cooperate • *verb* 1 work jointly towards the same end. 2 comply with a request - ORIGIN Latin cooperari 'work together'

– From The Compact Oxford English Dictionary

Dear Reader,

As we enter our third year, we are very pleased to say that Spindrift is making its mark and now has well over 1500 readers around the world. That number is going to jump substantially in the coming weeks, as we have just entered into a cooperation with the BPIF, the British Printing Industry Federation, which has a membership numbering thousands, not hundreds. Most of these are in the UK and the majority contributes directly to the commercial print media supply chain.

But that doesn't mean our coverage is going to get horribly English! Fortunately we have had a gratifying response to our Client Services announced in last month's issue and we've seen growth in subscriptions, particularly from the US. And we are syndicaing Spindrift articles to a range of publications around the world, so that our articles will appear in other languages, such as German and Polish, and in a range of markets such as India and South Africa. Keeping our stories relevant for such a wide readership should help us maintain our international flavour and avoid us getting too parochial.

We want to serve as dynamic and diverse a readership as possible, and to develop a lively channel for reaching digital production professionals. We aren't even close to that goal yet, but that is where we are heading and mostly that's down to you, our readers. So thank you for taking the journey with us thus far, and for your continued support.

Enjoy!

Cheers from the Spindrift crew,

Laurel, Cecilia, Paul and Todd
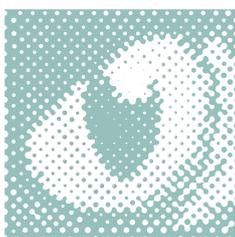
In This Issue

DD At It Again

Digital Dots, publishers of Spindrift, is launching a new initiative, called Spindrift Client Services. It will provide graphic arts manufacturers, suppliers, printers and publishers with a multi-level information and consultancy resource. "The service formalises what we have, in fact, been undertaking for companies for several years," says Laurel Brunner. Find out more...

see page 4

Digital Printing Update

Digital printing's not what it was. As we head towards the next Ipex and an important anniversary for Indigo and Xeikon, it is clear that the world doesn't change nearly as fast as one might expect. Conventional presses are still doing very nicely thank you. Digital presses are finding their feet, but how the market grows depends on many factors. We take a look at some of them...

see page 9

Process Control and Press Control

As deadly dull as it might sound, press control software is seriously clever stuff and it is one of the means for press manufacturers to strengthen their positions. This technology is also helping make some astounding quality and turnaround improvements...

see page 14

Regular Columns

News Focus

Seen & Soon to be Hurd

HP has confirmed that its replacement for the apparently bumptious Carly Fiorino is one Mark Hurd, previously chief of NCR Corporation. Mr Hurd's reputation is as a turnaround whiz, specialised in cost cutting and boosting net earnings for shareholders. He had been with NCR for twentyfive years, and it took a mere two years as boss for Mr Hurd to boost the company's net income from $58 million to $285 million in 2003, quadrupling the share price on the way. As a result of the announcement HP's shares have bounced around 10% and NCR's dribbled by over 20%. Sounds like a very special man!

Creo Getting the Nod

Creo's shareholders have accepted Kodak's offer to purchase their shares for nearly $1 billion. The deal has however yet to be approved by the various regulatory authorities. According to Creo's press release "Kodak and Creo have made the required regulatory filings in connection with the transaction in Canada ... the U.S. ... Israel ... China ... South Africa ...and Brazil. The parties are currently engaged in the customary pre-filing procedures with the European Commission and expect to shortly make a formal filing." It's all supposed to be done and dusted by the summer.

Publishing Makes the Grade?

Well maybe not publishing on its own, but the media business has definitely arrived. Fortune Magazine is about to publish its latest annual ratings list. Although printers and publishers grovel in the dust of the mega oil companies and retailers that have topped the list for the last fifty years, there are a couple of interesting snippets. IBM, with sales of $96 billion, has slipped from 9 to 10, and News Corporation, has come in at number 98.

CIP4 & Adsml to Coordinate Efforts

Probably the most sensible bit of news we've had about the Adsml effort in ages. The technical committees of CIP4 and Adsml have agreed to work together in their standards development efforts. As part of their agreement the two groups have defined seamless print advertising workflows as a common goal, and assigned defined areas of responsibility for the efforts. There is a formal demarcation of who does what to ensure that the work of both entities is compatible and that future enhancements will be cognisant of each others' work.

Adsml specifications will manage communications between advertisers and publishers; CIP4's specifications, i.e. JDF, will control information flows and materials control related to a publication's physical production and distribution. The next version of JDF will include ad production specific features.

Xinet Xinging

How old does a technology have to be before it is considered venerable? Surely soon for Fullpress, now in version 14! This version has support for Apple File Protocol 3.1, Red Hat Linux and Adobe XMP. There are versioning plug-ins for Photoshop, a linked files viewing tool (which sounds wonderful) and Xpress and Indesign preview tools. It's all great, but we're still sort of stuck on the 14 bit. How about FullOnPress 1.0 as a new name for the next version?

Gutenberg Still Newsworthy

The Gutenberg Museum in Mianz, Germany, is celebrating the newspaper industry's 400th birthday, with a special exhibition opening this July. The museum looks after the world's first printing press and has deemed the year 1605 as the birth of newspapers, based on the fact that the Relation newspaper bearing this year was recently unearthed in an archive in Strasbourg, along with a document protecting its copyright.

The story has been checked by the World Association of Newspapers and Timothy Balding, WAN's director general, said that WAN "is persuaded the story stands up". Relation's publisher was apparently one Johann Carolus, a publisher of handwritten newsletters, sold to rich subscribers (sound familiar?- Ed.) at high prices (no - Ed.).

The need for handwriting disappeared when Herr Carolus purchased the press, allegedly.

CTP Just Don't Stop

ECRM has introduced a fully automated version of its Newsmatic platesetter for local and regional newspapers, requiring throughput of up to 80 broadsheet pages per hour. The new engine features a new slipsheet removal system that uses patented ECRM Flexarm technology. It costs "less than $100,000". The price of the semi-automatic version is under $69,000.

Tecsa, best known as a developer of copydot scanners, is getting into the platesetting business. Quite why is not clear, given the overcrowding in the CTP market and the eyewateringly clear fact that CTP + Consumables = A Good Thing and CTP+ No Consumables = Not A Good Thing. Maybe Tecsa has a plan. Anyway, Tecsa's baby CTP system includes a 2-up metal platesetter, RIP and processor and costs less than Ł35,000.

Agfa has also introduced a complete system. Empower consists of a platesetter, plates, online processor, Apogee workflow, proofing, Sublima screening and service. There are versions available for imaging violet, thermal or chemistry free plates.

