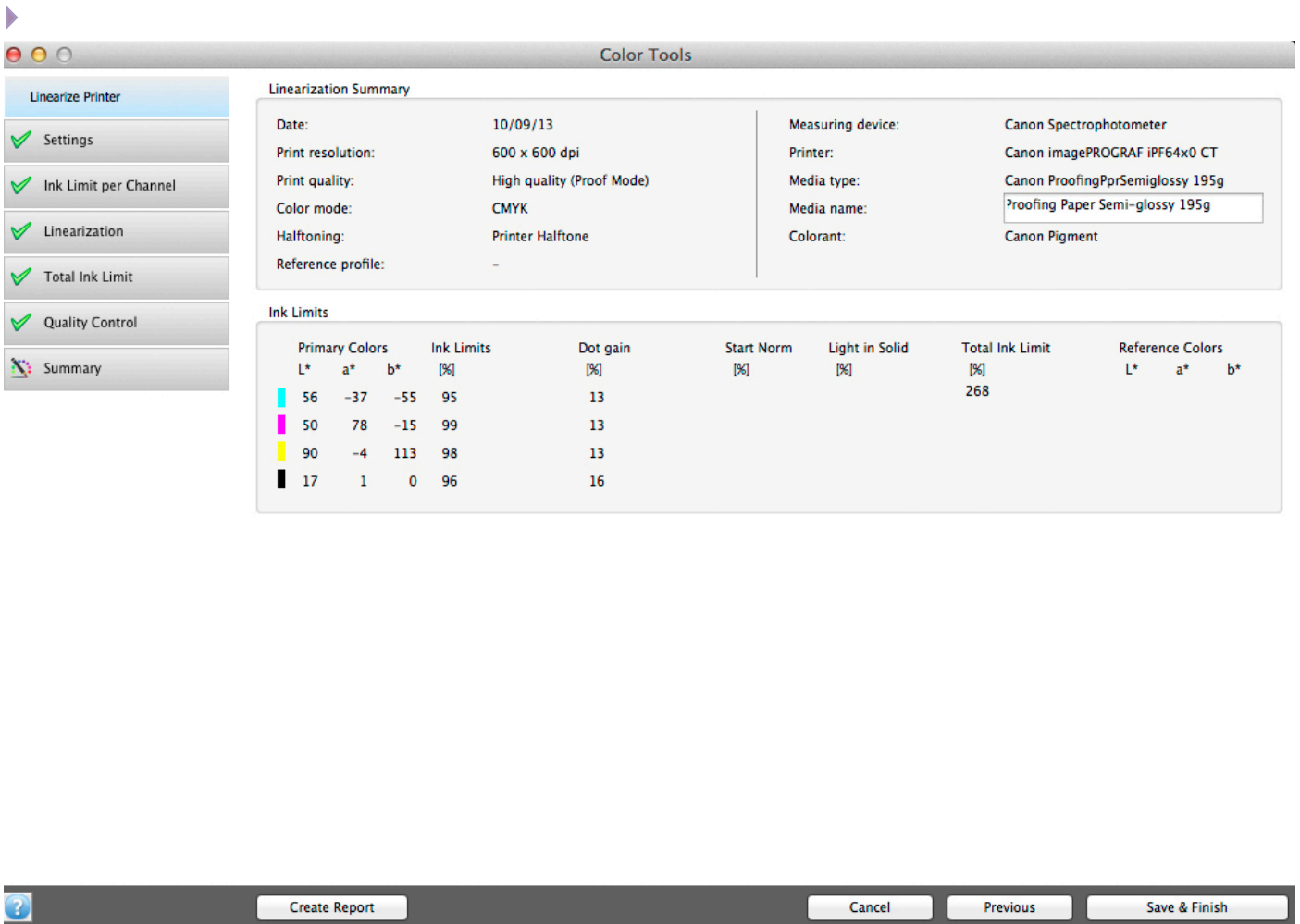
production, but the concept is similar to the one where several offset presses are calibrated to the same standard, using the same ink and paper, aiming to comply to the same ICC profile, but using densitometers for daily colour and quality control, not necessarily a spectrophotometer. A spectrophotometer is needed somewhere in the workflow, to measure the real colours produced, the spectral values. But daily quality control can be done using a densitometer, once the spectral behaviour of the inks on a given substrate has been determined. So this is a proven concept and should work satisfactorily.

As with the previous series of imagePrograf printers, the iPF6450 has two print heads, each providing six different ink sets, using Lucia EX ink. First we have the common CMYK ink sets plus Light Cyan and Light Magenta. Then there are dedicated Red, Green and Blue inks, which not only provide a substantially larger colour gamut than normal, but also saves ink in the printing process. Instead

of mixing Cyan and Magenta to create red, pure red ink can be used. The same goes for Green and Blue – instead of mixing two of the primary colours in the CMYK colour system, dedicated pure green and blue ink is used, and so the total amount of ink is reduced, saving not only in cost for the ink, but also reducing the drying time. On top of the colorants, there is also medium and light grey as well as matte black, for high quality b/w photo production.

The resolution is addressable to 2400 x 1200 dpi, and the printing speed has been improved in the X400-series by an average of 10 percent in most modes, but doubled in the highest quality print mode. The iPF6450 has a 250 GB internal hard disk to improve output speed by off-loading the output data faster from the host computer, as well as holding repeat jobs and administering the job queue.

The unit containing the optional SU-21 spectrophotometer also has a fan to speed up drying. The spectrophotometer



The built-in spectrophotometer can be used by third party RIP and proofing solutions, as in this example when using the EFI Fiery XF driving the Canon iPF 6450 printer.

can be set to read either with or without UV content, and you can also switch between white or black as backing during measurements. The SU-21 supports the X-Rite XRGA standard, for alignment with other X-Rite measuring devices, including handheld ones.

In terms of colour gamut we found that on Canon high quality glossy photo paper we measured over 850,000 colours, which is very good. We also had the opportunity to test a sample of the Ilford Galerie professional photo range and on a 290 gsm Smooth Gloss paper we achieved over 870,000 colours in all, which is one of the highest measurements we've had so far in our tests. This is well over the gamut of sRGB, which is just over 800,000.

This means that you should be able to make a perceptually very similar reproduction on the iPF6450 of an RGB image as viewed on your monitor. Most monitors don't show much more than sRGB, unless you have invested in a top

range wide gamut monitor, that matches or surpasses the gamut of Adobe RGB. But even images saved in the Adobe RGB colour space, and viewed on a calibrated wide gamut monitor, print with very similar appearance on the iPF6450. It's a joy to be able to reproduce what you see on a good monitor, in print, without compromises!

With the wise (we think) decision by Canon to add a built-in spectrophotometer to at least one model in the X400 series, Canon now offers demanding printers and professional photographers a fully automated proofing and printing workflow. A built-in spectro makes calibration and quality control a breeze, and also enables remote proofing and quality control.



The label is the message

Up until recently the label and packaging market has proven curiously resistant to the seductive charms of digital printing. But InfoTrends has forecast that the digital label and packaging market will grow by 17.7 percent up to 2017.

Much of this will be fueled by a new generation of digital devices and there were certainly plenty of these in evidence at last week's Label Expo show. There was a real buzz in the digital hall with plenty of people crowding the aisles and quite a few sales from the show floor.

