



Knowledge is invariably a matter of degree: you cannot put your finger upon even the simplest datum and say this we know.

– T. S. Eliot

## Dear Reader,

We have a database of equipment installations that mostly covers printers and publishers in the UK, but some 30% of the companies are based elsewhere. This list covers everything from publishing software to platesetters and digital presses, with everything in between. Our efforts to gather data on new installs started years ago, but it's only been in the last few years that the data's been maintained in digital form. We keep the list in order to observe trends, sales, customers, and as a means of keeping in touch with the grass roots of the industry.

According to our database, 2014 so far has been the most active year for new installations since 2008. There is a clear trend of digital printing systems, and of workflow technologies installed to drive hybrid environments. Digital systems for signage, packaging and label production are also very active.

The information in our database reflects reality, but only up to a point. What it tells us is that the graphic arts industry hasn't stood still over the last six years and that developers and manufacturers are keeping ahead of the game. They are inventing new things that printers and publishers want to buy and do buy. Those that invest are thriving. Those who do not need to get their fingers out.

Enjoy!

Laurel, Nessian, Paul and Todd



## In This Issue

### Ricoh Goes with the Flow. Totally.

Last month we saw some of the new print engines that Ricoh has announced and this month Laurel Brunner has had a closer look at the workflows that will power these printers, and particularly the new TotalFlow Print Server R600A, which adds support for PDF workflows.

see page 10

### Industrial Revolution

Nessian Cleary has been to see Industrial Inkjet, a small British company specialising in building inkjet systems to answer specific customer demands, which also acts as a sales and support agent for Konica Minolta. Recently, IJ has also launched colour and mono print engines that have been used to create hybrid flexo solutions.

see page 14

### Heavy duty hybrid

Paul Lindström has tested the Agfa Jeti Titan HS, a hybrid large format printer that's aimed at the higher production end of the market. Find out why it won the 'Product of the Year' award at the recent SGIA Expo in Las Vegas, US.

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## News Focus

**HP** is splitting itself into two: Hewlett-Packard Enterprise and HP Inc which will be the printing industry bit. HP's also announced its view of computing's future in tandem with 3D printing. HP Multi Jet Fusion is a "revolutionary technology engineered to resolve critical gaps in the combination of speed, quality and cost, and deliver on the potential of 3D printing" and Sprout is HP's first foray into immersive computing. We have a full story on what's happening on page 6.

**Quark** has announced a new version of its page layout program. QuarkXPress 2015 will be based on a new 64-bit architecture for faster performance. It includes a dedicated Orthogonal Line Tool, larger page sizes, Format Painter and the ability to Relink Any Picture in the Usage Dialogue. There's also automatic footnotes and end notes, a faster table tool for Excel integration with table styles and a text variables feature for automatically populating reoccurring fields – such as running headers.

**Heidelberg** has finally launched Prinect Media Manager, a media publication system for publishing identical information in different media channels. Thus image, text, and video data is stored in a database and output for print

and online media in an automated process. Any changes need to be made only once in the system, which ensures multi-channel publishing is efficient and cost-effective.

**Xerox** has released a number of enhancements for its CiPress printers. These include a new Ink Measurement and Proofing Tool that can work out the cost of ink of a job and will also create soft proofs of the printed output so that there's no need to run jobs to be inspected on the press. There's also a Megtec in-line Aqueous Coating System and a new MICR Print module that can print at up to 500 feet-per-minute on standard untreated stocks.

**Kodak** has enhanced its Nexpress printers, extending the long sheet capability to 1 metre, and adding a Dura Coat varnishing Mode plus a new Light Black HD Dry Ink in the Fifth Imaging Unit. There's also an automated imaging cylinder cleaning system. These configuration changes will become standard on all presses built in 2015 and will be available as optional or standard upgrades on the majority of installed presses.

**EFI's** Q3 figures show record revenue of \$197.7 million, up 11% compared to third quarter 2013 revenue of \$178.8 million. Non-GAAP operating income was \$30.8 million compared to \$22.8 million for the same period in 2013. Non-GAAP net income was \$20.6 million or \$0.43 per diluted share, compared to non-GAAP net income of \$18.7 million or \$0.39 per diluted share for the same period in 2013.

**Esko** has developed a new iCut Production Console for its Kongsberg digital cutting tables. It's a front end operating system that will drive all functionality found on Kongsberg tables, such as camera control, machine set up, tool recognition, calibration and tool adjustments. It combines the feature set of the XL-Guide tailored for packaging applications and i-cut Vision Pro.

**GMG** is to integrate DIC ColorCloud into its OpenColor and ColorProof platforms. The DIC ColorCloud service contains spectral data of real inks. It will allow all operators from planning to printing to reference to use the same spectral colour database and share the same colour data, globally, no matter where they are. It is still being developed and scheduled to launch in 2015.

### Spindrift

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▶ **Agfa** has launched a new 2.5m wide UV printer, the Anapurna M2500i. It has six colours plus white and uses six Konica Minolta KM 1024i greyscale print heads for colour and two KM 1024i heads for white. Its maximum resolution is 1,440 x 720 dpi and its maximum productivity is 115sqm/hr. There's an optional automated board feeder (ABF) that allows up to five boards to be printed in parallel.

**Roland** has launched a new dye sublimation printer, the Texart RT-640. This 64-inch printer is designed to print to transfer paper and is available in either four- or eight-colour ink configurations. It uses a new Roland dye sub ink and comes with a bulk ink system that uses one litre airtight-sealed pouches. It can print at up to 32.6 sqm/hour. There's a choice of RIPs between Roland's VersaWorks and a Roland edition of the ErgoSoft RIP.

**Matan** has launched a new 3m wide UV hybrid printer, the Quantam SWF, which uses LED curing. It's designed for high quality work that can be viewed from close-up. It uses a greyscale printhead with a native 7 picolitre drop size and 1200 dpi resolution. Matan also announced some additional add-ons, including a Jumbo Roll Media Handling System for rolls of up to 750kg and an ID Backprint that prints file and job information on the rear of a job.

**Phototype** has integrated PantoneLive into its proprietary Print Quality Management System (PQM) that is used by packaging printers to check supply chains by sampling press runs at regular intervals to determine how a job is performing. The PantoneLive libraries can be used to verify colour accuracy during design and production processes.

**Canto** has teamed up with Magnolia to integrate the Magnolia CMS's Java Open Source platform into Canto's Cumulus asset management program. The goal is to integrate digital assets into websites and apps and avoid duplicates and versioning of assets across marketing channels.

**SA International (SAi)** has updated its Flexi sign design software. There are new finishing tools for adding grommets, folds and bleeds. There's also a new QR Code

Creator that automatically converts text into a QR code, which integrates with Flexi's Auto Serialization Tool for printing a sequence of interactive banners. The new version also comes with new printer and cutter drivers.

**Corel** has announced a new 2015 version of CorelCAD. There are new 2D editing tools: ExplodeBlockX maintains the attribute values while exploding blocks to editable shapes; the DiscardDuplicates tool simplifies geometry; and the interactive trim path precisely trims curves and corners on screen. The Windows version gains a new Parametric drawing tool that uses dimensional constraints to ensure 2D designs meet exact proportion, angle and size requirements.

**Extensis** has launched version 6 of its Suitcase Fusion font management program. This works with Adobe's Creative Cloud 2014 plug-ins and panels to auto-activate fonts in Photoshop, InDesign and Illustrator. It also works with QuarkXPress. There's also support for Dropbox and Google Drive for Cloud-based Archive & Restore.

**Quark** has released a free Document Converter tool that allows customers to open legacy QuarkXPress files in QuarkXPress 10. It supports documents created with QuarkXPress 7-10, saving the need to keep an older copy of QuarkXpress around. It can batch process a whole folder as well as individual documents.

**Colordyne** has launched a new label press, the CDT3600, which uses Memjet's latest Aspen print engine. The CDT3600 can run at 69mpm at full colour resolutions with up to 1600 x 1375 dpi. It uses a laser die cutting solution from LasX and its designed so that its main sub assemblies can be upgraded in the future.

**Xerox** has launched five office printers, including three A4 monochrome devices with built-in wireless and Apple AirPrint for printing from mobile devices. There are also two ColorQube desktop A4 colour printers, both using solid inks and capable of 51ppm.