Xaargy Bargy

Xaar has announced a joint development agreement, to work with Molecular Imprints Inc. in the US. This company has developed a combination of lithography and three dimensional printing to pattern nano sized devices and structures using Xaar's inkjet printing technology.

Molecular Imprints is interested in a range of nanolithographic applications including such things as integrated circuit printing, chip makers, nano fabrication, data storage and advanced packaging. Definitely one to watch.

Oris Ups the Proofing Bar

Oris Color Tuner version 5.1 adds a range of colour workflow tools to an already comprehensive suite. It is now possible to view PDF/X-3 files in the softproofing module using the same colour management engine as used for output, with colour verification managed through an Acrobat plug-in.

Overall performance is much improved and Color Tuner's colour matching and calibration processes have been tightened up.

JDF Bringing Music to the Ears in Salzburg

Screen's Trueflow 3 workflow system and the Hiflex MIS are sharing data with a JDF enabled connection at Offset 5020, sheet fed offset printers based near Saltzburg, Austria. The Hiflex system is also managing a bidirectional dataflow with the company's Heidelberg press control system.

Offset 5020 has a highly automated print production set up with a number of Speedmaster CD 102s and other presses. The Screen Trueflow 3 and Hiflex MIS work in tandem to initiate JDF job tickets that are immediately processed as soon as a job order comes into the MIS. JDF is helping to speed up order processing, while making sure that prepress production is more transparent and reliable.

Trueflow reports status to the MIS making sure that customer service people have up to date information when they liaise with customers. However the two way link ensures that information about proofs and plates produced can be used for materials cost calculations so that they are more precise.

Fuji Open Workflow Stretching Further

Fujifilm's Open Workflow technology has an extended feature set, with a JDF enabled remote job submission module and automatic posting of page proofs to remote servers.

Pathway Submit is a set up tool for remote file submission and processing, with JMF handling system instructs and status communications. Job folders residing on a remote site are populated with the correct imposition and files, either directly or via an MIS, with email used to notify customers that jobs are ready.

Remote Proof Approval is another new module that manages proof pages, posting them online and notifying customers via email that approval is required for subsequent processing. Customers can add notes to proofs, approve them or reject them and all of this can be automated so that approved pages head straight for imposition and output.

Insy Winsy Inca's Spyder 320

Inca, developers of wide format inkjet printers, is introducing a new printer, the Spyder 320. Inca specialises in flatbed technology and this new machine is the company's first real foray into the mid priced market. The 320's bed size is 3.2 x 1.6 metres and it uses Sericol's four colour UV ink set, outputting at a rate of up to 50 square metres per hour. The price is expected to be around €300,000 and public demonstrations will begin at the end of May. Indepth details are expected to be available this September.

Vutek's New View

Not to be outdone, Vutek has introduced new machines, the UltraVu 260, the UltraVu II 5330 and the PressVu UV200/600. This reads like just so many numbers, but

what's important is the fact that these machines rejig price points for wide format technology. The UltraVu 260 is a 2.6 metre commercial machine costing only $99,000 and the UV200/600 is a 2 metre wide machine that prints up to 33 square metres per hour. But what price the inks? The wide format folks seem to be heading for the razor blade model that has done HP so proud.

Digital Dots in a Spin?

Digital Dots, publishers of Spindrift, is blowing its own trumpet in the worst possible way. After dedicating the last two years to smugly poking fun at excessive hype and self-aggrandisement in its independent e-newsletter, the company is doing the very same thing and announcing a new service package for its readers and consulting clients.

The new initiative, called Spindrift Client Services, has been launched to provide graphic arts manufacturers, suppliers, printers and publishers with a multi-level information and consultancy resource tailored to individual needs. The services, provided by Digital Dots consultants Laurel Brunner, Paul Lindstrom and Cecilia Campbell, combines independent and objective technology news, overviews and trends, with dedicated and expert research and advice, speakers for seminars, and cutting edge content for web sites and other corporate communications.

Three levels of service are available based on specific areas of interest. These broadly follow the topics covered in the Digital Dots Buyer's Guide series published last year at Drupa: Computer to Plate, Colour Management & Proofing, JDF, Preflighting, and Digital Printing. Each level of service provides multiple subscriptions to Spindrift, dedicated consulting support, private research reports and independent technology evaluations based on the five topics, publishing rights to selected content within the Buyer's Guide series, plus printed copies of the next edition published to coincide with Ipex in April next year.

"The service formalises what we have, in fact, been undertaking for companies for several years," says Laurel Brunner. "Early response has been very encouraging, with particular interest in consulting services and publishing rights to topical material for use on web sites, intra and inter-newsletters and general education."

The second edition of the Buyer's Guide series will appear as a series of articles over the coming months within Spindrift and culminates in a collected edition at Ipex. The content ranges from introductory tutorials through to detailed industry surveys and topical research reports.

Driftwood

(Useful stuff washin' in on our shores)

Xerox Image Categoriser

Finding words and phrases in a database is one thing, but finding image matches is altogether more tricky.

Several forays have been made into this area over the years, most notably IBM with its pattern recognition technologies. That technology no doubt bubbles away somewhere waiting to surface, as does an Island Graphics technique which is presumably lurking somewhere in Screen, which now owns Island. Fujifilm also uses pattern recognition in its minilabs, relying more on colour analysis than patterns.

Xerox Research Centre Europe (XRCE) recently gave us a peep at its own attempts to make images visible within a database. It's not based on pattern recognition as such, but combines image and linguistic data analysis. This generic technology is used to categorise image types according to content and combines image processing and machine learning. The software uses reiterative rules to learn how to map the key features of objects in an image, creating a series of patches which can then be grouped and classified according to semantic rules. The classification assigns images to particular categories, such as faces, boats, horses, dogs, flowers and so on.

The first step is to analyse a digital image to create data patches that take into account variations in lighting, viewing angle, partial visibility as well as the obvious things like colour, size, shape and so on. The patches are mapped to semantic classes, collections of meanings or relevances, that might be assigned to a particular word. For example a horse has geometric and colour specifics that enable software to classify it differently than a dog, based on its overall relative size in a scene, the length of its head and legs, relative to its body and the shape and position of its tail and so on. Within that grouping, it is also possible to further classify it according to type (horse or pony) and even breed (Thoroughbred or Arab). Once categorised the content information can be mapped to metadata associated with the file for use within a conventional database.

XRCE's technology can be applied to any digital object, but at the moment the group is focusing on images. XRCE has conducted tests on over fifteen visual categories with apparently excellent results.

Spindocs

(Where the spinner gets spun!)

We think what they really mean with this is, please don't go to Nexpo, stay home and save your time and money for Leipzig. But we could be wrong…

Dear member of the publishing community,

Attend the annual Nexpo exhibition and conference from the comfort of your web browser from 19 to 22 March.

