

DRUPA 2012 exhibitor preview

Find out all the need-to-know information for the package printing market

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ISSUE # 2



**DIGITAL
PRINTING
PRINT
INSPECTION
GRAVURE
FIGHTS BACK**

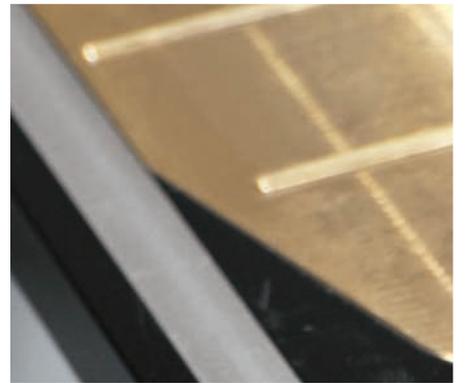
**IN-LINE PROCESSING
FOR COST-EFFECTIVE
CARTONS**

**PROTECTING THE
ENVIRONMENT**

The printed packaging market is doing much to be proud of when it comes to the environment

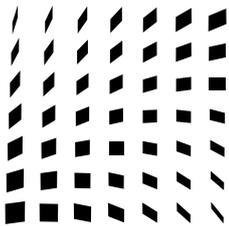


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A B Graphic International Ltd

Lancaster Road,
Carnaby Industrial Estate,
Bridlington, East Yorkshire,
YO15 3QY, England

t: +44 (0)1262 678161

f: +44 (0)1262 677009

e: info@abgint.com

w: www.abgint.com



www.abgint.com

PPW contents

Editorial

editor@packprintworld.com

Nick Coombes Editor
Mike Fairley International Publishing Director
Andy Thomas Group Managing Editor
David Pittman News Editor
Carol Houghton Editorial Assistant
Danielle Jerschefske North America Editor
James Quirk Latin America Editor
Kevin Liu China Editor

Advertising

sales@packprintworld.com

Tim Gordon Global Advertising Manager
Randy Kessler Americas Advertising Manager
David Lewis Senior Sales Executive
Gina Laudon Sales Executive – US
Joerg Singer Account Executive
Jerry Lee Account Executive – China

Subscriptions

subs@packprintworld.com

Production

production@packprintworld.com

Dan Taylor Print & Publishing Manager

Marketing & circulation

marketing@packprintworld.com

Michael Hatton Communications Manager

Management

Roger Pellow Labels and Pack Print Group MD/Publisher
Lisa Milburn Events and Publishing Director
Tasha Ventimiglia Event Manager

Publishers

Tarsus Exhibitions & Publishing Ltd, Metro Building,
1 Butterwick, Hammersmith, London
W6 8DL, UK
T: +44 (0)208 846 2700
ISSN 1478-7520

US office

Tarsus Exhibitions and Publishing Ltd, 16985
West Bluemound Road, Suite 210, Brookfield,
WI 53005, USA
T: +1 262 782 1900

China office

Tarsus Publishing Inc, Room 1108, Floor 11,
1 Hongqiao Road Xu Hui, Shanghai, China
T: +86 21 64484890 | F: +86 21 64484880

Printers

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PPW intro



All eyes on Drupa

With definite signs that business confidence is beginning to return to the global market in which Package Print Worldwide operates, the timing of Drupa 2012 could scarcely be better.

It is the biggest expo of its kind, with organiser Messe Düsseldorf claiming 1,800 companies exhibiting in 19 halls. Visitor numbers are predicted to top 350,000, and confidence is running high.

This issue of PPW offers you a taste of what you can expect to see at Drupa in our multi-page preview, and, as ever, there will be a wave of new technology announcements and product launches that are held back until the expo opens on May 3.

Competing effectively in today's hostile commercial environment is tough in any industry, but there can be few in which technology moves at such a fast pace as printing.

Not many years ago, flexo was considered a low quality print process, and then came UV curing, and now high-definition to boost its appeal. Gravure was a process for long runs only – now sleeve technology and fast-change units make it competitive on shorter run work. Offset presses of giant proportions can now be made ready and run with minimal operator input, and produce finely measured color at high speeds.

And then, there is the rise and rise of digital printing. Those who remember the excitement its launch created at Drupa 1995 might well say its development into a true industrial process to rival established printing techniques has been a long time coming.

But, come it has, and predictions are that this will be the first true "Digital Drupa".

With 2012 set to be every bit as exciting, my advice to those planning to visit is "wear comfortable shoes"!