**Agfa** has launched a consultancy program for newspaper publishers, called Expert Services. It includes a series of programs such as ISO based quality control procedures, training, consultancy and system integration specifically-



▶ designed to assure newspaper printers that their organisational needs are being met and that everything from CtP to press is running as smoothly and efficiently as possible.

**Kiian Digital** has launched a new set of fluorescent transfer sublimation inks, with vivid pink, yellow and green available under the Digistar range. However, the new green inks are only available for the Digistar HD-One range for Epson piezo print heads. These inks are said to offer excellent drying properties, high chromatic performance and a wide colour gamut.

**Mimaki** has released a new clear LH-100 ink for its JFX200-2513 flatbed LED UV printer. It's good for glossy and matte finishes and can be built up in layers for more vibrant colours or to create tactile effects. It's suitable for applications such as high end PoS, labels, textured finishes and even Braille.

**Drytac** has announced a new peelable wall film, ReTac 75, designed for internal wall graphic applications. This is a 75 $\mu$  (3 mil) 'permanently peelable' white polymeric PVC film coated on one side with a pressure-sensitive low-tack repositionable Polyacrylate adhesive. It can be repositioned and removed from most surfaces including concrete sealed walls, plastered walls and glass. It is compatible with Latex, Solvent, Eco-Solvent and UV inkjet printers.

**Inca Digital** has expanded its Cambridge base in the UK with a new Training and Validation customer support Centre, which offers personalised training and extensive testing of new features and evaluation of new substrates. The business development resource within the R&D department has also been extended as part of Inca's strategy to develop its inkjet technology for a variety of industrial applications.





## News Analysis

### **KBA expands webfed inkjet press range**

KBA has announced a new family of inkjet presses with the RotaJet L-series. There are five new models with a choice of web widths, from 895 to 1300mm, which should allow KBA to target several markets from direct mail to magazines and newspapers. Monthly print volumes should range from 106 to 175m A4 pages.

However, they have a modular design so that the smaller presses can be upgraded to the wider models later. Equally they can be upgraded from one to four colours. For now they use the same 600 dpi Kyocera printheads as the existing Rotajet 76 press and will run at the same 150 mpm speed. But they can be fitted with newer heads when they become available, though KBA has said that it is planning to continue working with Kyocera in the future.

KBA will continue to sell its original Rotajet 76 press, though this cannot be retrofitted to the specification of the newer presses.

The presses will be fitted with reel unwinders taken from KBA's offset presses, together with an auto-splicer, which will allow reels to be changed without stopping the web.

In addition, KBA is to collaborate with HP to develop new roll-to-roll inkjet solutions for the high-volume corrugated packaging market. The new press will use HP's thermal inkjet technology and KBA's paper handling, though neither company has revealed any further specifications yet. It will be marketed under the HP brand.

Meanwhile, KBA has also reported a slump in orders for newspaper web offset presses at the World Publishing Expo in Amsterdam. Nor have newspaper publishers invested in digital printers, with Christoph Müller, KBA executive vice-president for the web press division, saying: "Traditional newspaper houses currently connect digital first with online or mobile activities."





## Driftwood

### HP Splits into HP Inc & Hewlett-Packard Enterprise

HP is in the process of separating its enterprise and computing businesses from its personal computing and printing (PPS) business. The deal is expected to complete at the end of fiscal 2015, which is about this time next year and produce Hewlett-Packard Enterprise (HPE) run by Meg Whitman and HP Inc run by Dion Weisler. HP Inc will have revenues of \$57 billion and an operating margin of 9% and will retain the HP logo. And the new company will be about much more than ink.

The current boss of HP's printing and personal systems business, Dion Weisler, will be in charge of HP Inc, but it is likely that he will appoint separate bosses for the PC and printing businesses. It makes sense to have a dedicated boss for the printing part of HP Inc. Our money is on someone who understands the graphics industry and who has experience with managing the diverse requirements of commercial colour printing, inkjet web printing and wide format digital, such as Steve Nigro, who is currently senior vice president of the Inkjet and Graphic Solutions businesses (IPS and GSB).

Whomever is responsible for HP Inc's printing business will be in charge of an organisation that will have far more flexibility than is possible within the current HP structure. It will have far greater independence and agility, and be able to invest its profits into research and development, as well as its people and as returns to shareholders.

Mr Weisler has been in post for the last 14 months and has shown solid interest in the printing business, which is very good news. According to an HP spokesman, Mr Weisler is engaged with customers and "very interested to be in the printing business". The PPS division has contributed very substantially to HP's profits, according to HP's Q3 numbers published some weeks ago. HP's Q3 net revenue was \$27.6 billion, of which \$14,239 million came from PPS, with printing contributing \$5.6 billion, 4% down on the same period last year. However, Printing Solutions' operating profit for the quarter was \$1,026 million which

is 18.4% of turnover and a whacking 38% of HP's overall Q3 2014 profit of \$2.3 billion. The PC business generates more revenues (\$8.65 billion) than printing and grew 12% fiscal Q3 quarter for quarter, but this business traditionally has lower margins, hence its lower operating profit of \$346 million. In financial and profit terms "printing is absolutely dominant".

HP PPS has been improving integration of its business units for a number of years, with Scitex top management now located in Barcelona to be more tightly aligned with the dominant part of HP's wide format digital business. It



*Dion Weisler, current boss of HP's printing and personal systems business, will become CEO of HP Inc. in 2015.*

is a safe assumption that the people in senior positions within the printing side of things will remain. Thus for the Inkjet Web Press business Aurelio Maruggi will likely stay at the helm, as will Alon Bar-Shany at Indigo. Both men have been extremely successful in gaining solid market positions for their respective divisions. Wide format digital printing has also done very well in the hands of Ramon Pastor and Xavier Garcia.



The number of people at HP Inc will probably be fewer than the number who go to HPE as this business is more labour intensive. Throughout its five year restructuring, HP has continued to eliminate positions and currently employs around 300,000 people. If we follow the net revenue split, HP Inc will probably have around 100,000 of these people, including research and development. HP Labs are effectively already separated according to the type of research they do, so these will go with their respective divisions when the new companies are formed.

One area that isn't immediately clear is the functioning of HP Financial Services (HPFS) which has been a very big plus for HP customers in the printing business. It would make sense for HP Inc to set up its own financial services division or to have access to HPFS, which will reside within HP Enterprise.

The split-up of HP is part of a wider trend of global companies making themselves smaller, so in some ways the HP news comes as no surprise. For the last four years HP has been executing a complex five-year turnaround plan, and this split will be its conclusion. For customers of HP's PPS the split is good news. The company will be able to focus on its markets and manage its business to suit those markets and customers, without the distractions of being part of an unwieldy behemoth. HP Inc will of course be about more than ink and part of its focus will be improved "raw computing experiences" as well as printing.

This means 3D printing with HP MultiJet Fusion technology based on HP's Thermal Inkjet Technology aimed at commercial manufacturing.

It also means Sprout, the first product in what HP calls its "Blended Reality ecosystem", a place that is presumably accessible without stimulants. Sprout is an Intel i7processor with 1TB of storage and a Windows 8.1 operating system. To this add a new software platform, a touch screen with a 20 point capacitive touch mat, and a 3D scanning projection system. Ron Coughlin, HP's senior vice president, consumer PC and solutions, says that "People have always created with their hands. Concurrently, technology has progressed from the first transistors, through calculators to today's most

sophisticated computing platforms. Until now, the physical and digital worlds have largely been separated and digital creation has remained in 2D. With Sprout by HP, we [are] seamlessly merging these two worlds together, enabling people to intuitively bring their creations, work, and projects to life in 3D."

It's a more than interesting concept and one that brings closer the two parts of HP Inc, with the added dimension of 3D printing. At the very least it strengthens HP Inc's underpinnings, and could help the company regain some of its PC mojo. It could also fit very neatly with HP's professional printing technologies, however this depends as much on HP customers as it does on HP. Dion Weisler, executive vice president, PPS said: "We are on the cusp of a transformative era in computing and printing". He may be right. We'll take a deeper look into this for a future issue.