And there was much to see. Most of the new devices use UV inkjet, meaning that they can print to a wide variety of substrates. Most are designed to connect to finishing devices, with several including inline laser die cutting as well as some form of varnishing.

One of the most interesting was FFEI's new Graphium press. Andy Cook, FFEI's managing director, says that the intention is to look further afield than just the labels market and that ultimately there will be a range of products from labels to packaging under the Graphium brand. (The name comes from a South American butterfly.)

As it is, the Graphium press has a 410mm print width, much wider than most label printers, which are typically up to 330mm to match the majority of the finishing options. But Cook believes that this width will open up other markets for the press, such as window stickers for retail use. It has a very modular approach. It can be used as a standalone digital press but can also be integrated with multiple flexo units for a hybrid solution.

The project itself has had a long germination within FFEI, having grown from a customer requirement to print white ink. Cook says that white presents particular challenges because its high viscosity makes it hard to jet at higher speeds. It's a CMYK printer but can be configured with five or six channels. For now there's a white channel before the

CMYK colours but from next April there will be an option to have white both before and after the process colours for over and under white, which will be useful for backlit products such as window graphics. The inks are Fujifilm's UVijet UV curable inks.

The heads are the Xaar 1001 units, with Xaar funding FFEI for a two-year project to test the head's reliability. As a result Xaar has made changes to the way it manufactures



FFEI's new Graphium press is a digital device that's ready to fit into a hybrid set-up.

the head - the head itself is still fundamentally the original design, but the improvements in the manufacturing process means the heads are now more reliable. As a result, FFEI gives a one year guarantee on the heads in the Graphium press - though Cook says he is confident they should last two to three years, with up to a two-shift pattern.

The press will run at a maximum speed of 50mpm at a resolution of 180x360dpi, but since the Xaar 1001 is a greyscale head this is roughly equivalent to 540dpi. However, Cook expects most customers to run the heads at 35mpm, with a resolution of 360x360dpi, equivalent to 1080 dpi. The heads are capable of up to eight levels of greyscale, with the different drop sizes achieved by firing multiple drops, which coalesce in flight just before they land on the substrate. The smallest drop size is six picolitres.

The web transport system has come from Edale, which had previously worked with Agfa on the Dotrix. Cook

says that web tensioning technology is essential in a contactless print system to deal with the inevitable flutter and weave that occurs at high speeds and that leads to artefacts.

EFI has released a new version of its Jetrion label printers with the 4950LX. It has a higher resolution than previous models, up to 720 x 720dpi. It runs at 33.5mpm, but



EFI launched this Jetrion 4950LX, which uses LED curing throughout.

can reach 48mpm by dropping the resolution to 720 x 360dpi. It uses full LED curing across all colours, with the LEDs offering much longer life than mercury arc lamps of around 5000 hours. LEDs are also cooler opening the presses up to a wider range of substrates. Just to be sure, EFI has added a chill roller to remove heat absorbed during curing from the substrates.

EFI will introduce a white ink for this in mid-2014. Stephen Emery, vice president of EFI's ink business and Jetrion, claims, and other vendors privately agree, that EFI has the highest opacity white in the labels market.

Emery also claims that EFI has half of the inkjet labels market, with around 150 machines installed worldwide. According to Emery, the market is very fragmented and approaching a chasm where many players will be unable to make the leap and thrive in the market.

EFI also showed off new finishing options for its Jetrion lines. These include a varnishing module, and a new high-powered laser cutter, available in single-head (500W) or dual-head (1000W) configuration, which essentially

means that the laser can keep up with the printers regardless of the size of the label or the intricacies of the cutting patterns.

EFI also demonstrated its various packaging MIS, including Radius, which is aimed at medium to large size companies, and Gamsys, a packaging system for French users.

HP Indigo, which is by far the market leader in digital labels, introduced a new silver ink for the WS6600, which should open up new applications for Indigo users. This should be available by the middle of next year. HP has just installed the 500th of the WS6000 series, to the Rako Group's Chinese factory. The company also demonstrated its B2 Indigo 20000 and 30000 which should be shipping by the mid-2014.

Epson launched its new label press, the SurePress L6034VW single pass machine. This was shown as a



At the heart of this Epson SurePress L6034VW is the new PrecisionCore printhead.

prototype at drupa and uses UV inks with LED curing. It works with standard label substrates from 80 to 340mm wide. It runs at 15mpm with resolution fixed at 600 x 600 dpi. Epson's target market is the high quality short run market.

At the heart of the press is a new printhead array, which Epson calls PrecisionCore. Essentially this is a further development of Epson's Thin Film Piezo heads. The core element is a printhead chip that still uses a MEMS manufacturing process but each head now has two rows of 300 nozzles giving a native resolution of 600dpi.

Epson will use this chip in a range of products from office copiers all the way up to industrial presses. For the L6034VW 11 of these chips have been stitched together to form a single printbar which will be suitable for single pass printing, with one bar per colour for up to six channels. It uses CMYK plus varnish and there's an optional white ink. It uses pinning between colours to give better control over the final finish.

Screen launched the Truepress Jet L350UV, which is due to start shipping next month. It uses Kyocera printheads giving it 600x600 dpi resolution. Frans Kops, area director for Screen Europe, says that it has the smallest drop size



Screen launched its Truepress Jet L350UV, a single pass UV inkjet label printer.

of any of the Kyocera implementations, with a minimum drop size of just three picolitres. Its a greyscale head so it also produces six and nine picolitre drops. Its not cheap at just under €700,000.

Domino launched the N610i, a fast UV inkjet printer that should be able to take up to seven colours, although the machine shown at Label Expo had five colours, including white. Managing director Philip Easton was keen to stress that it's a very opaque white, second only to that used by EFI Jetrion. The press uses two channels for the white to ensure that it can run at its full rated speed up to 75mpm. It uses Kyocera's KJ4 heads, giving 600 dpi resolution, but Easton says that in the future Domino might move to the latest generation Kyocera heads, which offer 1200 dpi resolution. It incorporates several technologies, including CleanCap for automated head cleaning, ActiFlow for

recirculating the ink within the heads, and StitchLink, which uses micro motors to keep the heads aligned.

The Japanese company Miyakoshi introduced a new inkjet printer called the MJP13LX 2000, shown for the first time at Label Expo. It runs at up to 50mpm. The standard configuration includes a rotary die cutter. It uses Kyocera printheads and has 1200 dpi resolution. It uses water-based pigment inks, and can be sold as a four-colour device but it is possible to have up to eight colours - CMYK plus red, green, blue and grey. Eisuke Morishita of Miyakoshi's sales POD division, says: "We tested many colours and decided this combination should offer wider colour gamut."

Drying is through hot air. The paper is wrapped around a large heated drum with more hot air blown across the surface. It has an IR unit for further drying and there are chill rollers to help control the substrate temperature. Morishita says that it's a proven system that Miyakoshi also uses in several other systems.

Unusually, Miyakoshi is planning to sell it directly under its own name rather than its preferred route to market via OEMs and is currently looking for distributors. Morishita explains: "The label industry is not so big and there are no big OEM players." The price is €400,000.