Nick Coombes



Nick Coombes
Editor
editor@packprintworld.com

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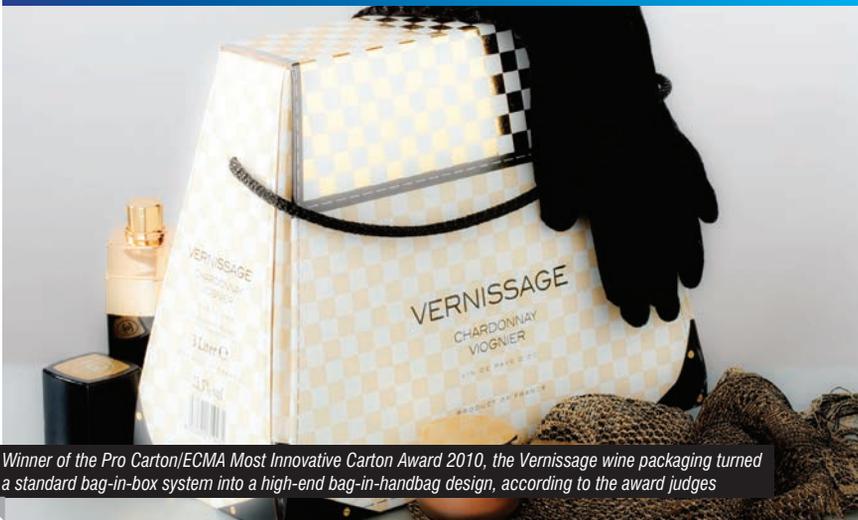
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NEWS

CARTONBOARD SETS ITSELF APART



Winner of the Pro Carton/ECMA Most Innovative Carton Award 2010, the Vernissage wine packaging turned a standard bag-in-box system into a high-end bag-in-handbag design, according to the award judges

INNOVATION KEEPS CARTONBOARD FRESH

Innovation is a key differentiator for cartonboard compared to other materials used for packaging, according to Roland Rex, president of Pro Carton, the European association of carton and cartonboard manufacturers. Rex said: 'Packaging made of cartonboard is distinguished by permanent innovation in a number of application fields.'

'The drivers for innovative carton packaging come from all areas. On the one hand there are the cartonboard manufacturers who continue to launch improved or new qualities, and on the other, the converters who present new applications or solutions to market requirements as a result of creativity, technical expertise and innovative thinking.'

Rex addressed a number of other topics, including ink migration, on which he said: 'The innovative strength of our industry was able to provide carton solutions for safe food packaging within a short space of time, for example, the cartonboard manufacturers with in-line barrier layers, but also the converters by applying specific Good Manufacturing Practice. This shows that the carton packaging supply chain does indeed work for the benefit of customers and the protection of our planet.'

Packaging's role in a digital world was another topic Rex touched on. This will be the overall theme of the next Pro Carton Congress, taking place April 18-19 in Düsseldorf, Germany, leading him to suggest: 'Cartons offer unique opportunities for providing digital

information in the growing link with packaging. This is why Pro Carton will be focusing on the topic Packaging in a Digital World at this year's congress, held during April in Germany.

'The question as to the marketing value of packaging will also be answered there when the results of a study commissioned by Pro Carton at the end of last year will be presented. The markets change, cartons change with the market and keep gaining significance and market share owing to their incomparable adaptability.'

Overall, Rex is confident of the future of the market, and said: 'Everyone concerned with forecasting economic development in Europe is having difficulties at present. There are many indicators that would suggest the economies have again become somewhat sluggish in the core countries, but consumers seem to have a different opinion.'

'Consumer spending remains unflinching, at least for products of daily use. If anything, price-consciousness stands out, but this is a trend we have already observed over the past years.'

'Now that the value chain for cartonboard packaging has returned to normal, the influx of orders and sales have reached a stable state of affairs for both cartonboard manufacturers and converters. Nonetheless, some areas will have to deal with specific challenges during the coming weeks and months: be it undesirable migration of printing inks into foods, or plain packaging for cigarettes.'

To read more on the cartonboard market, see p26

OPEN HOUSE SUCCESS



EDALE EYES CARTONS

UK press manufacturer Edale sees the carton market as a way for it to 'utilize our talents to the best advantage'.

Earlier this year, Edale invited the local Mayor and Mayoress of Fareham to formally open its second industrial unit in Hampshire during its first-ever Open House event and mini exhibition. The event combined machine demonstrations with a series of presentations given by the numerous co-suppliers who had set up table-top displays for visitors to see.