## A Review

### High quality scanning

OK, the headline might be somewhat misleading, but in essence this is actually what this short review and test is about. We have tested the new added functionality of the X-Rite eXact spectrophotometer, which makes it possible to operate it in scan mode.

This should be of interest to printers and publishers working with systematic quality assurance at a high level. While the very popular “little sister” instrument, the i1Pro2 spectrophotometer (and earlier models of i1), already has scanning functionality, in quality terms it’s considered a mid-range solution by X-Rite itself, which recommends the eXact for high-end production measurements.

But there are more reasons than quality to use an eXact in scan mode, instead of using an i1. Firstly, while the i1pro2 needs two passes to conduct measurements in M1 mode, the eXact has a dedicated M1 mode with only one pass required. Secondly, many press control strips use quite small colour patches, often down to only 3-4mm height or width, but the i1-series needs fairly large patches in order to provide accurate measurements. The eXact can be equipped with small apertures down to 2mm, so can read much smaller patches than the i1Pro.

For owners of an eXact, the scan functionality should be a welcome addition to the features of this spectrophotometer. It’s much more efficient to read a colour bar in scan mode, than reading single patches. The alternative is to buy an in-press, or “near-press” scanning spectrophotometer, and that puts you into quite a different price category than the eXact.

So how does the scan function work? X-Rite has developed a dedicated scan chassis, which can easily be snapped onto the base of the eXact. This chassis contains a little wheel with thin white bars to detect the speed that the eXact is moved at (see picture). An optic sensor, similar to the one in the i1Pro2, detects the speed with which the eXact is moved, and so can both warn if the speed is too high or low, and help when analysing the measurement

data. As an option an alignment bar can be bought from X-Rite, which will be especially useful when scanning very long control strips.

Unlike when making single spot measurements, where the eXact can be used in stand-alone mode, the scanning mode assumes that it is being used in conjunction with a quality control software. Even though the eXact contains a built-in computer, accessible through a touch screen, for now this internal software doesn’t support scan mode on



*The X-Rite eXact spectrophotometer can now be used in scan mode, measuring one or several rows of a control strip in a fast and efficient way.*

its own. This shouldn’t be much of a limitation, since the eXact can be used wirelessly through a Bluetooth connection, and quality control measurements are normally fed into a central database.

There are many such software solutions on the market that support using the eXact in scan mode. X-Rite itself supplies several options including the iCQ and/or ColorCert, and there are other examples, such as Bodoni pressSIGN, Mellow Colour PrintSpec and Tucanna PrintControl and





*To help judge the speed to move the eXact, the display will show a large white circle for the correct speed. Smaller blue circles indicate too low a speed, and larger magenta or red circles too high a speed.*

RapidCheck. One limitation though is that for now X-Rite only provides a driver for the eXact on Windows, so Mac users need to run Windows virtually to access this function.

Once properly setup, using the eXact in scan mode is pretty straightforward. Whether using an alignment bar or operating it free-hand, you'll soon get the hang of how to handle the eXact and the correct speed to use in the movement. A big help in judging your speed is the feedback on the display – a large white circle for correct speed, smaller blue circles for too low a speed, and finally larger magenta or red circles indicating moving the eXact at too high a speed (see picture).

The eXact was previewed by X-Rite at drupa 2012, and the observant visitor could already then see a prototype scan function in action, as a “technology demonstration”. It has taken X-Rite a while to finish this feature, but we

think the waiting has been worthwhile. The price for an upgrade is approximately €1000, depending on what model eXact you have, and what region of the world you are in. Applied print quality control, either by print buyers, publishers or printers, is steadily becoming more and more common, and this means that the ability to carry out quality measurements in scan mode is much in demand.



# Ricoh Goes with the Flow. Totally.

**Ricoh's plans for its latest inkjet press technology covered in our last issue, indicate the company's growing importance in the graphic arts business. With the introduction of the impressive VC60000, a continuous feed drop-on-demand inkjet printer, Ricoh is moving the goal posts. Ricoh's new Digital Front End (DFE), the R600A, signposts the company's future intentions. Like Canon and Xerox, Ricoh has its roots in the office business, but Ricoh is moving faster and more aggressively to establish a strong position in the commercial print sector.**

Ricoh's introduction of the TotalFlow Print Server R600A, is a point of departure that takes it deeper into the commercial print market. Mike Herold, Ricoh's director for inkjet technologies for continuous feed, says: "We're going in a new direction with this new DFE". The work that's gone into the R600A is based on a solid foundation of data processing so it's not a totally new perspective. The R600S is "more graphic arts capable ... because we needed another system to take us into the graphic arts".

The new DFE includes native support for PostScript, PDF, PDF-VT, JDF/JMF to drive finishing devices, and IPDS/AFP, so it can support extremely complex datastreams. This may not matter yet to commercial printers, but it positions Ricoh to support high performance variable data-driven, colour graphic arts production. They use a CPSI RIP for the PostScript elements and APPE for PDF iterations, brought together within the IPDS/AFP architecture. Until now PDF workflows for commercial print applications have been left to Ricoh's partner, Screen, with Ricoh focusing on IPDS/AFP applications, in a division that colour usage has roughly dictated.

This divvying up of the customer base for variable data applications has been beneficial to both Screen and Ricoh because it was based on a model of mutual exclusivity. The TruePress Jet 520HD and the VC60000 share a common print engine platform (Screen iron with Ricoh heads),

but their front ends are substantially different: one has a data orientation and the other a colour one. Screen is focused on the commercial printing sector with an Adobe PDF Print Engine-based workflow, Equios, for high end colour production. Screen has already announced the sale of the first 520HD at Nic.Oud in the Netherlands due for installation early 2015. Ricoh has served the transactional market with the InfoPrint controller supporting AFP, PostScript and PDF for high speed variable data applications.

Between them the two companies have over 700 installations of these systems, but, for Ricoh at least, the market delimitations are changing. Mike Herold says that "we've been making continuous feed drop-on-demand systems since 2007, but the market is starting to realise the full capability of what these machines can do, which is requiring us to provide support to customers and requiring the engines to keep improving." This is part of the reason for beefing up the front end. As Herold says, "if we didn't think we could sell quite a number, we wouldn't make this investment".

## Customer Driven

Ricoh has also benefited from its Business Driver customer support programme, which keeps it in close contact with customers and their requirements. It is providing Ricoh with a strong advantage in the market. Simon Tapley in the production printing business group says that "we are seeing the expertise we have from high speed continuous inkjet coming into the graphic arts space. I see this as a migration of expertise". So Ricoh is widening its scope.

Herold says that "even in markets we consider our traditional legacy what's happened is that our traditional customers are looking to do more unique things, things that are possible with the 60000". This means graphically intense communications, with more colour content and variable data, increasingly in a PDF workflow. Ricoh has two beta installations in Europe and is taking orders for the new technology.

The Los Angeles Department of Water and Power (LAWPD), for instance, serves over two million customers with over thirty percent of customer service calls made



*The Ricoh VC60000 continuous feed drop-on-demand inkjet printer*

because their bills are confusing. The LADWP is changing its customer communications to be more effective, so they will include more graphics and colour.

The statements are still produced in an IPDS workflow and output on InfoPrint 5000s, with the DFE calling in PDF and PDF/VT data as needed. Ricoh is helping the department to further optimise the workflow and get data onto the engine in software. Nick Fiore, Senior Manager, Product Marketing says that: “Whatever element resource needs to be embedded, we can do it”.

## **The IPDS/AFP Data Architecture**

Developments of the IPDS/AFP technology are continuing, particularly for colour control. Since 2004, an IBM driven IPDS/AFP colour consortium has driven its colour capabilities. This group has since expanded to control the whole AFP architecture with 38 contributing members all of whom produce, consume or transform AFP data. The “consortium is continuing to evolve and drive forward

the architecture of IPDS” according to Herold. This means that customers will be able to configure very flexible workflows, based on IPDS/AFP or PDF/VT or both.

The R600A has the flexibility to support such complex data streams and Ricoh is seeing a growing uptake of PDF/VT amongst its transactional customers. For the time being, it is retaining its Process Director DFE for the transactional sector for legacy reasons but it’s more recent solutions go under the umbrella brand name TotalFlow. For this brand, Ricoh has established partnerships in Europe for MIS and web-to-print production. Ricoh is also working to achieve ISO 12647-2 compliance on its engines; the VC60000 is precertified for compliance to Idealliance’s G7 scheme and will include the Fogra control strip next year.