Ifra will be your eyes, ears and voice through the newspaper techniques Nexpo moblog.

Visit http://www.ifra-nt.com/nexpo and interact with newspaper techniques' mobile multimedia reporters as they roam the Dallas Convention Center with imaging phones in hand to record all the sights, sounds, technologies and viewpoints of Nexpo 2005.

Continuous, real-time coverage, Saturday through Tuesday, U.S. central time, via images, video, audio and text all posted on the newspaper techniques Nexpo Mobile Weblog.

Be sure to bookmark the newspaper techniques Nexpo moblog at http://www.ifra-nt.com/nexpo.

See you online!
The Ifra Publications team

Letter From… Venice, 1790

Ciaio Spindriftissimos,

Iyama write you from Venezia, all'ora, is more dan two undra yirsago, eh, so from de grave I write.

My name is Casanova, si, Casanova. I dohno 'ow I 'ave 'eard ov Spindrift, per'aps your words come ina dream, som 'ow?

All'ora, prego I kanna tell to you somethin' what I haf wrote menny yersago in Histoire de Ma Vie (the History of My Life), in correct inglish I say: "I saw that everything in the world that is famous and beautiful, if we rely on the descriptions and drawings of writers and artists, always loses when we go to see it and examine it up close." Of course now dat is completimorto bollocksisimos, so I want to change my mind now. ▶

▼

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If I live in your chronos, I see de print
iss no so bad, end if we had il digitali
pressicatos in 1790, my workioli as writer
might haf been more infamousimo dan my work
con des belles femmes.

Iyaf many books (but many more women, is
true) to my creditissimos for exemplini-
mos, uno translationzi del Homer's Iliad
to Italiano verse, uno paperiani on Vol-
taire, uno magazinio del Opuscoli Miscella-
nei (much benier all Spindrift I say you),
uno allegorico novella Ne Amori Ne Donne,
uno magazinio series Messager Dd Thalie,
uno novel, Ne Amorine Donne, con molte sto-
ries del my life. It would 'ave bin so
molte easier con digitale tecnologica, and
maybe mi aventuras con bella dames no so
well remembered, eh?

In flagrante perpetuum.