Claiming to be 'very pleased' with the event, which attracted more than 100 visitors, Edale's sales and marketing director, Jeremy Westcott said: 'The response exceeded expectations, and gave all those who attended a great insight into our capabilities.'

'We see the carton market as having great potential for us to utilize our talents to the best advantage.' Asked whether the interest was coming from hard-pressed label converters looking to diversify into more profitable markets, he added: 'The price hike of moving into carton machines is a psychological barrier to most label printers – but to the carton converter who is used to the cost of sheet-fed presses and off-line converting, narrow and mid web flexo is financially very attractive.'

Edale's Sigma line, which was its first servo-driven press, was always aimed at the packaging market with its chambered doctor blade system. The company's latest carton press development, as yet un-named, has three servo motors per head, and is currently available in 650 and 760mm web widths.

AUTOMATIC CORONA TREATING



VETAPHONE SIMPLIFIES CORONA

Danish surface adhesion specialist Vetaphone has launched iCorona, an automated corona generator to simplify treatment of substrates.

iCorona offers features such as automatically generated quality reports, auto maintenance schedules and online instruction manuals, which Vetaphone said are designed to optimize production quality while reducing the time operators need to give over to the process.

Technically, iCorona adjusts the power in accordance with the material factor set by the operator while measuring both the thickness of the substrate, material width and line speed. If the line speed drops the generator will automatically adjust the power level. At minimum line speed the iCorona will automatically stop, and the instant the line speed increases the generator restarts.

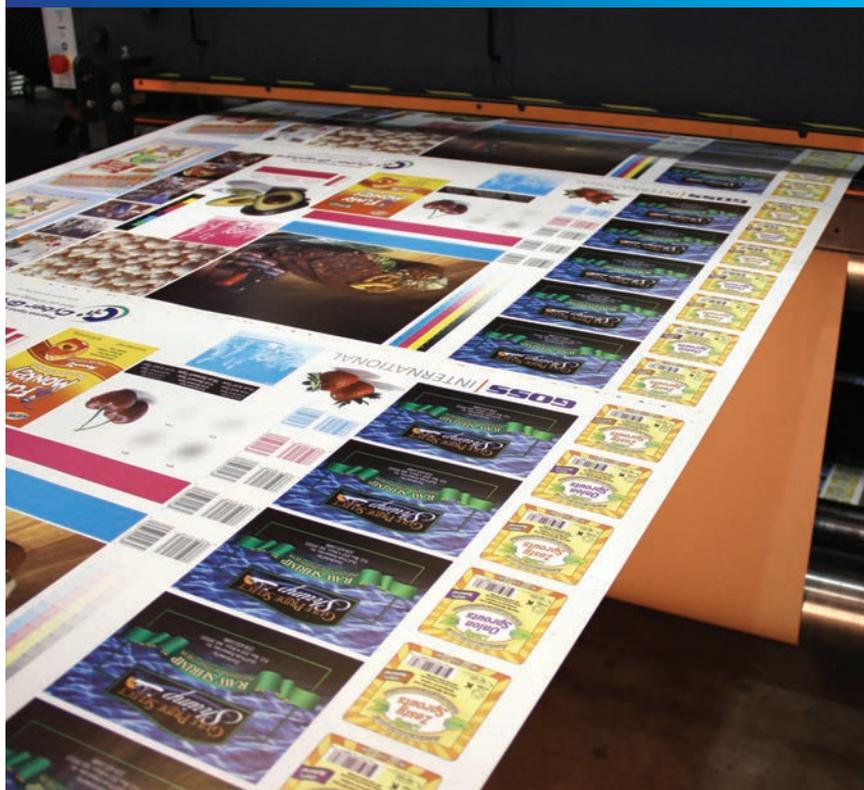
Every stop, start or fault is automatically logged in the memory of the iCorona, enabling manufacturers to extract a full electronic production report with each batch produced, and even supply it to customers.

Vetaphone added that the intuitive and simple to use touch display of the iCorona has multi-lingual possibilities. The main screen has four buttons: start, stop, power up and power down

Jan Eisby, Vetaphone sales director, said: 'The combined features of the iCorona enable manufacturers to control, monitor and log every bit of the corona process while minimising operator time by automating a lot of functions.'

'Imagine the reaction of your customers when every batch you supply is followed by an automatically generated production report stating, "this material has been corona treated with a material factor of 19.5".'