IPDS/AFP is still not particularly well known in the commercial marketplace even though it can do nearly everything that PDF does, and usually much faster.



*The first Screen Truepress Jet 520HD will be installed in January at Nic.Oud, in the Netherlands. A second will go to Baumer, in Switzerland.*

However, when it comes to colour production PDF and PDF/VT are still ahead of IPDS/AFP, despite its advances. For instance, although AFP can embed colour profiles, a PDF workflow can fully colour manage individual pages and specific elements on those pages. It can colour manage within the datastream, so that different content types such as fonts or images can be colour managed individually. IPDS/AFP colour management applies to the entire datastream, so everything in that datastream is affected by the same colour management processes. With PDF the colour appearance of different pages and elements can be far more nuanced, which is why Ricoh is more interested in strengthening its support for PDF workflows.

## What Does it Mean for Screen & Heidelberg?

Conflict in the channels is always a possibility with OEM deals, but until now the three companies selling Ricoh technology have served clearly separate customer bases. Nothing much will change for Heidelberg which has since 2011 offered Ricoh's C901 and C751 series under the Linoprint C brand. To date Heidelberg has installed around 500 Linoprint C systems worldwide. New versions are coming in Spring 2015: the Linoprint CV is a five colour machine including white and the Linoprint CP runs at 130 pages per minute.

A new version of Heidelberg's Prinect front end with improved rendering technology will also come out next Spring. According to a Heidelberg spokesman "this cooperation with Ricoh remains open in all areas. There are just no specific plans for now to cooperate on inkjet." Jason Oliver, head of Business Area Digital at Heidelberg adds that "partnerships are the key to long-term market success in the digital sector. By marketing

highly developed digital printing systems from Ricoh, Heidelberg has succeeded in establishing itself as a digital print supplier in the sector," so we should probably expect more from this relationship in the future.

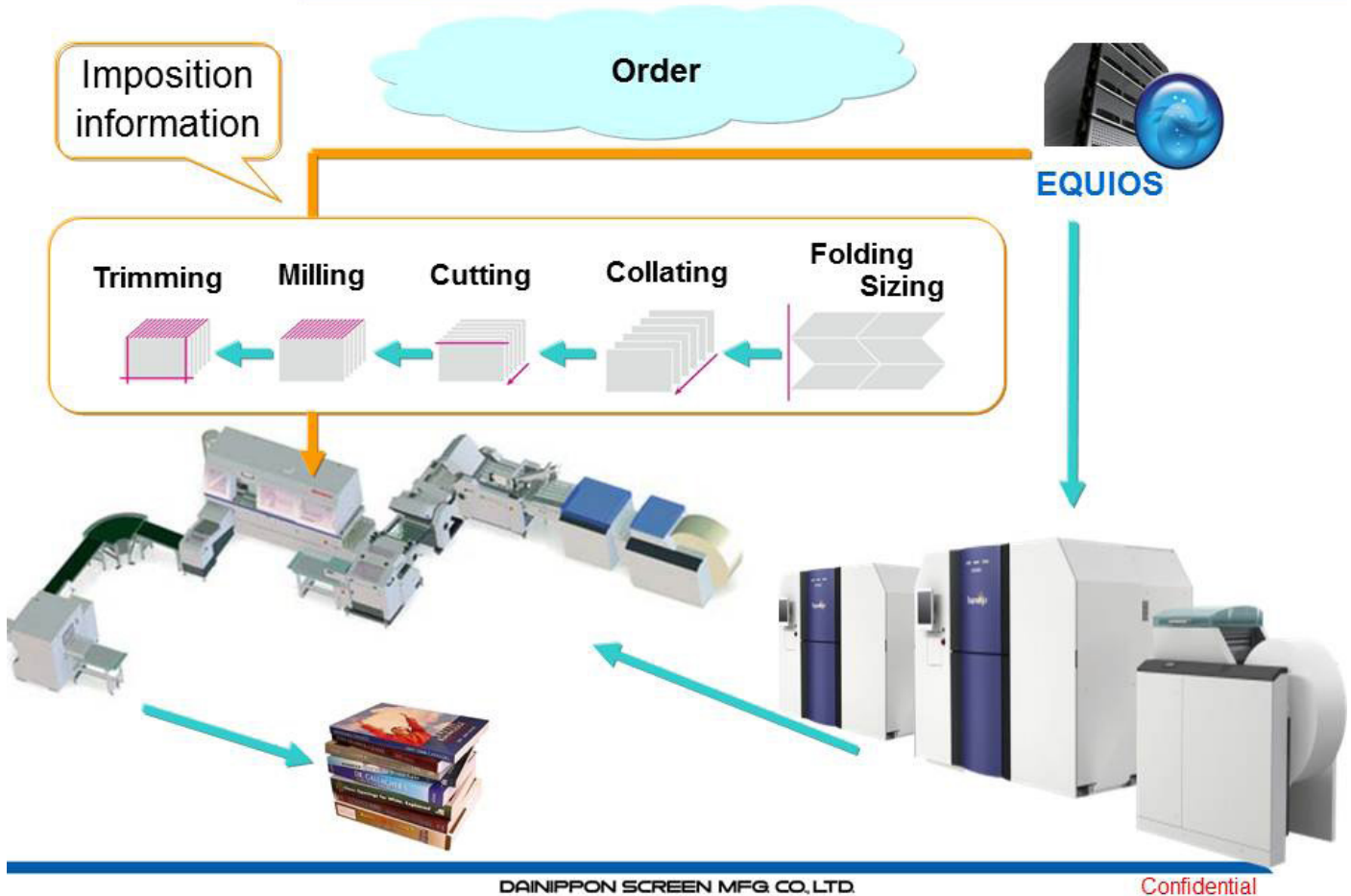
For Screen there are changes coming, although Equios and the TruePressJet 520HD are already positioned for printing graphically rich direct mail and book applications with quality colour. Equios has always been very strong on colour control. Tim Taylor, Screen's European marketing manager, says that for Screen "the limitations have always been on the output device". The company has a substantial number of customers doing transactional work plus a commercial and a few customers producing "bespoke" work. The TruePressJet 520HD can produce higher quality, so this plus the expanded range of papers it can print strengthens Screen's voice in commercial conversations.

TAGG, a member of the IPDS/AFP colour consortium, supplies the Screen IPDS/AFP controller (as it does for Xeikon, Riso and others). Screen has offered IPDS/AFP technology for the last twelve months, but so far only a couple of Screen customers are using it. All are producing full colour, but for applications such as invoicing where the proportion of colour printed ranges from less than 15% to 20% coverage. Screen has also seen only limited use of PDF/VT, despite a general awareness of its potential. The same is true for JDF, the uptake of which is limited within the Screen customer base. Although Screen doesn't have a customer programme equivalent to Ricoh's Business Driver programme it provides support on a bespoke basis to customers who need it.

For the future Taylor says that "we have a strong and successful relationship with Ricoh so there is every possibility that we will continue working with them, at

SCREEN

## Equios – automated workflow



The Screen Equios automated workflow.

least for continuous feed engines.” We expect to hear more about Screen’s new developments later this year.

Screen has a long history in the graphic arts and a robust market position. But its partner is set to become a serious contender in the graphic arts business, with fingers in many pies from transactional print to wide format digital. Output from the Ricoh C901 and C751, for instance, can hold its own when compared to print from HP Indigos and iGen4s. At a recent two-day judging session looking at digital print award entries, a surprising number of successful shortlisted entries were printed on Ricoh

engines. The TotalFlow R600A is the foundation that Ricoh hopes will take it yet further to the heart of the commercial print market.

- **Laurel Brunner**



# Industrial revolution

**As the name implies, Industrial Inkjet Ltd is located in a nondescript unit on an industrial estate hidden away behind a motorway service station just north of Cambridge, UK.**

Yet this small British start-up aims to be a major player in the global market for inkjet printing. And although IJ is an independent company, it's backed up by a major player, Konica Minolta, for whom it offers sales and support. The company is owned by managing director John Corrall



*John Corrall, managing director of Industrial Inkjet. Photo © Nessian Cleary*

who set it up in 2005, largely at the suggestion of Konica Minolta's head of its inkjet business, the charismatic Akiyoshi Ono. Corrall explains: "The idea is that we are technical, not just sales. He wanted people that he could trust to support customers and OEMs and to be hands on to make sure that nothing went wrong."