Giacomo Girolamo Casanova Chevalier De
Seingalt

P.S. It was no more than 125 (-ishissimo)
I promezzio
```

Acrobites

(Something to get your teeth into)

NGL

Next Generation Lithography, but it's not what you think. Lithographic techniques are also used in semiconductor manufacture. And the development community for integrated circuits is, just like everyone else, going through a whingey phase right now. Anxious to protect investment and end revenues, they are constantly looking, just like everyone else, for the next new direction. There are several on the horizon, including Extreme Ultraviolet Lithography (EUVL) due for introduction in 2009, although several development groups are putting on the pressure to get it introduced in 2007. This, plus other efforts in the pipeline using inkjet techniques will provide even smaller, faster and cheaper computer chips.

Kyosei

Yes, yes, we know it isn't really an acroym, but we like it anyway. Kyosei is Canon's underlying corporate philosophy. It is a Japanese philosophy of living and working together for the common good and requires demonstrated committment to family, colleagues, community and the environment. The idea is that we should all, individuals and companies alike, regardless of race, religion or culture, strive towards harmoniously living and working together. Sounds like something we could do with much more of all around.

Say What?

(Iffy Writing Award Presented in the Ether for Obfuscation, Confusion, Misinformation or All Out Pretentiousness)

This is what the World Association of Newspapers had to say about the fact that the proposed merger between Ifra and WAN was cancelled. It's slightly more expansive than Ifra's curt announcement:

"Merger Called Off

Ifra, the media technology association, has pulled out of talks to merge with WAN, citing difficulties in combining the 'culture' and objectives of the two organisations.

Ifra's decision ends five months of negotiations on bringing the two groups into one association.

Gavin O'Reilly, acting president of WAN, said that Ifra's withdrawal from the discussions was a "major surprise and disappointment". Mr O'Reilly, who - with Murdoch MacLennan (immediate past president of Ifra) - led the negotiations for WAN, added: "We very much regret this decision, particularly since we appeared to be so close to a sensible solution which would have brought significant benefits to the global newspaper industry. We will obviously continue to work in partnership with Ifra and all other industry bodies, where possible. The door remains open at all times."

Maybe it was something unTeutonic they said?

Boomerangs

(Your feedback fed back)

From: <Rochelle.van.Halm@Creo.com>
To: <lb@digitaldots.org>
Date: 5, March 2005 12:00 am
Subject: Correction and Apology

Hi Laurel,

I have to first off apologize because I realize our press release led many people to believe something that was not true.

▶

I'm referring to 'Creo CTP for USA Today'. The press release we issued announced the installation of a Trendsetter NEWS at the Honolulu Advertiser site which publishes USA Today. We called it the first USA Today site and mentioned there were 13 sites but unfortunately several publications took this to mean it was the first of 13 and all the rest will be installed shortly.

Gannet has not however made this order. Creo has sold a number of Trendsetter NEWS devices to several Gannett papers but only one of them produces the USA Today. Gannett reviewed this press release and actually insisted on this text but unfortunately it lead to several misinterpretations.

Regards,

Rochelle
Rochelle van Halm
Media Relations Manager, Creo

From: <ncoady@proofcafe.com>
Date: 4 March 2005 14:24:57 GMT
To: <tb@digitaldots.org>
Cc: <pl@digitaldots.org>
Subject: Information error

Dear Sirs,

I am a subscriber and I just read your latest article concerning Remote Proofing written by Paul Lindstrom.

I found many errors in the information and I also saw that the screen shot you provided was inaccurate. Where did you get this information from, may I ask?

First of all:
ProofCafé is (www.ProofCafe.com) a cyansoftware partner responsible for the marketing and support of the eProof RapidImageView brand in the UK.

What sets ProofCafé eProof apart from the competition is the very competitive pricing model and that it is completely independent of any other services or equipment. The server software is fully integrated into the client's workflow directly. Current clients say that it offers outstanding value for money and superb performance.

Developed since 1999 RapidImageView technology is tried and tested. The unique Hyperstreaming engine that allows for complex pixel information to be compressed and viewed over the net. Other features include: Language text corrections (Adobe InDesign documents), softproofing using ICC profiles, full notifications system including invitations to approve and Hotfolder uploading. ProofCafé eProof integrates seamlessly into Asset Management, Raster Image processing/workflow management systems, and MIS systems. It has already been successfully integrated into Mediabeacon Asset Management, ColorBus RIP systems and Web Native Asset Management at Admagic / Vertis London.

For the record:
Cyansoft did not under any circumstances buy the source code to the Color Central OPI system. This is a lie and could get people into trouble. Who gave you this inaccurate information?

Cyansoft DID create, independently, their own OPI system which competed with Color Central OPI and is now a current alternative for old Color Central clients who are frustrated with the lack of updates and support.

Yes eProof does accept MS Word documents, In Design Documents etc... However the most interesting developments are:

Formatted text corrections system which can preview: Cyrillic, Arabic, and all far eastern language sets.

You can completely localize a document into a foreign language online, using an Adobe InDesign document and update it automatically in the browser without having InDesign software locally.

Once you localize it you can download it in PDF format and take the localized version to your printers for print.

Simply the new eProof is great for brands who want localization of their designs simply and easily on the web without paying huge amounts of money for staff to copy paste and work with font issues.

British Airways spent, last quarter alone, 2 million pounds on localization of printed material into the Japanese language. We could help companies like this save huge amounts of time and money.

Can you please insert this information in you next issue or as a sideline issue.

In the meantime would you like us to prepare a portal for you in our ASP service? Free of charge to you of course.

Best regards,

Niall Coady

And a red-faced Paul responds:

The erratic information about eProof using the same source code as Color Central was given by the Swedish

distributor. My apologies for not double checking it. The erratic screen dump was my own mistake – here is a correct one, showing the eProof solution as implemented by ProofCafé. Hopefully there were no more errors, and the complementary information offered from Niall is a nice addition to the article. We will however come back on the subject, since there are even more solutions on the way.
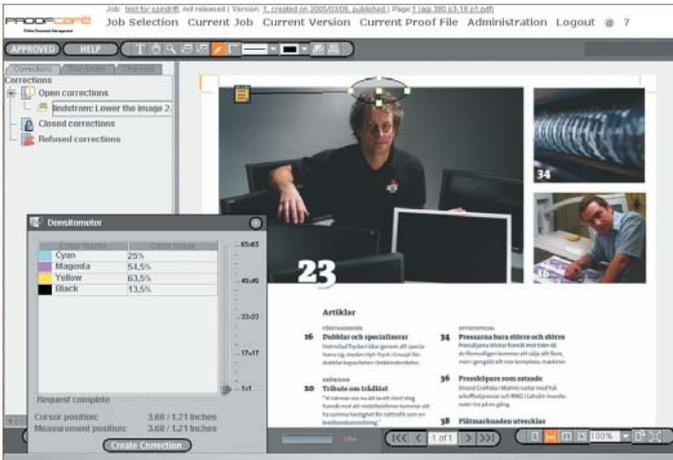
Digital Printing: a Never Ending Story

The names and the faces are well known. The possibilities and the potentials are equally well aired. We all know that digital printing is important, and we've all heard all too often that it will replace conventional print. Eventually. One day. And we keep hearing this despite the fact that the big money is still spent on those mammoth beasts from the likes of Heidelberg and MAN Roland. The conventional press is supposedly soon to be extinct, even though it images tens of thousands of pages per hour, with dazzlingly efficient quality that's constantly improving. Analogue printing does not stand still and in its ability to mass produce gorgeous images of our world and our ideas, it continues to defy the laws of physics. But how long will conventional presses maintain their tremendous lead? How long will it take before digital printing really does take over?