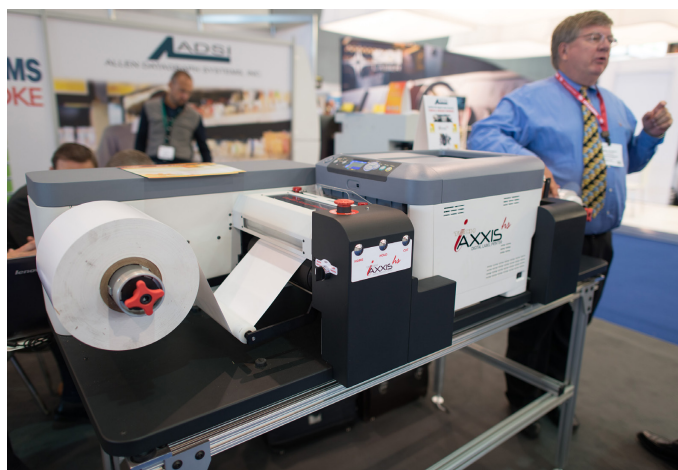
INX International brought its NW140 label printer to the show, having just launched it at Print 13. This uses 12 Xaar 1001 printheads, with six channels for CMYK plus white and varnish. However, Angelo Possemato, national account director, says that INX has developed all the electronics, software and ink dispensing systems that drive the heads, rather than using those supplied by Xaar, making it easier to tune the heads for the INX inks. It runs at 25mpm and uses a UV-LED pin and cure method. It costs a competitive €385,000. The inks are around €150, though as with vendors, the prices largely depend on the volumes used. There is a calculator that gives the ink cost for individual labels so customers can get a sense of their likely costs.

German company ALS Engineering, which makes a number of finishing machines, has also developed its own

UV label press. This also uses the Xaar 1001 heads and there's an option to incorporate an ALS laser cutter for slightly under €500,000. There are a couple of these already installed in Germany, and the machine demonstrated at the show was sold on the first day. It uses Sunjet inks and as with most Xaar machines it runs at 25mpm at 360dpi resolution, which is equivalent to 1080dpi. CEO Andreas Liefke says that it has an advantage over other Xaar-based presses thanks to its web guiding system, noting: "We come from our experience in screen printing machines and know how to handle a web and that's the difference in registration and reliability."

Durst demonstrated its Tau 330 UV label printer. This was seen with both an inline digital laser finishing system and with a built-in chill roller for non-pressure sensitive printing applications. Durst also showed its new low migration inks, developed by Sunjet, for food, health care and pharmaceutical applications.

Allen Datagraph Systems demonstrated two digital label systems at the show. The iTech AXXIS HS Digital Label System is a more productive version of Allen Datagraph's original tabletop system. It uses LED toner printing with



Michael Elliot, president of Allen Datagraph Systems demonstrates the new AXXIS HS label system.

1200 X 600 dpi resolution, at speeds up to 7.6mpm. The maximum print width is 216 mm and it takes a wide range of substrates including most standard pressure sensitive paper substrates, along with white, metallic or clear films. It's paired with a finishing unit that can laminate

and contour-cut labels of any size and shape on-demand, without a die, using knives.

There's a larger system, the iTech CENTRA HS Digital Label System, which Mark Vanover, VP of sales and marketing, claims is more economic "for printing and finishing 305 to 915 linear metre run lengths than other technologies". The Centra HS print unit uses the same LED toner technology but runs at speeds up to 9.1mpm, with a maximum width of 327mm. The Centra HS finishing unit is similar to the AXXIS finisher but can convert label substrates from 127 mm to 355 mm wide.

Most of the machines we've covered here were launched at the show and should be shipping within the next few months. There was very much a sense that the digital label market is on the cusp of a big change. Up until recently the market has been dominated by HP Indigo with liquid toner, and Xeikon with dry toner. These presses cope well with medium run lengths and high monthly volumes. Inkjet is potentially cheaper, with much lower maintenance costs, and already has the quality and speed necessary for the shorter run end of the market. By the next Label Expo we should have a new generation of printheads, offering even higher resolution.

- *Nessan Cleary*



Chili Publishing's Hot to Trot

Chili Publishing is a three year old, privately held Belgian developer seeing 69 percent year on year organic growth. Eight of its 15 employees are code bunnies developing powerful tools that are changing expectations for publishing systems models. At its recent Plug In the Power event in Brussels, Chili previewed Chili Publish version 4 for its partners and customers.

This is due for launch on the 12th December and we have yet to see a technology bridging conventional production models and the Internet quite so brilliantly. This technology is the first of its kind that we have seen and marks an important transition as publishers move from using desktop tools to working in the online world.

Chili has 120 customers in twenty countries on four continents, but the company's primary markets are Benelux, North and South America, France, UK and Australia. It has a small presence in Germany which it is trying to improve. Roughly 75 percent of customers are business-to-business, primarily commercial printers who constitute 40 percent of the base. Co-founder Kevin Goeminne says that commercial print is "still the bread and butter of Chili Publisher".

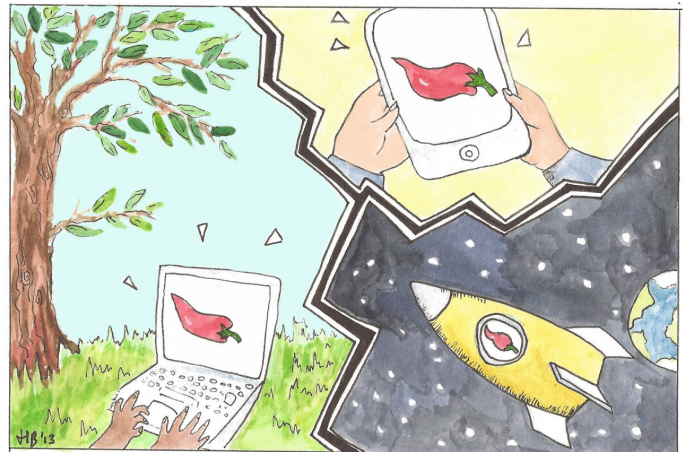
The rest are agencies (18 percent), web developers (16 percent), packaging (7 percent) and prepress companies (8 percent). The packaging sector is expected to grow rapidly due to Chili's partnerships and the company expects more from sign and display printers for whom Chili is developing new features.

Many of the new features in version 4 are plug-ins such as "Fix it for me", which is a preflight check performed when converting Indesign documents to Chili documents, extending Indesign's preflighting to a Chili file. This technology will also work as a live check during document editing. Other new features include exchange within Indesign IDML, a new Data Manager plug-in for converting and sending file metadata saved with the files.

Text files can now be imported with automatic tagging for styles. ODT import (Open office documents) allows customers to upload ODT files, a particularly handy feature. In combination with Chili Publish this feature provides access to web services such as Flickr or Facebook, thereby opening up the office market.