There's a very close working relationship between the two companies. Corrall says: "Engineers come over from Japan. They only see the technology there but over here they see the customers and they go on field visits and

see everything in context." In addition, the company has 40 permanent staff, mostly based in the UK, but with a couple overseas and some temporary staff brought in for specific projects.

Corrall says that there's no legal tie in with Konica Minolta but that he prefers to use its printheads, adding: "They are simple and reliable and easy to use." There are several heads to choose from including the 512, a fairly basic 360dpi head with 4, 14 and 42 picolitre drop sizes. Then there's the 1024, which is widely used in single pass and wide format printers. It's a 72mm head with 6-42 picolitre drop sizes. There's also an i-series version, the KM1024i, which is three times faster. Konica Minolta has also shown a 600dpi head at last year's Label Expo, the KM1800i, which is used in the upcoming KM-1 B2 press. This has a 3.5 picolitre drop size and is mainly meant for use with UV inks. All of these heads can be used in binary or greyscale mode.

Corrall says that printheads should be treated as a component rather than a consumable and should last for many thousands of hours if they are maintained properly and used with the right inks.

The Konica Minolta heads will work with most inks including UV, solvent, water-based and oil-based but Corrall says that most of IJ's work is with single pass systems using UV and water-based inks, noting "It's very hard to get a solvent to work with single pass as it clogs the nozzles by drying too fast."

They are not tied to any particular ink supplier and will use the most appropriate ink for the job in hand. Sometimes customers have their own inks or a particular preference, which they will test. He adds: "The majority of our systems have used Agfa ink because it works very well and we work well with the guys from Agfa."

## Inkjet solutions

IJ offers technical advice to other vendors such as SwissQ and Wifag Polytype that have used the Konica Minolta heads in their printers. But IJ also helps conventional press manufacturers integrate inkjet heads into their equipment to create hybrid offerings, and works directly with end customers that want to investigate inkjet solutions.

▶ Corral says: “The idea is that we focus on industrial applications and make the inkjet part work so that customers can concentrate on everything else.” There’s a good example of this sitting in a corner - a robotic arm with a KM1024 printhead that’s capable of moving the head around curved surfaces while maintaining a precise and constant distance between the nozzle plate and the surface for accurate dot placement.

Most of the work is for printing: mainly labels, packaging, security and product decoration. Generally customers send in the materials they want to print onto and IJ tests and makes a report which recommends an ink with a pre treatment and a couple of choices.

If there are any problems then they try changing the ink or tinkering with the formulation or number of drops, but will also look at the the pretreatment, the curing lamps and curing distance.

Corral will spend a lot of time talking with customers to try and understand what they want and then advise them as to whether or not inkjet is the best approach for their needs. He explains: “As well as the obvious print sample work, we spend a long time talking about how the inkjet system would need to fit into their production line. We talk about issues like pre-treatment of the material, ink adhesion, resolution and print quality as well as post-print curing of the ink. We also spend a lot of time talking about costs, what the system will cost to build, run and maintain, but also more intangible costs such as staff training.”

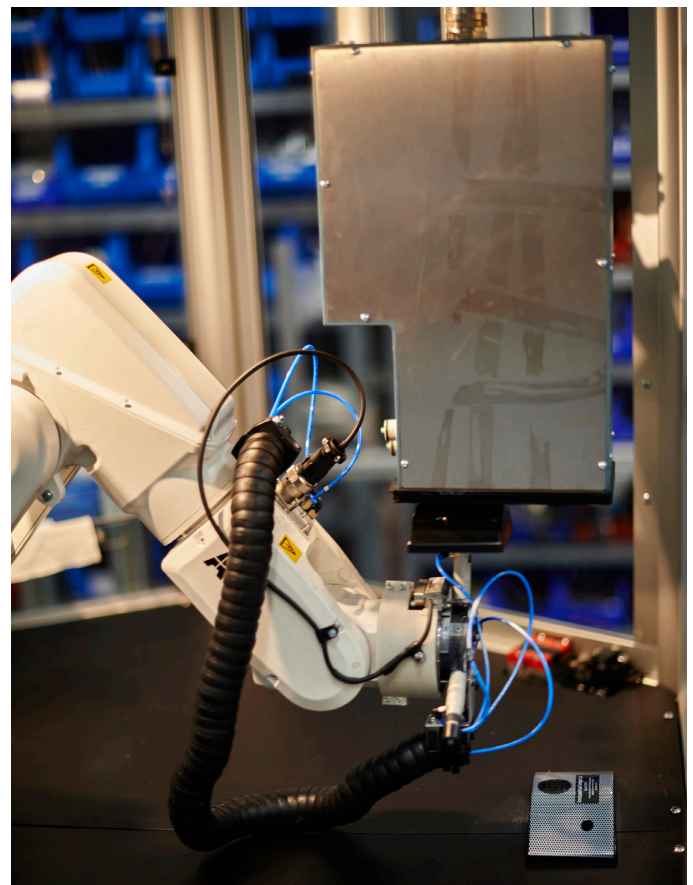
Corral says that many people ask about inkjet but don’t always realise that the cost per copy will be higher than with conventional printing, sometimes by three to five times the cost. But he says that the benefits of inkjet, mainly short run with short set-up times and the ability to use variable data, can outweigh the cost.

## Print engines

Just a couple of months ago IJ launched two new print engines: ColourPrint and MonoPrint iS. The IJ Colour and MonoPrint iS range run at speeds of up to 50 metres per minute in full colour printing or mono using 6 picolitre drop sizes. They are designed to be easily integrated into

an existing production line. Each is fitted with Konica Minolta printheads, which includes the latest version, the KM1024iM, providing three times the speed of its popular KM1024 head without enlarging the footprint.

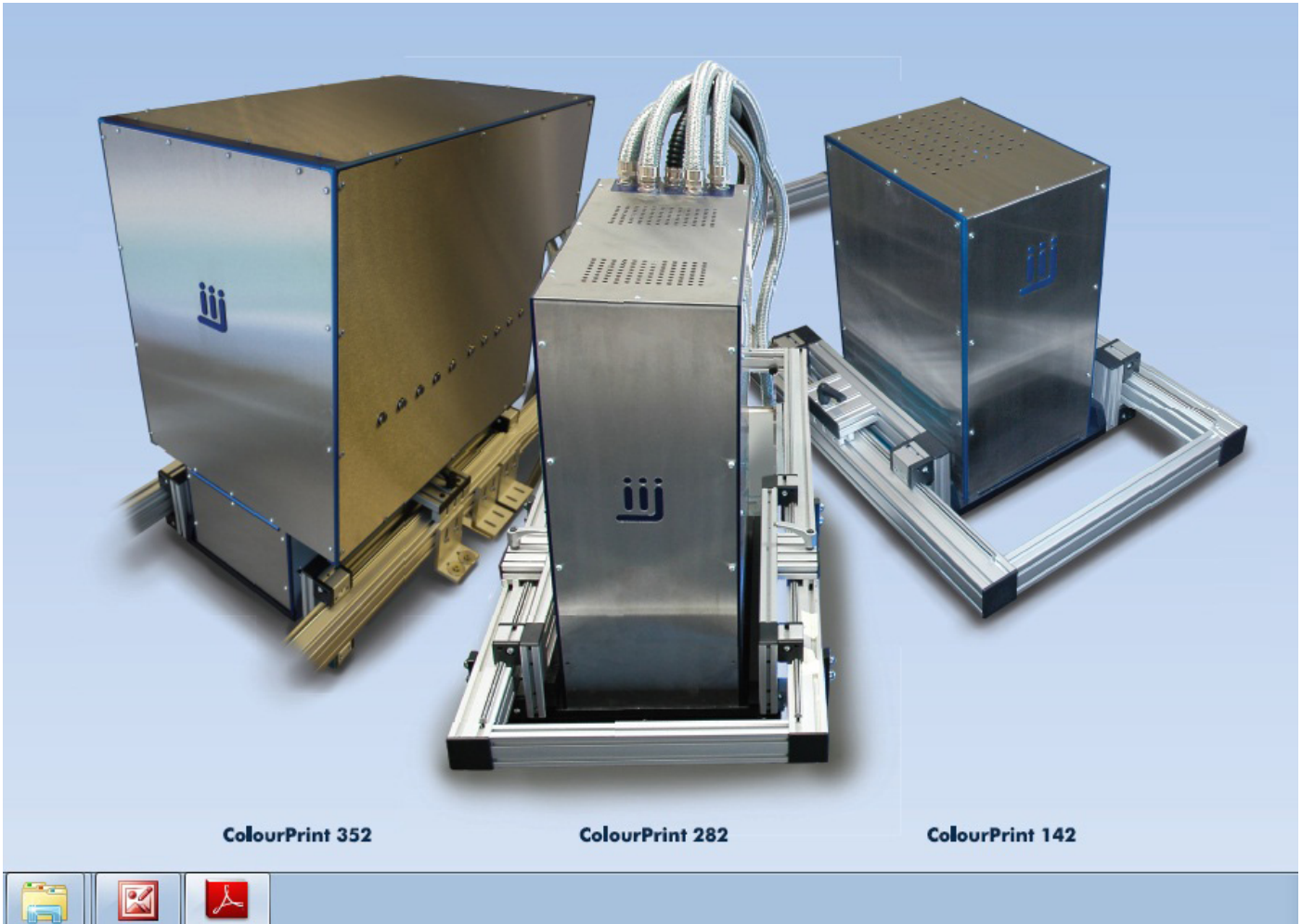
One of the first customers has been Euro Label Printers, based in London, UK. This is a family-owned business that was set up in 1974 and prides itself on its eco-friendly solutions. ELP is careful to source materials that are