Actually those are not the right questions, even though they are the questions most often asked in print media news headlines, and by grubby fingered conference organisers looking to snaz up some redundant seminar. The real question is not when, but where, how and why digital print will take over. For this is not about technology, it's about business and the contribution print makes to socio-economic development. It's about people and their media habits.

Conventional Presses Enduring

Newspaper publishers recognise this, investing into new press technology accordingly. The UK's Johnson Press, a large regional newspaper group, is installing a second triple width press as part of an investment that tops Ł110 million. That wodge of readies alone would buy over 100 digital presses. Also in the UK the Daily Mail & General Trust is spending over Ł100 million on full colour printing, having already ploughed some Ł165 million into colour facilities for its national and regional titles. The investment has already yielded a return, with a 6.5% increase in ad revenues as a result of enhanced colour capabilities. It all pales in comparison to News International's Ł600 million programme for new presses.

The story's pretty much the same with magazine and book printing, so either the executives behind these investments are a few faces short of a font, or they understand something the digital angels overlook. Digital printing isn't just a straight swap, replacing one process with another, and for the majority of business applications conventional technologies are still preferable. Digital printing's future lies not in its capacity to replace offset, but in its ability to complement it and serve new process needs more effectively.

It's About the Business

Digital printing is reshaping conventional expectations for print's purpose, but a business's expectations for print's performance drive the rate of adoption of digital printing technologies. It's very hard to get people to think beyond their experience, but it is happening. Take direct mail for example. Traditional direct mail response rates are around 2%, with less more common than not. Generally speaking the bigger the run and mailing, the smaller the return. In contrast digital ▶

print response rates are estimated at anywhere between 20 to 70% (depending on whose figures you use) and the run lengths, which tend to average between five and twenty thousand, have less of a negative influence on return rates. Impressive response rates have however absolutely nothing to do with the digital press, but everything to do with the database driving output, which is matching variable content in each printed piece, to the specific interests of each target reader. Digital printing technology means that direct mail applications no longer need to be a high cost, long run, hit and miss marketing black hole, because variable data demands tight database management and thus is far more effective. Old habits, however, die hard.

Direct mail and transactional print share some fundamental features in common, most significantly their common dependency on data variability, which is the primary differentiating factor between analogue and digital print. These applications are fundamentally different in that a business depending on transactional print will fail immediately without rock solid variable data output, which is why the likes of IBM and Océ have done so well for so long with their high speed, continuous feed engines and dedicated transactional print front ends. However variable data management capabilities, colour and speed enhancements, create space for other applications. This migration to variable data output, and its rate is shaping the growth of digital printing markets. Xerox is installing a herd of 24 iGens at the Sumitomo Mitsui Card Co. Ltd., one of Japan's leading credit card companies. The company's planning a new service printing millions of personalised, colour credit card statements on demand, a project that helps bring Xerox's worldwide total of iGens installed to more than 500 units. It is through user driven initiatives such as this, that we expect to see direct mail and transactional applications starting to cross over as businesses look at improving capital equipment utilisation and gain experience with the technology.

New Applications or Old Ones Revamped?

There is no doubt that the digital print revolution is not a mere revamp of what's already practised. Many of the factors driving new print applications also drive improved production and use of conventional print, which is one reason why print volumes have fallen: we produce less, we use it more effectively and we are fussier about what and how much we produce, at what price and for whom. For example, better database management techniques improve direct mail response rates, whether it's variable content print or not, providing a tighter match between print product and market.

Preproduction efficiencies mean faster time to press and greater frequency of print runs. The effect is to erode run lengths and costs, but neither undermine the value of print or its effectiveness and as mass markets continue to respond to print, the arguments for conventional presses are overwhelming. It's about economies of scale, but it's also about the speed with which applications migrate to variable output. In the UK HP Indigo is installing a 3050 at Prime Litho, traditionally an offset printer. It seems the UK government has commissioned this company to print a range of personalised tax information cards for distribution to the UK's registered accountants. The material is customised for each company, with a front cover that matches each accounting firms corporate identity. The bulk of new print applications are either variable data printing such as this, or very short run work.

It is through user driven initiatives that we expect to see direct mail and transactional applications starting to cross over as businesses look at improving capital equipment utilisation and gain experience with the technology.

Who's Doing What?

The major players are discretely drooling in anticipation of the prospect of change in the socio-economic landscape and the role of print within it. Credit card bills with customised advertising messages are only the beginning. Compliance laws from every corner of industry are stalking all businesses, compelling them to fully and accurately document virtually everything they do. From land usage, to customer service conversations, to proof of identity for financial transactions, through to account activity tracking, it's all slowly simmering digital press market opportunities and steadily warming them to a rolling boil. And this is where the likes of Canon, HP, Kodak, Océ and Xerox have set their sights.

Canon

Canon, with 108,000 employees and 184 companies in the group, is the relative arriviste to the coterie of mega corporations wooing printing and document driven companies in recent years. The company recently introduced its strategy, clearly indicating that it has Xerox in its sights. Canon is extending its Business Builder programme with modules focused on print room best practice and the development of digital print IT skills and is deploying "independent" consultants to help customers develop their digital print business. This is not a million miles away from what Xerox is doing with its sales Tigers who provide similar consulting supports. Canon is also working with industry associations to set up a network of mentors for apprentices and trainees in the printing business.
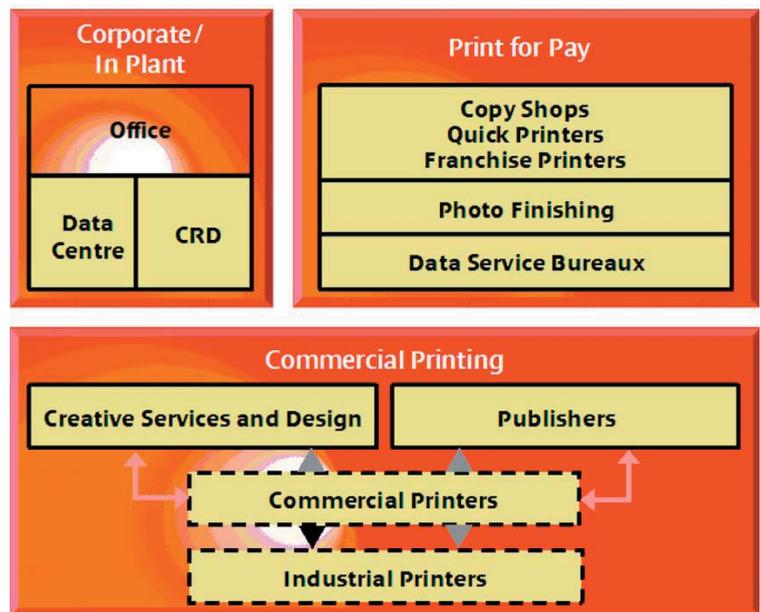
Canon believes it has a "breadth of offering to the industry that is strongest in the market" and that no other company "has demonstrated the same commitment as Canon" according to Adam Poole, Canon's Marketing Manager for Professional Solutions in the UK. How much of Canon's €24,422 million turnover comes from digital print? Hard to say, but more interesting are the rate of growth of its contribution and the recent opening of a warehouse in Maasvlakte in the Netherlands to centralise and support Canon's European IT and professional print business operations. This suggests that it's enough to make investment worthwhile. Canon has been slow to move thus far, and their engagement with the market doesn't really match their rhetoric. However with a new colour press rumoured to be on the way, relationships with Kodak and EFI and very deep pockets, Canon is becoming a force to be reckoned with.