WIDER WEBS HELP MARKET MEET POTENTIAL



'WIDER IS BETTER', SAYS GOSS

Goss International is to push the idea that 'wider is better' with its new Sunday Vpak range of packaging presses, which will be introduced to a global audience at Drupa.

Peter Walczak, Goss International's director of product management for packaging presses, said a large proportion of the conversations the company has had with potential customers has been focused on wider widths, even in reference to its narrow web platform, the Vpak 500.

The Vpak 500 is available in 521mm (20.5in) and 851mm (33.5in) web widths. A 1,041mm (41in) variant will be available also. A wide format platform, the Vpak 3000, will offer 1,118mm (44in), 1,397mm (55in), 1,626mm (64in) and 1,905mm (75in) web widths.

Walczak said the Vpak 500 1,041mm press is a relative newcomer to the Sunday Vpak family as originally it planned only the smaller format models, but: 'As we investigated the market more, it became clear that there are a number of package printing applications, especially in the carton market, that are carried out on 40in sheet-fed presses, so it made total sense to expand the range for that type of application.'

'In our opinion, wider is better', said Walczak. 'If you can make 20in work in your business model, you'll be able to work with 41in. Productivity and throughput are key to any production model, and we're not a supplier that

wants to be selling machinery into very narrow areas.'

'Economies are driven towards wider widths. Even in the larger format Vpak range, we'd expected to see a lot of conversations in the 44-55in space but they've actually been interested in the 64-75in area.'

Walczak said Goss International has a goal to educate the packaging market on the economic benefits of wider web widths, adding: 'Narrow web won't disappear, but a paradigm shift will see narrow webs become wider in the future.'

He added: 'People think the price of equipment is important but really it's all about the price of the product your printing and the linear cost, whether in feet or meters.'

'The equipment cost is secondary to the production cost as this is where the margins are being made. Capital expenditure is spread over a number of years, but if you have pricing pressures in the marketplace, you have to be able to reduce costs to help you restore your margins. Wider widths allow you to do that by giving you more throughput.'

'That's our mindset on the narrow web market, and we need to undertake an education process. It will be hard though, as it involves changing conventional thinking that has been established in the market for some time.'

See p53 for more on the new Goss Sunday Vpak packaging press, which will be launched at Drupa

INK THE KEY TO INKJET ADOPTION

Developments in inks are integral to the widespread adoption of digital inkjet printing, according to Xennia's head of industrial decoration Hannah O'Brien.

Xennia is an industrial inkjet specialist, delivering inks and systems to OEMs for use in their printing equipment. O'Brien said the company has recorded success with inkjet technology in the ceramics market, as well as laminate, flooring and glass decoration. It also does work in niche packaging applications that use high volumes of ink and for which a standard inkjet system is not sufficient, such as those that require a specific ink or color, or need to print on a specific substrate.

'We're positive about the future of inkjet and believe any surface that is decorated could potentially be printed by inkjet,' she said. 'Whether wooden flooring, a glass window or packaging, there are multiple opportunities for inkjet to become the printing technology of the future.'

The ability to offer customized products on a mass scale and leaner manufacturing are key benefits O'Brien highlights to inkjet printing, as well ecological gains such as less waste and a faster drying process.

Digital inkjet printing is also well-placed to replace analog processes, such as screen printing, added O'Brien, where the ability to offer mass customization across



multiple packages with different images is evident.

'Inkjet can displace analog technology where there are costs associated with setting new screens, changing ink colors and responding to market demand. The packaging sector typically has a requirement for quick job changeovers and make-ready.'

Changing legislation requiring packaging to carry language-specific details and text further worsens the cost implications, she said. 'Using multiple screens doing multiple languages, perhaps for countries where the product doesn't move large volumes, becomes expensive.'

O'Brien said: 'The key to the success of inkjet adoption is in the ink, and the development of different inks to perform on different substrates. This will allow

inkjet to roll out across many different applications.'

Xennia is turning its attention towards ink, and transitioning to a product-based company leveraging existing developments into mass-production settings.

'We have ambitious growth plans, growing as an ink company. Currently we supply the hardware and the ink to go with that, but our growth model is based on ink and supplying ink in volume.'

It is targeting the potential in the Far East, and was present at last year's All in Print China as a means to raise the company's profile in the market and promote digital printing. This was part of a strategy to replicate its business model that has proved successful in the ceramics market, whereby it works as a partner to OEMs in a target region.

'China is a large producer of consumer goods so has a requirement for printed packaging. We see it as a huge market.'