*Robotic arm used to position curved surfaces under the printhead, turning the object to maintain a precise nozzle to surface distance. Photo © Nessian Cleary*

recyclable, or have been recycled. It produces long and short run labels as well as security labels, promotional self adhesive stickers and specialist labels for customers in food and drink sectors.

ELP opted for a hybrid solution with a ColourPrint 142iS machine and software fitted on to a D-Flex system from Focus Label Machinery. This gives it the ability to swap between inkjet and flexo virtually at the touch of a button and to offer personalisation and short-run capabilities.



The new iS range of colour print engines.

Euro Label Printers is hoping for a 20 percent jump in its turnover in the first year thanks to this system. Managing director John Bayley explains: “I thoroughly researched the market and, at one point, was going to be spending €960,000 on different inkjet equipment but this is a far better solution at a fraction of the price.” He says that the system will save him up to five hours in lead time on some jobs, as well as €192,000 on waste stock and set-up and €64,000 on plates per year.

Another happy customer is Natalii, a label printer based in Poland that also sells into Germany, Belgium and Scandinavian markets. Natalii bought a MonoPrint 352i coding machine having suffered a financial penalty after it was unable to complete an order worth around €1 million for 500 million labels for Polish Post. The problem lay in the prohibitively high price of the inks – up to six times more than the IJ system – that was more than the cost of the labels.

Artur Nowaczyk, Vice-President of the Board of Natalii commented: “Apart from increasing productivity, quality and improving capacity, the IJ MonoPrint 352i running at up to 60 metres a minute has introduced new product features for Natalii such as changeable barcodes, variable data and personalisation – everything that is changeable during printing.”

The MonoPrint 352i has been fitted on to an existing Nilpeter FA4 flexo press.

IJ has also developed a couple of complete printers. The XYPrint 100 and 200 can be fitted with up to four inkjet printheads. They work with a wide range of inks, including special purpose and come with a capping system for volatile inks.

Colourbase is designed for printing to ID cards and cartons as well as sheets up to 352mm in width. It includes



▶ a feeder mechanism and conveyor belt and can be used with the mono or colour print engines.

Earlier this summer IJ also launched a new MK2 ink controller system to answer customers' demands for larger industrial printers. The company claims that there's virtually no ink wastage and that the system is easily expandable into more colours and more heads per colour. It's suitable for single-pass print bars over 2 metres in width. It will work with a wide range of inks, including UV, solvent and water-based inks, and even food grade inks, thanks to extensive use of Teflon and stainless steel. This opens up new applications such as packaging, glass, flooring or direct-product-decoration. Corrall says: "Part of the driver has been large arrays of print, which includes packaging and labels markets."

Indeed, it seems inevitable that digital printing, and inkjet technology in particular will take an ever-larger share of these markets. And so long as the Konica Minolta printheads continue to deliver good results then it seems that we'll be hearing more from industrial inkjet in the future.

- **Nessan Cleary**



# Heavy duty hybrid - Agfa Jeti Titan HS

The Jeti series of wide format printers started off as a Gandinnovation design, but since Agfa acquired them in 2010, the Jetis have been developed further by Agfa's own R&D team.

The Jeti Titan HS sits between Agfa's entry level systems and the very high end systems, and are sold at what is hoped to be an attractive price, considering the features, quality and speed offered. The Jeti Titan HS has a 'little sister' in the S-model (where S stands for Speed), with one set of inkjet heads as the default, CMYKcm + 2×White, while the HS model (where HS stands for High Speed), which we have tested for this story, has a double set of printheads for increased speed. This earned Agfa the 'Product of the Year' award at the recent SGIA Expo in Las Vegas, US.

The Jeti Titan HS is a flatbed UV curable printer with roll-to-roll capacity, which has a print speed of up to 160 m<sup>2</sup>/h. The image quality is assured using Ricoh Gen 5 print heads, producing 7 picolitre ink drops at an addressable

resolution of up to 720x1200 dpi. The maximum printing width of roll-fed substrates is 3.2 m, while rigid substrates can be up to 309×200cm, and up to 50mm thick. The Jeti Titan can be optionally equipped with an additional print head for a primer, for improved adhesion onto substrates such as glass, plexi-glass or metal.

## Inks

The inks used are Agfa's fast curing Anuvia UV curable ink, suitable for a wide range of substrates including fabric, canvas, vinyl, foamboard, corrugated board, lenticular, tiles, drywall, sheet metal, paper and more. The pigmentation offers a gamut that actually surpasses that of standard litho offset. Since they are UV-cured they do not contain any VOCs. The ink set-up is CMYK plus light cyan and light magenta to assure smooth rendering of highlight areas and offer photorealistic output.

The white ink can be applied first or last, and in different modes (overprint, underprint, spot, underspot, fill and overspot for rigids, and pre-white for roll-fed substrates). The white ink tank is in constant motion to eliminate resettling problems often associated when using white ink. The ink is also constantly circulated all the way to the heads, as well as being kept at the ideal temperature, to prevent the nozzles from clogging up.



*The Jeti Titan HS is a flatbed wide format printer for UV-curable ink, which includes roll-feeding capacity.*



One of the first users of the Agfa Jeti Titan HS is Cre8design, and they opted for the version using a primer for tricky substrates. Pictured here are Jorien Jansen, sales manager (to the left) and Mario Katers, technical manager (to the right).

## Advanced electronics for quality control

The Jeti Titans are equipped with an automatic head height adjustment system, where a laser mounted to the head carrier measures the highest point of the substrate. The software then calculates the optimum height for the heads for best image quality, and to eliminate the risk of head strikes while printing.

The Jeti Titans are also equipped with an anti-static system mounted on the carriage. It passes over the substrate just before the printing takes place, neutralising both negatively and positively charged areas.