Another dimension

An extremely impressive 3D proofing tool for prototyping rather than production proofing allows users to view signage and packaging designs in situ. It is based on Collada, a 3D interchange format based on XML, and is more a 3D preview or visualiser than proofer. It is extremely useful for sign and display and large format



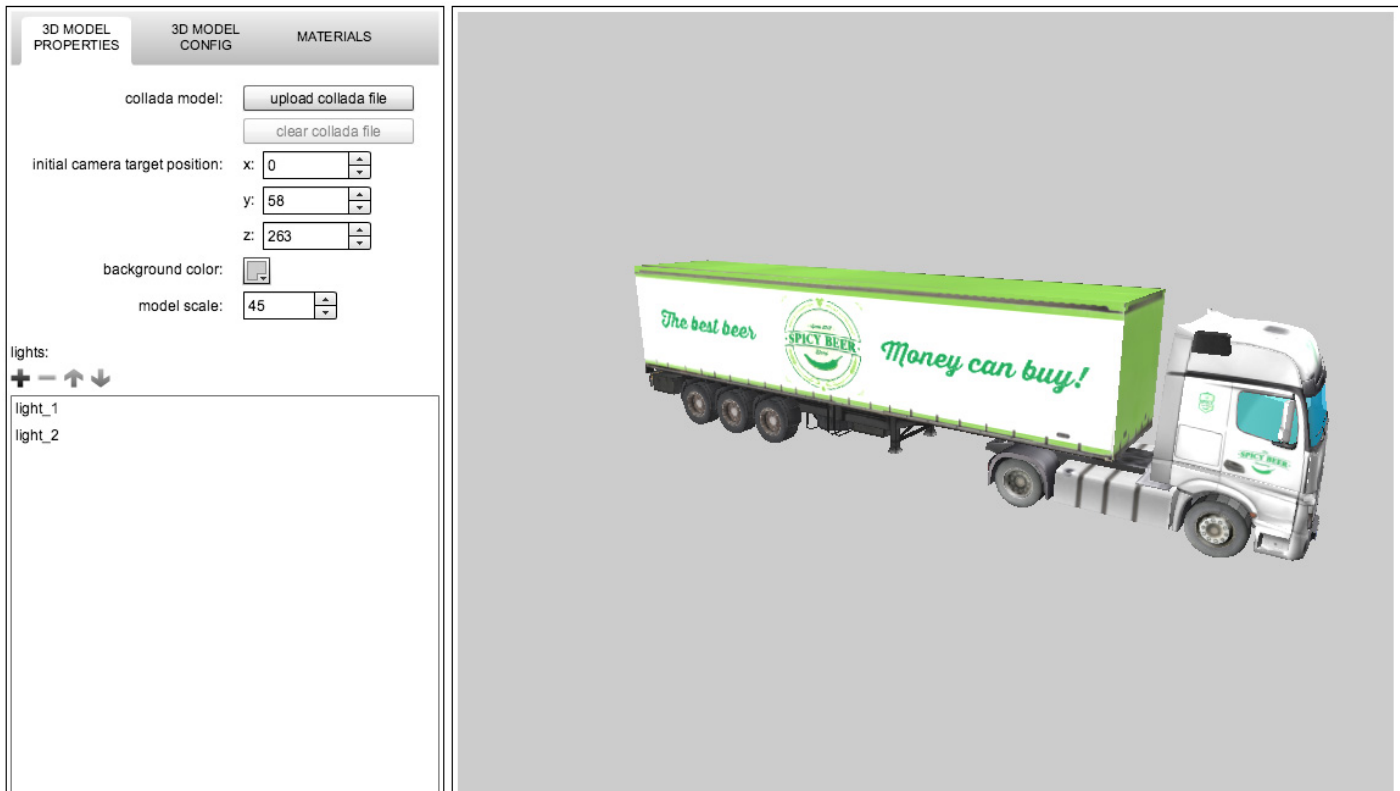
Chili Publish: Boldly going where no document has gone before.

printers, because it is essentially a complex object rendering tool. For instance, signage for a truck can be checked prior to output to make sure that the sign content works with the surface and things on the truck such as straps, handles and vents.

The 3D visualiser is also great for interior design and for checking a sign's visibility from different perspectives, for instance on bus stop signs where the content should be at eye height. The 3D preview immediately updates if any variables have changed.

More than mere editor

Chili is basically an online document editor that provides document editing tools via a browser and that can be integrated into an online portal or virtually any web-based application, such as a search engine, a train ticket booking



Chili's 3D Visualiser shows the operator how signage will appear in situ and adjust the content if necessary.

system or different parts of a political party's website. Flat planning and structured text input for content can come from an online content management system such as Drupal and the Chili Snippets feature allows people to bring in document content from external sources.

Unlike competing tools such as Bitstream's Pageflex or Xerox's XMPie, Chili has an online orientation. Rather than starting with the desktop and reaching out to the web, Chili starts with Web service and desktop tools to create a new publishing systems model. This gives its customers enormous scope for online and offline visual communications to create and develop relationships between brand owners and consumers across multiple channels.

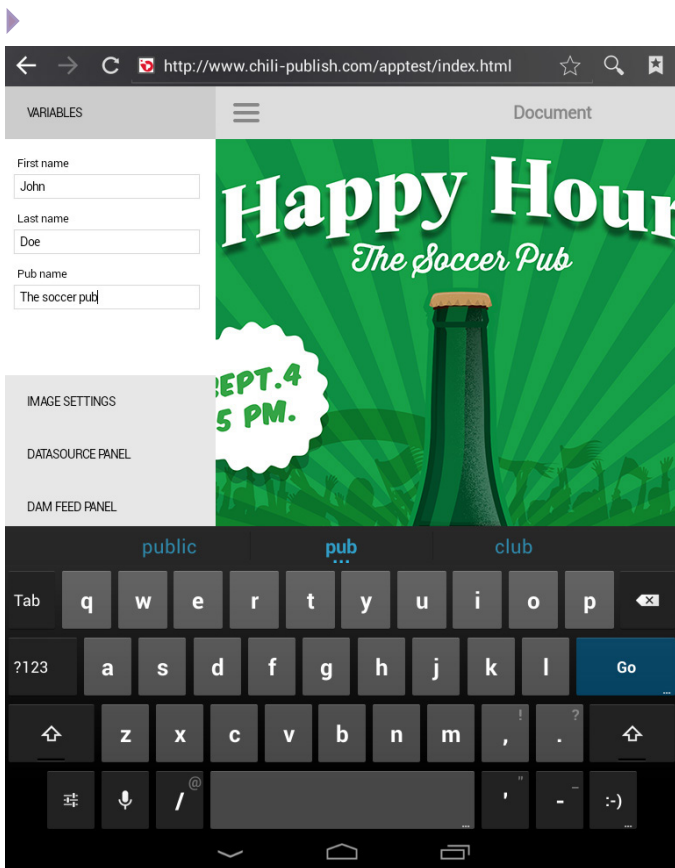
Digital delights

The Chili technology is basically an API, a document editor for content input, and an output mechanism for delivering content to web portals. The Chili Editor opens documents for editing in the web browser via an Indesign plugin, opening them as a PDF or XML document, or as a new Chili document. The tools available in the editor

can be customised to be specific to a particular portal, incorporating multiple players in a media supply chain using a common technology base.

Once a document is complete, Chili Publisher produces various alternatives: a print-ready PDF where component objects have been preflight checked (the workflow system handles production preflighting); an Indesign document; a Flash file; XML or a Chili Package, which is a collection of texts, images and fonts. The portal can be any online site and Chili integrates the online and desktop worlds using Web services for the former and Javascript for clients. Chili Publish is an engine that ensures complete user control over content. Also this technology is sold as a server license, so customers own their software rather than buying it as a service. They have control over their technology and their files rather than trusting to the cloud.