Canon's market view

HP

One of the world's largest companies, HP has been lumbering towards its digital printing nirvana for several years now. Although most of its success has been down to inkjet printer and consumables sales, in its wake HP has managed to establish a more than credible position in the professional digital printing market, with a market share of over 40%, depending on how you slice it. This is entirely down to the efforts of its HP Indigo division, manned by people who really do understand the market.

Kodak

Another giant, albeit sleeping rather than lumbering is Kodak. Having dropped shedloads of cash to acquire KPG, Scitex Versamark, Creo, Nexpress and maybe even Scitex Vision as well in time, Kodak has bought itself a space in the market, although how it intends to occupy that space remains to be seen. What is abundantly clear is Kodak's intention to become the most compehensive solutions provider in the prepress and digital printing industries for mono and colour output, across the whole market in environments that output production volumes. There are some 9,500 Kodak branded print units out there, and although the company won't say how they are configured – singly or in variable multiples – it's enough to provide a considerable growth path.

Océ

Océ isn't quite what you would call a major player in the professional production market, mostly because the output quality of Océ's machines hasn't really been up to muster, although they are swift. Océ is the market leader in transactional print, and number three behind Xerox and Canon in xerographic colour production. Key to Océ's future is its Copypress technology which, unlike xerographic printing, requires no developer and so is not subject to temperature or humidity variations, nor does it need calibration. It is based instead on Océ patented electromagnetic technology and low temperature pressure fusing. Copypress is the basis of the company's new, much improved colour press the CPF 800/900.

Océ has toes in many pools including commercial print, document services, wide format and display graphics, and something it calls "corporate printing" which sounds like anything and everything. Breadth rather than depth seems to be Océ's approach, although that may be starting to change.

Xerox

Xerox may not be the market leader, but when it comes to market engagement this company can't be faulted. Xerox is building a new business model, services led and taking it away from Xerox traditional hardware core. This is smart because as the scrumptiously named Armando Zagalo de Lima, President of Xerox Europe puts it: "you have different sizes of shoes depending on your specialty area". Never so true as in digital print. Xerox has recently introduced a new monochrome printer the 4110, the iGen3 110 outputting 110 pages per minute, and the Work Centre C2424C and a new multifunction engine based on solid ink technology. Xerox has restructured to provide customers with a single point of contact through which everything else interacts with clients. The single point is Global Services, and under that comes Office and Production. The European division contributed $600 million to Xerox service revenues last year and worldwide Global Services is set to grow revenues by 20% this year.

Armando Zagalo de Lima, President of Xerox Europe

And Elsewhere

The above list is far from complete, but of the umpteem players in the digital printing market one company is unique, and in its ikonoclasm lies its greatest strength. In its deliberate commitment to niche applications lies Xeikon's future. Apart from its ability to move quickly and work very intimately with customers, Xeikon is a small company and does not need to support countless management strata, so it could offer ▶

considerably more latitude when it comes to investment, service and cost per page, compared to its larger competitors. If printing presses are like cars, Xeikon is the AC Cobra of the digital printing market. The company's dropdead gorgeous Xeikon 5000 web press is one of the most versatile engines available, capable of producing anything from banners, through to multiple page gatefold work and posters at high speed and looking just lovely.

Direct Imaging

The contribution of direct imaging presses to this scenario is muddy, since this technology is considered neither fish nor fowl. Direct imaging presses are really a combined platesetter and printing press, and as such many people question their worth, particularly with a four unit press. After all, why should the press stand idle while you wait for plates to image? Isn't it better to buy one platesetter that can feed many presses? Of course this isn't an issue if the press isn't constantly running at full capacity. We've yet to be convinced that direct imaging presses have a long future, but they will indeed be cost effective for many businesses. For example, companies who don't want to bother with platesetting, who want convenience plus quality and speed, or who have space and investment constraints should certainly consider these machines.

Despite all this traditional presses, DI or not, have a lot going for them still. And this is why companies like specialist Welsh language book publisher Gomer Book Manufacturing prefer to spend £2 million with Heidelberg to print 200 book titles a year on a four-colour B1 Speedmaster, rather than a digital press provider. Digital print complements offset, meeting new purposes and print media applications. Although digital printing works for the old applications as well, its future is in applications we are still inventing and in how variable data applications evolve longer term. This is where everyone is looking and it's why Screen and Agfa have lately joined the party.

Digital printing extends the transport metaphor we're so keen on. The motor engine was supposed to replace the horse, and in many situations it did. However there are now more horses in active work than there were a hundred years ago when horses reigned (or even reined) supreme. The reason is that other forms of transport technology have driven new applications for those they ostensibly replace. So it is with print: we are extending purpose, not mere process.

– Laurel Brunner

> **The major players are discretely drooling in anticipation of the prospect of change in the socio-economic landscape and the role of print within it. Credit card bills with customised advertising messages are only the beginning.**

Process control and press control

The press is a printing plant's heart and it normally generates the majority of a printer's turnover. Keeping the press rolling and making sure that what comes off of it is gorgeous, is what will make or break any printing business. Many printers sell their services on the basis of prestige associated with a given press type. It's not quite about whose is biggest, but sometimes it's quite close to it. Even though size doesn't really matter, managing to get both high speed and high quality, challenges the printing press, the control system and of course the press operator. Making this man's job easier is one of the areas in which manufacturers compete, offering technical sophistication paired with user friendly interfaces to their press control systems.

For a long time it has seemed as if the graphic arts business could just meander along unaffected by the radical changes hitting other manufacturing industries. While other industries, such as for example electronics and car manufacturing, have been forced to obtain higher and higher precision in both quality and delivery, print buyers seem to have been much more lenient towards the printers. Over recent years demands on printers have risen steadily, and while this may not be universally welcome, it has forced onto the printers a higher degree of quality awareness.

Press Developments

It all starts with the press. Keeping a stable temperature and air humidity wasn't of too much concern for printers just some few years ago, and yet today we know that both are essential control factors for obtaining a high and repeatable print quality. Fortunately manufacturers ensure an even temperature in and around the press, with a combination of air control and built in cooling of the press cylinders. Vibrations in the press are kept to a minimum, by adding weight with more and heavier metal, and of course both combine with high precision manufacturing of the press and its components.