## Workflow and user interface

Agfa offers its own workflow solution, Asanti, for the Jeti Titan HS but also offers integration with RIPs from, for example, ErgoSoft and Wasatch. Jobs can be queued and stored on the printer itself through an internal hard disk of 1TB. The Asanti RIP includes a colour management module and connects to what is called the Media Hub. This

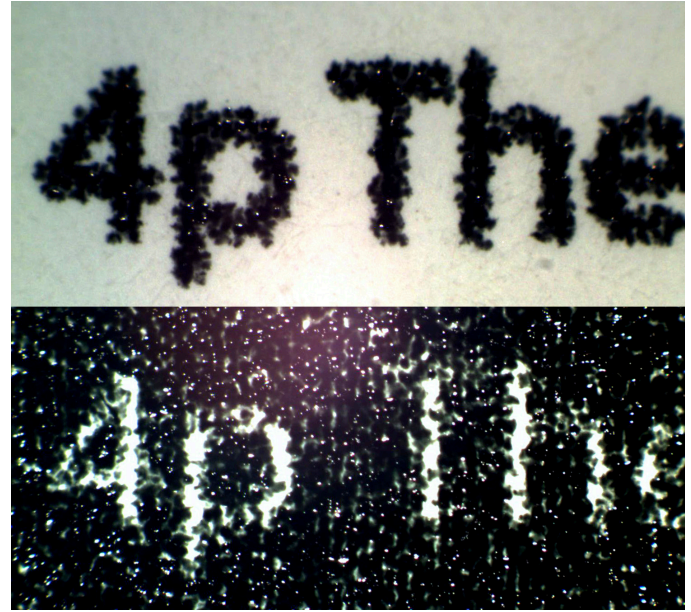
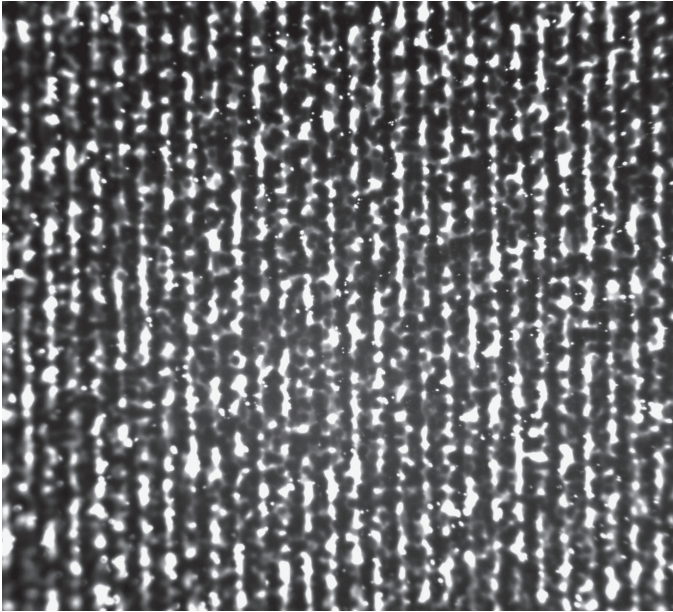
is a collection of colour pre-sets, which links the correct ICC profile and set-up with the chosen type of substrate. This enables a fast set-up and also helps in general quality management.

## Colour gamut and resolution

Very early in the development process Agfa decided that the pigmentation of the UV inks would match, or even exceed, the gamut of litho offset. In numbers this means around 400,000 colours, when printing on quality coated paper. The colour gamut of the Jeti Titan HS is a bit larger than that of offset; we measured it to be 466,000 colours. This is good, because then you have two options – either apply relevant colour management and exactly match the appearance of standard offset, or use the larger colour gamut for more photorealistic prints.

## Customer experience

One of the first users of the new Jeti Titan HS is Cre8design, based in Gronau, situated more or less on the border between the Netherlands and Germany. They serve a



In the resolution test (**left**), the Jeti Titan HS showed identifiable line pairs up to the equivalent of 300 dpi, both in the horizontal and vertical direction. Shown here is an image of the sample as seen using a digital microscope at about 500x enlargement. The Jeti Titan HS could reproduce four point text well (**right**), especially as black on white background, while the inverted white on black is slightly clogged up. Shown here is an image of the sample as seen using a digital microscope at about 500x enlargement.

wide array of customers, from high-end photographers, ad agencies, interior designers and exhibition builders, to distributors of wall decorations and corporate clients and manufacturers. Jorien Jansen, sales manager, explains why they chose the Jeti Titan HS: “We already have wide format printers from Agfa since before, but were considering alternatives for printing on difficult materials like glass and metal. When we tested the primer option for the Jeti we realised this made all the difference. While we have printed on most types of substrates before, some materials have been problematic, both in preparations, but also regarding quality control. Using the primer we get a much better end result than before, faster, and have drastically reduced the number of customer complaints. Now we can offer photorealistic image quality on more or less any type of substrate, which we find puts us in a quite unique situation!”

## How the tests were done

Our test required participants to provide output samples from test files supplied by Digital Dots. For the colour gamut test, we use a standard IT-8 CMYK profiling chart; for the resolution test, we use a specially designed chart with line pairs at a wide range of spacings. The participants print these under optimum conditions onto two types of

substrates: one high quality substrate, like coated stock or glossy vinyl, and for the gamut test also on uncoated paper for comparisons (uncoated stock normally renders a smaller gamut than on coated stock).

For visual evaluation of general image quality and smooth reproduction of tonal graduations, we also asked for an output of a 70x100cm poster. This poster is also used to evaluate the uniformity of ink density across the whole width of the substrate. For this we take five measurements of full tone cyan and then use the SpectroShop software to compare the colour deviation between the first sample and the other four. As a threshold we decided on a maximum deviation of 2.5  $\Delta E$ , the value indicated in the ISO 12647-2 standard when printing solid spot colours.

We measure colour gamut by creating a standard CMYK ICC profile from the IT-8 characterisation chart data. This is done using an X-Rite i1 Pro spectrophotometer and professional profiling software. The profile was then analysed with Chromix ColorThink Pro to yield a figure for the total number of discrete colours contained within the gamut. We define discrete colours as separated by a delta-E value of 1, using the CIE Lab colour space as reference.

## Technical Specifications Summary

Vendor/Model	No. of Inks	Inkset	Max. Media Size	Max Media Thickness	Resolution	Print Speed
Agfa Jeti Titan HS	8 + optional primer	CMYK +light c&m +2xWhite	3.2m rolls 309×200 cm (flatbed)	50mm	720×1200 dpi at 7 pL	160 m <sup>2</sup> /h

To measure resolution we viewed the prints of the line pairs chart under a digital microscope. We wanted to determine the point at which the lines could no longer be differentiated as distinct pairs. We call this the resolving power of the printing system, and this is often different than the stated addressable resolution, as per the technical specification. The resolving power is a combination of the native resolution of the print heads, droplet size and mechanical precision when moving the print heads and/or media while printing. As a complement to the line pair chart we also print text, both positive black on white and inverted white on black, in a small font (down to 4pt).

To analyse the opaqueness of the white ink we measured the density of a black substrate, and then the density of the printed white areas. We then divide the density of black with the density of white to get a contrast ratio. For example, a dark substrate of density 2 and a white printed area of density 0.2 will get a contrast ratio of 10. If the density of the white instead was 0.1 the contrast ratio would be 20. The higher the contrast ratio, the better the opaqueness of the printed white. We complement this figure with the L-value of printed white (the lightness of the substrate).

## Results in numbers

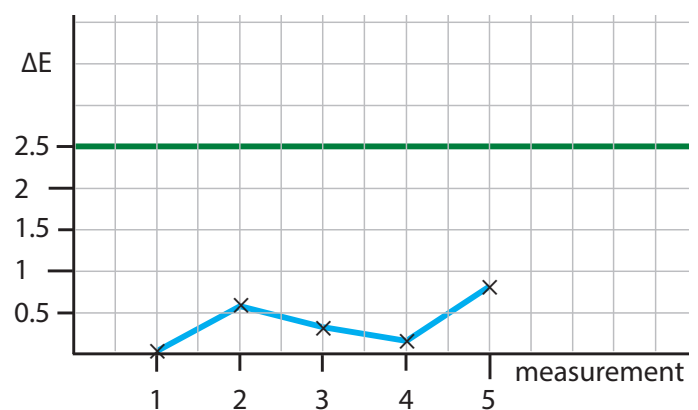
Agfa submitted test samples produced on a coated stock, the Arctic Paper G-Print and self adhesive vinyl MetaMark MD5, but not on an uncoated stock. The gamut achieved was, as previously mentioned, 466,000 colours, which is slightly larger than that of offset litho on coated paper.

In the resolution test, which again was printed both on a coated stock and the Arctic Paper G-Print, distinct line pairs could be seen at up to 350 dpi, in the vertical direction, and at 300 dpi in the horizontal direction. This

part of the test is very demanding on the printing system. One would expect the resolution to be exactly what is stated as the addressable resolution, in this case 720 dpi. But we have found that in reality it's difficult to place the droplets exactly where they should be, so what we call resolving power often turns out to be somewhat lower than the stated addressable resolution.