The Chili Editor is the heart of Chili Publish. It is based on Adobe Flex, an open source environment for building web applications that work with any browser and device, including mobile ones. The Editor has an infinite list



Chili Publish is the first technology of its kind to make it possible to do complex online document editing on the Apple iPad.

of features it can support because of this foundation: anything goes, from character styles and document usage rules, through to variable data rules and CIELa*b* colour. Underlying Chili Editor are powerful administrative tools for configuring the access, usage and editorial controls for different users and defined according to the needs of a particular application.

Because of the workspaces concept within Chili Publisher, customers can choose the functionality they want users to have, serving different constituencies of interests using different features in the user interface. The editor integrates via the API with e-commerce, MIS, and open source solutions, and is built into a web portal so customers can create their own solutions based on the Chili Publish editor.

Chili Publisher stores all data in Environments, each of which has its own set of resources such as fonts, documents, assets and users. The Environments can cross over, so that different users can work with different Environments and data stores. General settings are also

configured for the Environments, including branding options, URL access or measurement units; multiple customers can be hosted in a single Environment or web portal.

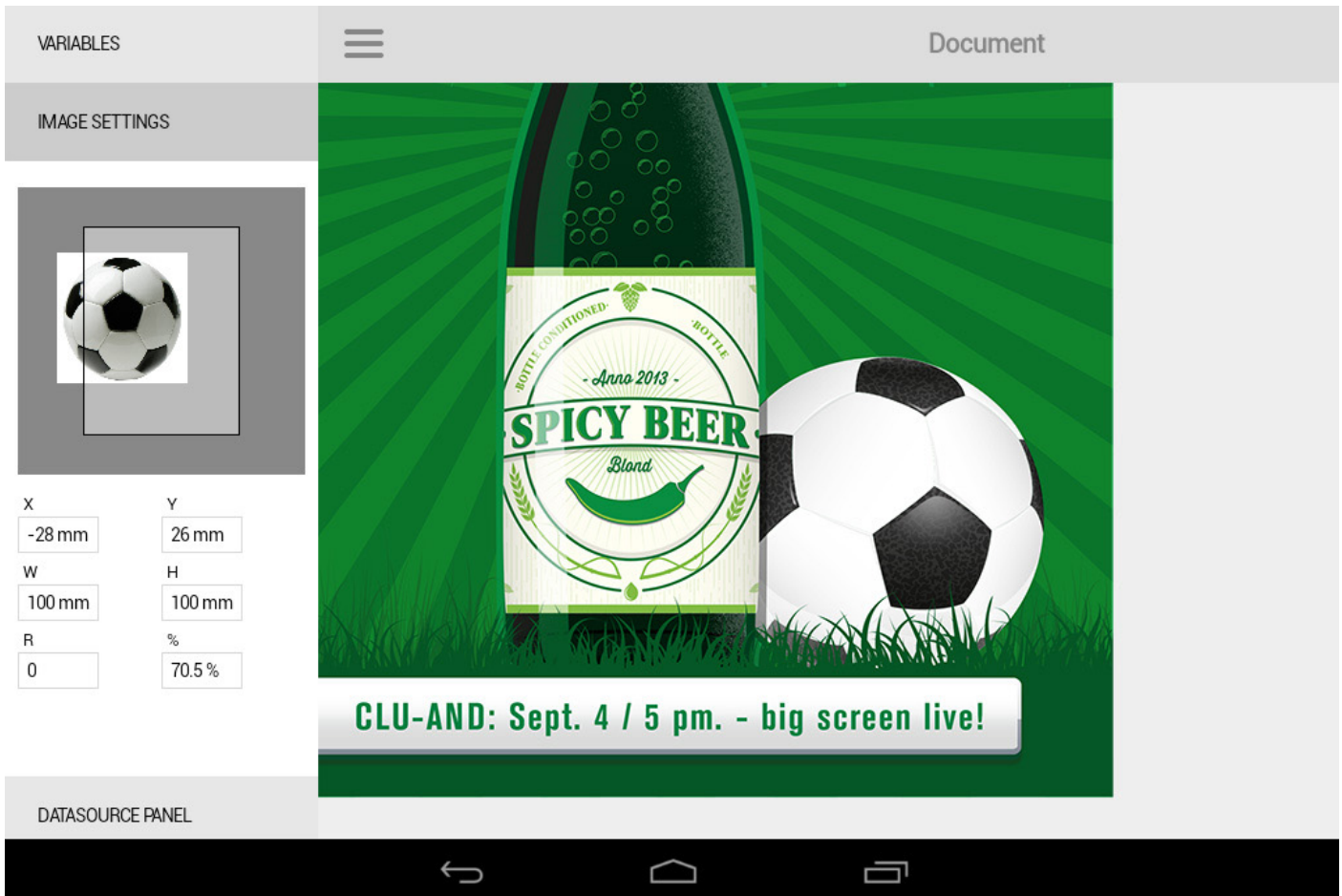
So the whole thing is very flexible and easy for printers, publishers or agencies to manage according to their needs. They can support different interests within the supply chain, creating all sorts of documents using a single system. This is not a workflow system but rather a collection of resources for creating cross media publications, within the parameters of the brand. Because Chili's foundation is an API, this technology can work with pretty much any other digital technology from MIS through to VDP.

Chili's online documents are open files with which interactions can be completely customised and controlled. Customers can therefore produce multichannel media projects ranging from the relatively straightforward to extremely complicated. All interactions with the document can be customised from editing functions and availability of assets, through to output options.

This concept of customisation is important because it shapes how users interact with a particular portal. Chili's technology ensures brand consistency and that document editors have up to date info on products and collateral, localised as much as possible using web portals and managed assets. Different portals can support different interests, such as retail and wholesale as well as brand owners, but all use the same base documents so control over media supply chains can be complete. Output options include PDF, PDF/VT, a Flash Viewer, IDML (Indesign Mark-up Language), mobile devices, or XML.

A drupa dazzler

This technology was originally launched at drupa where it attracted considerable attention from partners. Chili Publisher works with Enfocus (Switch 11), Esko (Automation Engine) and Agfa (Apogee and Asanti). Chili has many other partners including OEM deals with MIS and graphic arts players. Although Chili Publishing has released a new version for each year of its existence, version 4 is a complete rewrite which was pretty much necessary for the company's survival.



The user can fiddle with a file's components to create their own bespoke documents.

This is because Chili has based much of its technology on Flash, but Adobe has now jettisoned Flash, leaving developers with limited options. Chili is moving over to HTML5, a universal linking space across media so that content can be managed beyond print. For instance, if the HTML5 document is an online advert then that ad self-configures to a given portal environment, making possible different layouts for different channels and viewing environments.

Lightening Flash

Chili is supporting Flash for now but is fully committed to its new HTML5 editor which will run on all browsers including new ones and mobile devices. The HTML5 editor in version 4 will be backwards compatible with Flash documents so the two will co-exist. However, during this period of co-existence Chili will not be able to develop new features beyond what has been described here. It will take a couple of years to complete the HTML work but Chili is well on the way: the editor already runs

on an iPad and HTML5 output is now possible from any Chili Publish document to create live e-Pub documents, rather than page images. The new HTML5 editor ensures browser and device independence for Chili's technology effectively future-proofing it.