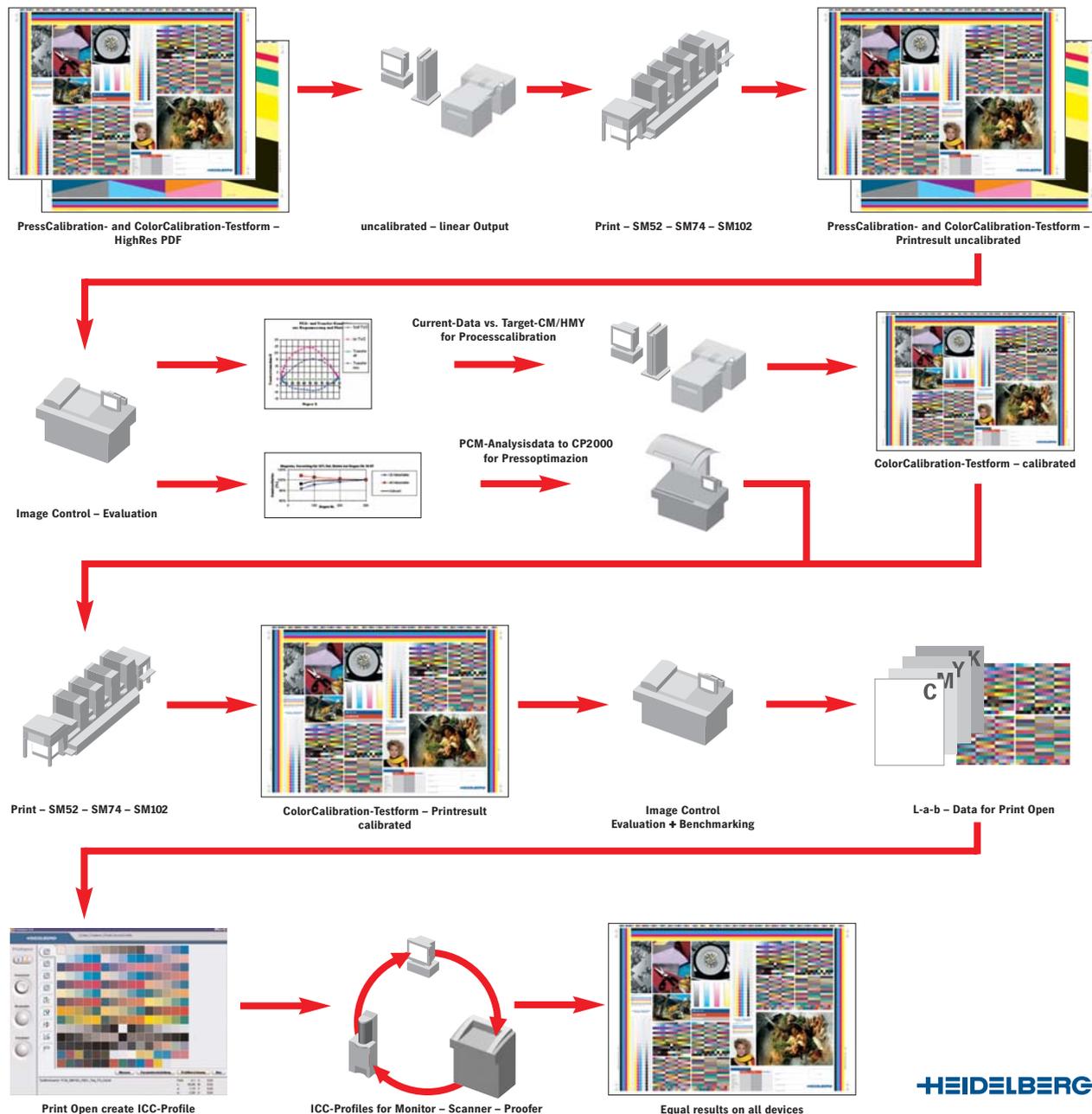
Things have come a long way, although there is still further to go: one area of hardware development with room for improvements is in perfecting functions. Ideally printers want to print both sides of the sheet in one go, but on press paper seems to come alive and is a somewhat unpredictable beast to master. Conventional sheet fed presses print one side of the paper first, let them rest for a while, subsequently printing on the other side. Far better to print on both sides in one go, without holding back on either quality or speed, without the ink smearing anywhere on its way through the press. Perfecting press technology is improving and sales of perfecting presses have jumped over the last few years as a result.

Pressing Ahead with Software Controls

As the design and construction of presses approaches maturity and possibly peaks, hardware will no longer be the differentiator, software will. All modern print presses are computer controlled, with the press control system working very closely with the prepress system, and tightly integrated with the business system for efficient job handling, including job planning, job estimating, cost calculations or invoicing. On top of that, the press control system should support maintenance scheduling ▶

For many printers, evaluating software is probably more difficult than evaluating what meets the eye in the shape of a beautifully designed piece of heavy metal, something you can touch and feel, and even listen to when judging it's characteristics.

to avoid any sudden halts in the production and all in all this demands user friendly and well conceived software. For many printers, evaluating software is probably more difficult than evaluating what meets the eye in the shape of a beautifully designed piece of heavy metal, something you can touch and feel, and even listen to when judging its characteristics.

PressCalibration- and ColorCalibration-Testform –
HighRes PDF

uncalibrated – linear Output

Print – SM52 – SM74 – SM102

PressCalibration- and ColorCalibration-Testform –
Printresult uncalibrated

Current-Data vs. Target-CM/HMY
for Processcalibration

Image Control – Evaluation

PCM-Analysisdata to CP2000
for Pressoptimazion

ColorCalibration-Testform – calibrated

Print – SM52 – SM74 – SM102

ColorCalibration-Testform – Printresult
calibrated

Image Control
Evaluation + Benchmarking

L-a-b – Data for Print Open

Print Open create ICC-Profile

ICC-Profiles for Monitor – Scanner – Proofer

Equal results on all devices

HEIDELBERG

Top quality print is only possible with careful colour conversion of the incoming data. Tight integration of prepress and press control is required. This diagram illustrates Heidelberg's colour management workflow and is a good illustration of the interdependency of colour management and press control technologies.

Design Trends

There are three quite visible trends in the developments of press control systems. The first is the capacity to handle colour management on a level that used to be assigned to the prepress department. Several of the press control systems presented below can for example generate

ICC profiles based on the actual print run. This means that we don't need to print special test forms, holding up normal production, just to calculate correct ICC profiles. This is new, but it doesn't necessarily mean that a print buyer has to be presented with an endless array of ICC profiles, specific to every combination of paper stock and printing press. Most printers pick a selection of normalised ICC profiles for the most common paper stocks used in everyday production, and recommend the client use one of them in document preparation i.e. colour image conversion. Having tailor made ICC profiles to use inhouse also gives the printer the opportunity to do CMYK to CMYK conversions, adjusting for possible differences between presses, correcting incoming files that aren't right if necessary.

A second clear trend is the change from just using densitometers for quality control, to using spectrophotometers. A quality spectrophotometer can operate both as a densitometer and reading spectral values, which is the only way to accurately measure spot colours, for example.

The third common trend in press control systems and perhaps the most attractive for the press operators, is support for faster makereadies. All the possible and imaginable settings on the press can be saved as best practice settings for a given type of paper and job, for later reuse on repeats or similar jobs. In this way not only can ink duct settings be preset, but such things as blower air parameters, powder spray data, required printing pressure, well, the list goes on and on. All of this allows for even shorter make ready times and less start-up waste.

Conclusions

We are now looking at second generation press control systems. In first generation systems we preset the press using CIP3 data, this standard having been presented in 1995. But this was a one way street for information. Now, ten years on, second generation press control systems allow two way data traffic. This duplex data traffic is at the core of the JDF (CIP4) standard and will be a key factor in keeping conventional press technology responsive and competitive in a fast moving world.

Besides press operators, print buyers appreciate the high quality and fast throughput modern press control systems and presses offer, and customer requirements increase the pressure on printers to service new business requirements for print media. Hopefully print buyers will also be prepared to pay the printer well enough for print so he can afford to invest in the software, hardware and training required for these top-of-the-line systems.

– Paul Lindström

> **We are now looking at second generation press control systems. In first generation systems we preset the press using CIP3 data, this standard having been presented in 1995. But this was a one way street for information. Now, ten years on, second generation press control systems allow two way data traffic.**

Following is a series of overviews of the leading press control systems, for commercial sheet fed presses. These are compiled from interviews with some of the dominant players on the market and their customers.

Heidelberg Prinect CP2000

Prinect is the common prefix to all systems interconnecting within the Heidelberg software portfolio. Of the press manufacturers listed here, only Heidelberg manufactures both prepress equipment and printing systems. The colour management tools from Heidelberg calibrate and characterise monitors, digital cameras, scanners, proofers and of course printing presses.

Normally an ICC profile for a certain paper/press combination is made with the Prinect Profile Toolbox. To calibrate and linearise the equipment the Prinect Calibration module is used first. The Prinect Prepress Interface handles the connection between the prepress system and the press control system. This is where JDF files are created and PPF/CIP3 files, if required for backwards compatibility with older systems. Both will be used for presets such as ink ducts, paper feeding and auto register parameters.

The workstation that actually controls the printing press is the Prinect CP2000 Center. Connected to the Prinect Image Control it analyses the printed colours and can also check that the CTP equipment is properly linearised. Typically it is with Prinect Image Control that you check the actual dot gain. All important parameters are saved to Process Calibration Curves.

If the printer has configured the system with a spectrophotometer this can also be used as a densitometer. The press operator uses a touch screen to instruct the system, using the Quality Monitor module for guidance. This regularly measures and compares the reading of the control strips placed on the sheet. All data gathered during the print run can be saved and used for later analysis and evaluation. One way to use those statistics is to make sure two printing teams print in the same way. The Prinect systems can be connected to an MIS system, either external or the Heidelberg Prinect Prinance.

KBA (Koenig & Bauer) Logotronic