The small text was clearly reproduced down to 4 point for positive black text on a white background, which is in line with what Agfa promises in the technical specification for the Jeti Titan HS. The negative 4pt text of inverted white text on black background was however, a bit clogged up.

Regarding uniformity, the Jeti Titan HS showed a maximum deviation across the page of 0.8  $\Delta E$  (and an average of 0.4  $\Delta E$ ), which is very impressive. A colour deviation below  $\Delta E$  1 is impossible for the human eye to



When measuring all five samples of solid Cyan across the width of a 70x100 cm poster, the uniformity of the ink density was very good, on average 0.8  $\Delta E$ . We use a threshold of 2.5  $\Delta E$ , as suggested in the ISO 12647-2 standard, when printing solid spot colours. Any colour deviation lower than 1  $\Delta E$  is invisible to the human eye. The first sample is compared with itself, so will give a zero colour deviation.



detect, so the results in terms of uniformity for the Jeti Titan HS have to be said to be very satisfactory indeed.

Finally we measured the density of unprinted stock (Metamark 7 Series black vinyl) and then the density of a printed white area, to check the opaqueness of the white ink. The black vinyl had a density of 2.7, and the printed white had a density of 0.8. This gives a contrast ratio of 33.75, which we judge to be very good (the higher number the better). Another way to express this is that white ink printed on a white substrate had a L-value of 95 (Where L 100 is absolute white) and the printed white on black had a L-value of 88, so a reduction of 7 units.

But the printed white covers well, and is definitely perceived as opaque. For demanding applications we estimate that you will need a contrast ratio of at least 10, but this way of testing opaqueness is new, so we need to gather more samples over time to learn what contrast ratio can be considered to be the ideal. But as far as we can judge the Agfa Jeti Titan HS produces a good, dense opaque white.

## Conclusions

It's understandable that the Agfa Jeti Titan HS with its hybrid functionality of being able to work both as a flatbed wide format printer and a roll-to-roll device, together with the white ink capacity, caught the eye of the judges for this years SGIA Expo. Agfa may very well have found a good combination of features, speed and price with this printer. The colour gamut itself, and the image quality achievable, thanks to the additional light cyan and magenta inks, should satisfy even the most demanding customers expecting photorealistic image quality.

**- Paul Lindström**

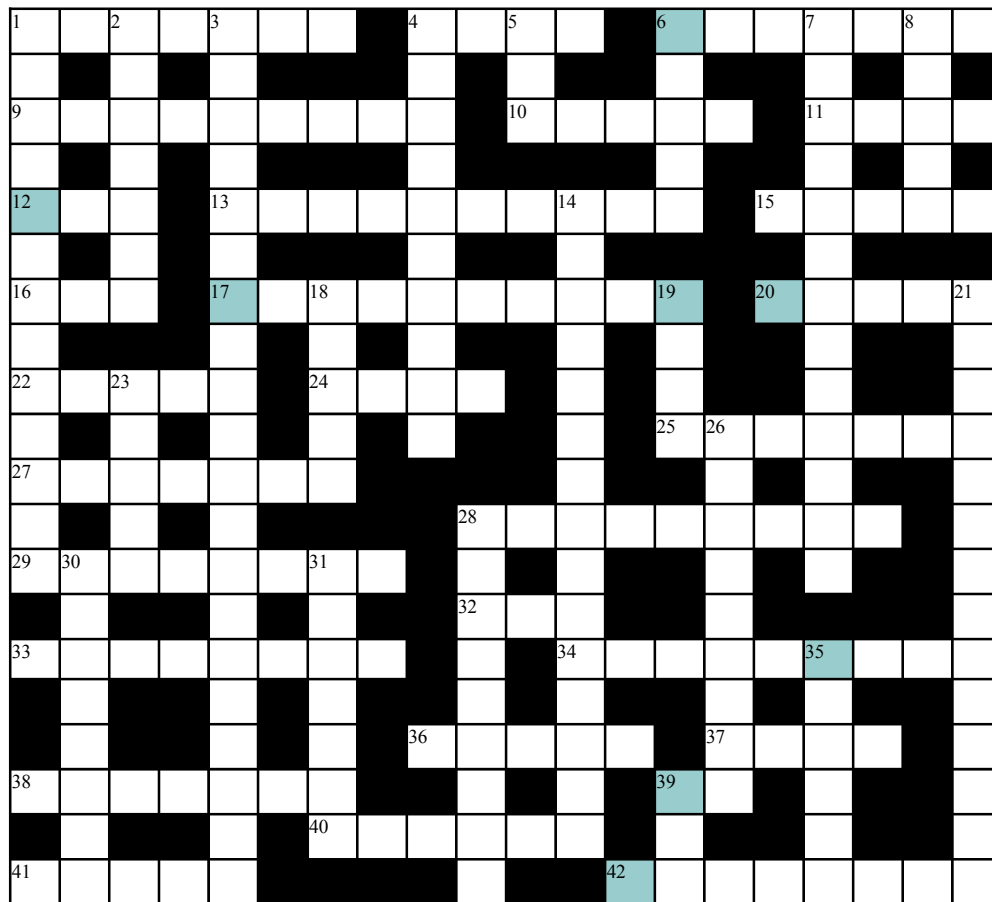




# X-word Puzzle

## Number 57\*

At first glance this one looks like it has a few spelling mistakes. But if you have managed to solve it, you will know that it's just perfect. Of course, this means nothing to you because you cannot see the answers yet. Good luck!



### Across

- 1. Pixels. (7)
- 4. Take one's ease. (4)
- 6. Change from one state into another. (7)
- 9. With labels the only print sector immune to Internet cannibalisation. (9)
- 10. Do it to your mobile 'phone or your emptying glass? (3-2)
- 11. Keep. (4)
- 12. Open Print Interface. (3)

- 13. Printing device for very small prints that get attached to larger objects. (5, 5)
- 15. Political organisation in state of high excitement? (5)
- 16. Don't walk on what the press is printing? (3)
- 17. Working hours between 23:00 and 06:00. (5, 5)
- 20. Extent or boundary. (7)
- 22. Once a popular graphics programme, a barrier to the elements. (5)
- 24. In a little while. (4)

- 25. Version or form of something. (7)
- 27. Alphabetical lists or catalogues used for reference. (7)
- 28. Opposite of extension. (9)
- 29. Going from side to side in search, convert, analyse or conform. (8)
- 32. Not large businesses. (3)
- 33. Decriminalise. (8)
- 34. A desperate attempt to provoke precipitation? (4, 5)
- 36. Respect and praise. (5)
- 37. For wiping down the press. (4)
- 38. Second seat on a motorbike. (7)
- 39. Operating System. (2)
- 40. Without charge. (6)
- 41. Man-eating monsters. Really. (5)

- 42. To consider or evaluate again. (8)

### Down

- 1. High science of copying text, images and linear. (13)
- 2. Required to lift printed sheets onto the print stack. (7)
- 3. Innovations that produce radical change. (8, 12)
- 4. A rule not necessarily enshrined in law. (10)
- 5. Collection or home to badgers? (3)
- 6. Hints for solving mysteries or puzzles. (5)



- 7. Process of imagining or putting into created reality. (13)
- 8. Sort of bolt, that holds ones attention. (5)
- 14. Goal of process automation and workflow control tools. (9, 6)
- 18. They're elemental between liquids and solids. (5)
- 19. You can never have too much of it, nor should you have too little. (4)
- 21. Used to be easy to see through for scanner operators. (14)
- 23. Borders Pakistan, Bangladesh, Nepal and China, among others. (5)
- 26. Often to blame, sometimes unfairly, for bad PDFs. (9)
- 28. Authorises to inform or teach? (9)
- 30. Halting workflow to fix errors. (8)
- 31. Technique for minimising substrate and plate waste. (7)
- 35. Four part sets depend on these to avoid moiré. (6)
- 39. Sort of enobling poem. (3)

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

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\*Answers in the next issue



## Number 56 - Answers

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

Acrostic Answer:  
BONKERS