When it comes to living up to Flash, the hardest part will be emulating its text editing, because HTML5 doesn't have the advanced typography that Flash offers. HTML5 has nothing like such elegant composition functionality, so Chili is working on its own font parsing technology to ensure that even in HTML5, documents have complete typographic integrity. As Joeri Paeleman, another Chili cofounder, said, "everything we are capable of is coming to an HTML5 canvas ... we will be able to close the gap between desktop editing and online tools" in our next version ie version 5.

Two years is really not very long, however Chili has been working with HTML5 since before Adobe's decision to

We can fix it, just select how

- Set the vertical alignment to "Top" and try to adjust the frame position in order to preserve the layout appearance. If the vertical alignment is set to "Justify", this could give unexpected results.
- Set the vertical alignment to "Top". This will preserve the object geometry, but the text will probably flow differently.

Cancel

Fix it!

Chili's object correction tool ensures brand guidelines are met.

dump Flash. Much of what has already been achieved is an outcome of work done to translate existing Actionscript code to the .Net framework so many Chili Publisher features are already there for HTML5. The code bunnies can translate .Net code into C# code and then into Javascript, which can be translated into HTML5. This means that eventually Chili will be able to put its technology into any digital environment including TVs.

In some ways Chili Publishing is a reversion to the days of proprietary publishing technologies, which Adobe and Quark demolished with their desktop publishing systems. The difference between then and now is that Chili is based on standard, open, nonproprietary technologies operating online and integrated with the desktop and mobile devices. Chili's technology was specifically designed as an online tool, so users can create their own bespoke front end publishing system. Conversely Adobe and Quark have migrated their technologies from the desktop to the web, dragging with them the inevitable baggage of their own digital evolutions. Chili's agility is down to its unfettered technology model and the fact that

its developers have no prehistory with desktop publishing to muddle their perspectives. Truly amazing stuff.

- **Laurel Brunner**



Landa's Labours

According to Benny Landa, the two headlines journalists should take away from an exclusive press briefing last week are his technology's "improved print quality" and the fact that the S10FC is "a vastly upgraded printing machine".

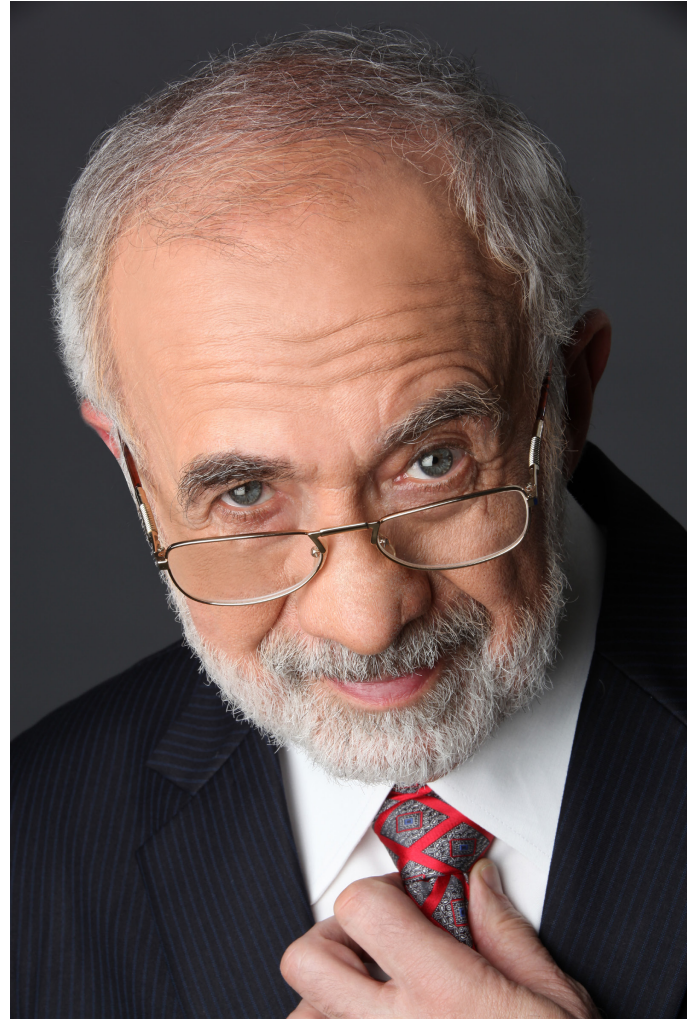
According to Landa, "when digital printing goes mainstream you will see a renaissance because the industry is ready to be digitised". Of course, most journalists went with the story that the presses were delayed by about a year, but that's journalists for you.

Landa came away from drupa with roughly 400 Letters of Intent plus deposits, and claims to have retained the support of virtually all these companies. Around 40 percent of them were packaging printers. He has ascertained that 5,000 is the most common run length and that this raises the cost per page compared to longer runs, where base costs are spread over a larger number of impressions. Digital printing is profitable up to about 5,000 impressions so Landa sees a big opportunity for Nanography.

The profitability number will rise as the technology evolves and the Landa technology gains benefits of scale, especially for ink costs. This suggests that the click charge will come down in line with ink volumes sold. However, Landa has provided no Total Cost of Ownership information beyond claiming to have "the lowest cost per page of any digital press".

Landa has been sticking to the traditional S-curve of technology development where between 2010 and drupa 2012 not a lot happened as regards colour output quality, but between then and now improvements have followed a steep trajectory. At drupa the Landa technology was "about 25 percent of where we needed to be".

Benny Landa has also learned from past mistakes. Unlike the introduction of the Indigo which was plagued with problems, he says: "We won't be shipping machines to customers until we have offset quality". Landa has spent the last eighteen months or so visiting 120 customers in



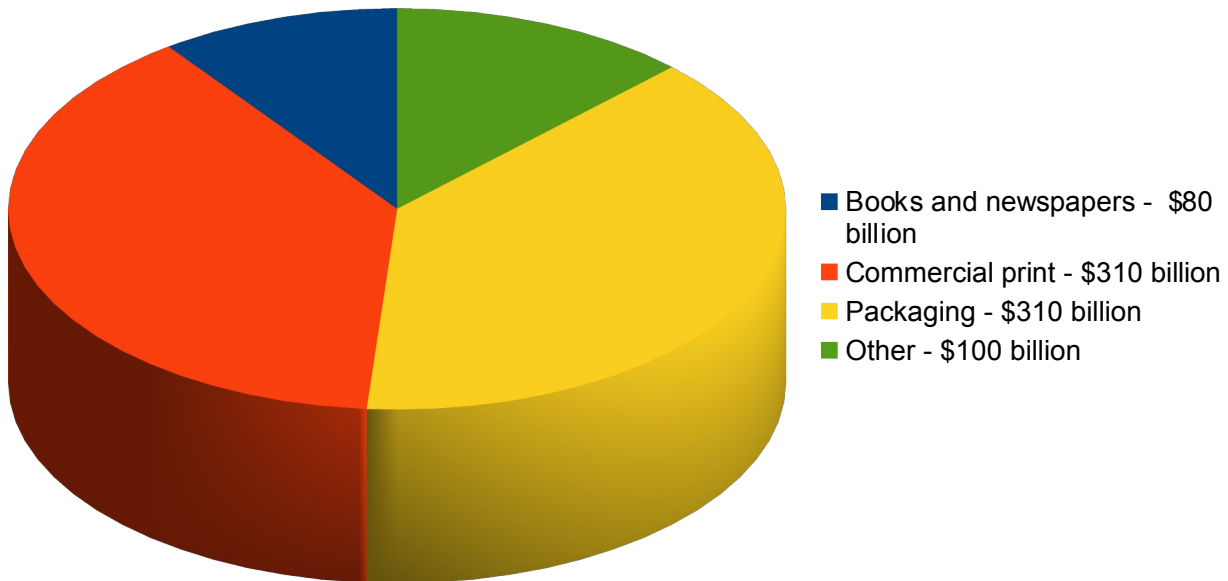
The irrepressible Benny Landa is looking to revolutionise the industry a second time.

ten countries around the world to better understand what printers want from a digital press.