The heart of the press control system from KBA is Logotronic, which is offered in basic and professional versions. Basic includes all the functions needed to actually run the press and Logotronic Professional has extended functionality, with MIS connectivity via JDF. Print measurements are done with KBA's Densitronic system, which also comes in two versions. The base version only uses conventional densitometric reading while Densitronic S is really a spectrophotometer, so it also provides spectral readings. This is especially useful when handling spot colours.

KBA CIP Link manages the connections to a press system, either through JDF or using PPF/CIP3 data. This data can be used to preset such things as the ink duct and ink/water balance. The Logotronic Professional module can preset virtually all electronically controlled parameters on the press, such as blower air parameters, powder spray amount, required printing pressure et cetera.

Unique to this technology is the system's adaptive function that monitors if the press operator consistently changes parameters. If he does, the system automatically adjusts the general settings accordingly, and this adaptive behaviour can be controlled so that it only takes place after a certain number of similar adjustments.

Logotronic S can measure critical colours, such as for example a spot colour used in a logo. The colour balance is then adjusted to make as close a match as possible to the spot colour, when only using CMYK inks. The Logotronic S automatically monitors print quality and will warn the operator if the given tolerances are about to be exceeded, suggesting a change of settings to bring the print within tolerance. The press operator can accept or decline with just one click.

KBA also offers a special module for quality assurance called Qualitronic II. Using a high resolution video camera mounted in press (two cameras in a perfecting press) both print quality, register and paper handling can be monitored inline. This can be very useful when printing super high quality print, like bank notes and cheques.

Komori KHS (High Performance System)

The Komori press control system is based on KHS, Komori High-performance System, designed to achieve fast make-ready with high and even print quality. (Komori seems to like initials with terms like APC for Automatic Plate Changing and AMR for Automatic Make Ready). ▷

Komori KHS is modular and the smallest configuration allows the print operator to control the press in a standalone environment. By extending the system, the printer can connect to both prepress systems and MIS systems, preferably through JDF. This will be through what Komori call Do Net (Digital Open Architecture Network) [these initials don't match -Ed.].

Whatever configuration, the press has to have a K-station attached, which is where all the jobs are assigned. If extended with modules for JDF (or PPF/CIP3 for older applications), the K-station can prepare and use a range of presettings. A full duplex connection to both the prepress and MIS is possible by extending the system with KMS (Komori Management System). KHS always plans the new job in view of the job that is already printing, minimising settings changes. When starting a new job, the press is not reset to base settings, but instead transforms existing ones as smoothly and quickly as possible to fit the new job. The goal is to achieve targeted print quality within 30 sheets, and according Komori this is normally achieved.

To define target print parameters, Komori KHS stores all data in a database, with information on printability of different paper stocks as well as the paper characteristics. When building this database the K-Color Profiler module is used and measurements are made with PDS-S (Print Density Control-Spectrophotometer) a spectrophotometer that doubles as a densitometer. Using this database tailored ICC profiles can be built using every day production data, instead of being forced to conduct time consuming prints of special test charts. It can also be used to fine tune proofing methods used.

All through the print run, samples are measured and checked so that the tolerances aren't exceeded, with the information expressed as Delta E values, and the objective to have as low a value as possible, and minimal deviation from target values. Komori KMS supports quality assurance in several ways, including service and maintenance scheduling.

MAN Roland Job Pilot & Color Pilot

Pecom is MAN Roland's press management system, consisting of Press Manager, Prepress Link and Press Monitor modules. Pecom can integrate either with external MIS systems or to Printnet, MAN Roland's production management system. Such connections are typically made via JDF.

To operate the press the Job Pilot and Color Pilot workstations are used in tandem, and these work either independently or with the press management module data. Job Pilot handles the electronic job bag and imports JDF or CIP3 data through Prepress Link. It may sometimes be necessary to edit incoming JDF and or CIP3 data, and this can be done in Job Pilot. The database contains all critical data with a Pantone spot colour library, information on different paper stocks and ink data. Press Monitor provides information about production progress and estimates completion of the job currently on press. It also provides a handy review of how production went on past jobs. A configurable logbook function allows for flexible definition of the timeframe over which such analyses might be made,

Color Pilot comes in three flavours, and all use colour measurements captured with a densitometer. The most basic version is Color Pilot Smart, for smaller presses, which is only capable of reading the four basic printing colours. Color Pilot adds support for a spectrophotometer and Color Pilot Plus includes spectrophotometer support and a full feature set for, for example, handling control strips placed more or less anywhere on the sheet, which is especially useful in a perfecting press.

MAN Roland has also introduced Quick Change, which we understand to be an extension to MAN's technology. It allows for presetting of virtually any electronically controlled component on the press. This might be settings for the order in which blankets should be washed, how automatic plate changes should be performed, blower air parameters, powder spray amount, required printing pressure and so on.

Mitsubishi IPC (Intelligent Press Control) Server

At the centre of the Mitsubishi's press control system is the modular IPC, Intelligent Press Control. This can be connected to a prepress system and through Mitsubishi MAX Net (Mitsubishi Accomplished eXtensible Network) also to MIS technologies.

The IPC Server uses a scanning spectrophotometer, MCCS (Mitsubishi Color Control System) to measure the control strips on a sheet. Mitsubishi prefers to use its own control strips which include readings of the paper white, but the system supports many commonly used control strips. The MCCS can also generate ICC profiles based on the measured colour data, and for example ink data taken from the central database in the system.

The Mitsubishi IPC has six separate modules which together help the press operator achieve fast make ready. QSI (Quick Start Inking) sets and optimises start up ink duct settings and ink/water balance. When the printing speed increases or decreases the Ink Flood module makes sure print quality is maintained. This works in tandem with the Ink Key setting module that allows two modes of settings, either uniform changes of ink supply or proportional settings for multiple keys. The Ink Fountain roller speed module automatically adjusts the ink fountain roller to match printing speed, to allow optimum ink density all through the print run. This works together with the Variable Ink Duct roller module, which adjusts the interval of the contact frequency of the ink ductor roller to the fountain roller.

The PPC server (PrePress Connection) links to any prepress system that can deliver JDF and/or CIP3 data. This data is then used for presettings which are transferred to the Mitsubishi IPC press control system. Here maintenance and support also can be supervised and scheduled.

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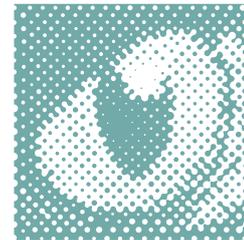
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