What they want, it seems, is a completely re-engineered machine. It is still based on nanography, but reconfigured to be more in line with customer requirements, always a good move. Landa reckons that his nanography has a clear advantage over electrophotographic machines which are too hard to make in B1 format, and over inkjet which he claims lacks the right combination of speed and quality for this format.

Naturally, Landa reckons his technology is way ahead of the field: "We do not see on the horizon a technology that will challenge this because inkjet is not a viable technology for mainstream offset printing". There are several developers who will take issue with this, but there

Printing: an \$800 billion industry



Landa's estimate of the global printing industry's value.

is no denying that Benny Landa has form and that gives him massive credibility in the market.

Nanography uses inkjet heads to spit nanographic ink droplets onto a blanket before transferring the page image to a substrate. It is a marriage between inkjet printing and offset that Landa has made to work, much as he made liquid toner work with electrophotography on the Indigo. The trick is to work with a surface that has low surface energy, meaning that something will peel easily off of it, but to make a water-based image stick for long enough despite the surface being hydrophobic. This is “where the magic is”. The B1 Landa presses are designed to print 13,000 sheets per hour or 200 metres per minute. If the technology works it will revolutionise the digital printing industry, just as the Indigo and Xeikon presses did in 1993.

A long road

At drupa the flaws in samples were primarily misregistrations and banding. By GraphExpo the quality was up to around 35 percent of target, but at ChinaPrint this year it reached 75 percent and by Print 13 it was 85 percent. Curiously that last 15 percent will take until next year to achieve, although it isn't clear why.

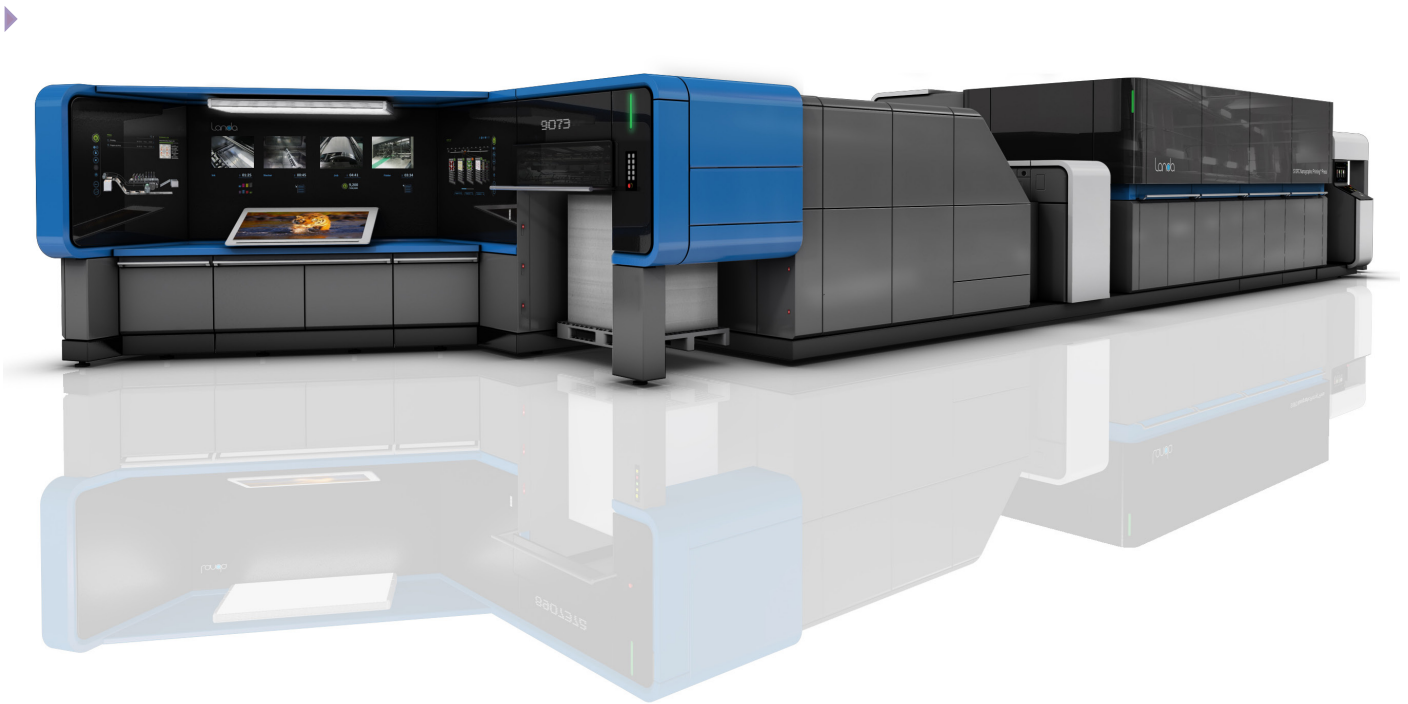
The S10FC folding carton press will be Landa's first introduction and the press is based on a completely new

architecture. Landa has “totally changed the internal architecture” to make it easier to service the machine and increase its automation, one reason why it is taking longer to deliver product.

The beta tests are now expected to start Q4 2014, with commercial delivery in mid-2015, depending on the results. The commercial model, the S10C, which is a perfecting version of the S10FC, will go into beta in the first half of 2015. There will also be a one metre wide W10 web version, the first of which may be installed at Reflex Labels in the UK.

The resolution has been upped to 1200 dpi now from the 600 dpi shown on the prototype at drupa. There is improved software and new nano-pigment inks which yield a huge latitude in printing, as Landa explains: “So [it] prints on films and papers but also such things as canvas and tissue paper with the same hard dots as offset”. Nanographic inks have a broad colour gamut with high optical density and sharp edges according to Landa.

The S10FC has an optional inline coating system but this is a conventional rather than digital unit, so it needs flexo plates imaged offline. The inline coater makes it a 17-metre machine instead of the 14-metre commercial model. Landa hopes to capture a slice of the \$320 billion



Landa has reconfigured his presses with a new workstation console, the Cockpit, at the end of the press, as with this S10FC, a B1 press aimed at the folding carton market.

market in packaging (particularly folding carton), hence the choice of S10FC as introductory machine. It is also an easier technology to get right as this sector mostly works simplex.

Gone is the giant iPad-like user interface in favour of a new Cockpit workstation console, which brings together the operator and the print stack and an inspection table with standard viewing booth lighting. Prints can be pulled and inspected without the operator having to walk too far. There are other features to “make the operator feel at home [in] a very pampering place for the operator”, lacking only a comfy recliner chair or perhaps a hammock. According to the press release the operator can “control the press while effortlessly glancing at the delivery area”.

The press is now more highly automated for non-stop printing, with an advanced paper handling system for plastics and paper so that the press can be loaded and unloaded while printing. New ink ejectors are configured for 1200 dpi output increasing reliability compared to the original design because of nozzle redundancy. It also provides more grey levels for improved colour quality control. Rumour has it that the Landa presses may use Kyocera heads but according to Benny Landa “we can

adapt to almost any type of printhead”. Development of ink plants is underway in Israel, the US, Europe and Asia.

The Landa technology can match 75% of Pantone colours but how many distinct colours the press prints relative to standard offset is not yet clear. The company is doing a carbon footprinting study of the press, and has successfully deinked the prints, working with Arjo Wiggins and Ingede. Also less than clear is how Landa will drive its press. The obvious choice given the fact that the first press is a packaging press, is Esko. However EFI should also be a possibility.

Landa is in the process of raising \$200 million in additional funding, which is expected to be in place by year end, and is banking on digital printing capturing more and more of the conventional market. It now accounts for over one trillion pages of the 50 trillion pages printed annually, mostly on B1 presses. Benny Landa believes that the industry needs a digital B1 press printing at over 10,000 sheets per hour with equivalent per page costs, quality and substrate flexibility to offset. He sees a need for digital technologies to supplant analogue production as well as complementing it. This is partly because runs are shorter and variable data adds value to pages but also

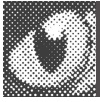
▶
for reasons of sustainability. The early adopters will be US and European companies.

The latest print samples are definitely much better than those handed out at drupa. However, compared to some other samples we have seen, for instance from the Fujifilm Jetpress, the Landa prints have some way to go. This is extremely interesting technology and it might be true that there is nothing with the capacity of nanography to deliver a viable replacement for offset.

But developers in inkjet and electrophotography are not standing idly by waiting to be tsunamied by a new technology. For customers and publishers having a range of alternatives from which to choose, all of which offer the benefits of digital printing, with the cost and quality advantages of offset has to be good news.

- Laurel Brunner

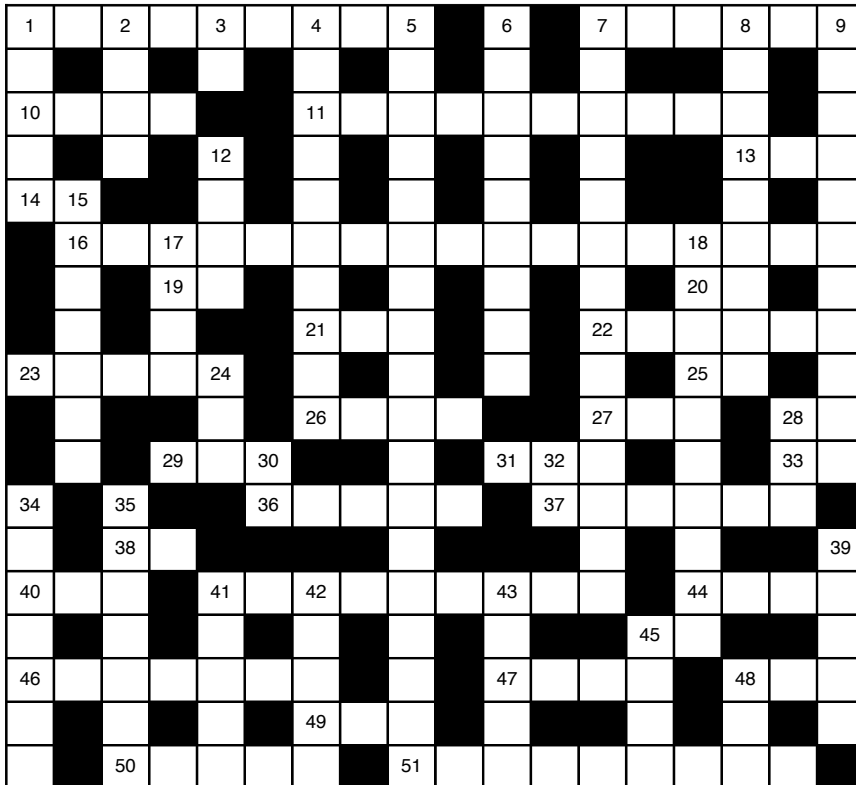




X-word Puzzle

Number 46*

This month's puzzle got a little out of hand. It is a tad longer than usual, but not any more difficult. Something to keep you busy as you buzz from train to plane to work and so to home, eventually.



Across

- 1. Before the publisher, has the final say on content and copy. (3, 6)
- 7. Position content elements on the page during creative phase. (6)
- 10. Jobs go in these. New app for signage printers? (4)
- 11. The ISO standard specifies several of these for use in colour controls. (5, 5)
- 13. Trades Union Council. (3)
- 14. Emulsion Aggregate. (2)
- 16. They are supposed to offer better colour quality than inkjet, per Mr Landa. (11, 6)
- 19. Overdose. (2)

*Answers in the next issue

- 20. Not applicable. (2)
- 21. Point of Sale. (3)
- 22. Female sibling. (6)
- 23. Concur. (5)
- 25. Physical exercise. (2)
- 26. Pull an American? (4)
- 27. Definite article. (3)

- 28. Third person singular, male. (2)
- 29. Don't subtract, divide or multiply. (3)
- 31. Dot gain as was. (3)
- 33. The letter after m and before p. (2)
- 36. The key. (5)
- 37. Replaced the modem for connecting to the internet. (6)
- 38. Operating System. (2)
- 40. Work. (3)
- 41. A means of managing workflow and keeping track of data. (9)
- 44. Non-proprietary. (4)
- 45. Brighton, UK postcodes start with these two letters. (2)
- 46. They exist only in our heads, a trick of the light. (7)
- 47. A line, something to follow. (4)
- 48. Third person singular, female. (3)
- 49. Beige to brown. (3)

- 50. Satisfies. (5)

- 51. A customer's word. A witness statement? (9)

Down

- 1. Collection of fields arranged in a grid or matrix. (5)
- 2. The side but much thinner and the place of max excitement? (4)
- 3. Or make? (2)
- 4. The art of elegant letters and composition. (10)
- 5. Some call it plagiarism, others call it this. (11, 7)
- 6. They constitute the finished layer on UV prints. (5, 4)



- 7. So easy to get in a muddle with this in Indesign. Supine or prone? (5, 9)
- 8. Stubborn or determined, either way annoying? (9)
- 9. Revolutionised mobile device user interface. Put your finger on it. (5, 6)
- 12. Must be kept away from migrating inks. (4)
- 15. Fogra, IDEAlliance plus an active industry association. (3, 4)
- 17. A connection point or knot. (4)
- 18. Audit or checking what's up. (10)
- 24. Finish. (3)
- 28. Not him
- 30. Shorthand for database. (2)

- 32. Virtual Reality. (2)
- 34. Things or he complains? (7)
- 35. Untethered desktops? (7)
- 39. Input. (5)
- 41. Solution used on press. (5)
- 42. Collections of things to do. (5)
- 43. Identifiers on plate and in print? (5)
- 45. Some with electrons, some with laser, or a wide smile? (4)
- 48. Source of all natural light. (3)

Number 45 - Answers

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