O'Brien concluded: 'We see that there is the opportunity for any surface to be digitally decorated and want to be part of that in the future. And inkjet is not only about decoration as it can be used to add functionality, such as coatings and flame-retardant properties, to different substrates and fabrics.'



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DIGITAL VS OFFSET: QUALITY NOT AN ISSUE

Quality is no longer an issue that packaging printers and converters need worry about when considering digital solutions, according to Dr Jürgen Rautert (pictured, right), a former member of the management board at Heidelberg and current senior vice president of product development and global purchasing at logistics company Dematic.

Speaking at an Open House event to mark the installation of the first HP Indigo WS6600 at German folding carton producer Schneller Leupold, Rautert said: 'Quality is no longer an issue.

'I think you could say the average quality being produced by an average operator on an offset press is probably not as good as the average quality being produced by an average operator on a digital press.

'You can tweak offset presses to achieve a higher level than you can a digital press, but there is less babysitting required for digital presses.'

Speaking on the topic of digital printing solutions for the package printing and converting market under the heading "Why not?", Rautert addressed a number of key questions the market often asks about digital printing. Is the technology good enough for use in industrial environments?

What are the manufacturing costs? How do customer relationships need to change? How do digital solutions fit into a printer's workflow scenario?

Rautert said many of these questions are now defunct as digital printing technology has evolved to a point where it answers them, such as the technology's suitability for industrial applications and workflow integration.

He noted that some other areas of concern are less clear, such as color management and converting. With color management, he said both offset and digital have their issues but the latter benefits from a level of built-in stability that brand owners and end users demand from printed packaging, while digital converting is still a young market and will see some innovations succeed and others fail. 'It will happen,' Rautert said.

For printers and converters to make digital work for them, they must make it part of their business model according to Rautert, from staff training and job processing to solid customer relationship management.

'If your business is in trouble and you buy digital to fix it, it won't happen. You might get some work from cross-

DIGITAL PRINT QUALITY



marketing, but digital has to be an investment in your whole business model.

'The business model must be correct, as success is not based around the press but rather on how it is used.'

The WS6600 installed was shown producing a range of folding cartons.

For more on the HP Indigo/Schneller Leupold Open House, see p56



Fit for profitability.

Müller Martini VSOP Variable Sleeve Offset Printing



The technology of the VSOP web offset press provides the capability to take advantage of many market trends in packaging: flexible packaging, labels (shrink sleeve, self-adhesive labels, wet glue labels, IML, wrap-around), folding carton and liquid packaging. The press runs up to 365 m/min (1200 ft/min) and produces the complete size range (381–762 mm/15–30") by using lightweight print sleeves. The VSOP is available in web widths of 520 mm (20 1/2") and 850 mm (33 1/2") and offers a great number of hybrid configurations with flexo, gravure, screen etc.

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FLEXO WASH PARTNERS WITH OFRU

Danish firm Flexo Wash has signed a global strategic alliance with Germany's OFRU Recycling that will see both sets of products offered to customers.

OFRU Recycling is regarded as an expert in the field of recycling plants for soiled inflammable solvents, while Flexo Wash provides cleaning systems for different branches of industry. Both companies serve the same customer target groups in the printing and ink processing industries with an international focus.

Customers will be able to choose from a full range of products from both manufacturers. In the future, customers will be able to obtain high-quality solvent recycling plants or industrial cleaning systems from a single source.

OFRU products will be marketed by Flexo Wash under their own product name. At the same time, Flexo Wash washing machines will be marketed by OFRU.

The aim of the supply cooperation is to utilize the technically sophisticated products of both partners and to extend the product range. The combination of the two well-known brands will generate market advantages without relinquishing any independence or flexibility, the companies said in a statement.

GLOBAL AWARDS: ENTRIES OPEN

Package suppliers, printers and converters with interests in the label printing industry are being invited to submit entries for this year's Label Industry Global Awards.

Being held at Labelexpo Americas 2012 in September, where package printing will again have a presence in a dedicated Package Printing Zone, the awards recognise and reward companies and individuals for excellence and best practice.

Four categories are open to entries and nominations: Continuous Innovation Award, New Innovation Award, Converter Award for Sustainability/Environmental Responsibility and the R. Stanton Avery Lifetime Achievement Award, which is sponsored by Avery Dennison.

Any company can enter these awards, subject to meeting the entry criteria. Submissions need to be received by Friday May 18, 2012. Short-listed finalists will be announced in June. Full details are available at www.labelawards.com.

FINANCIAL STABILITY ENSURES SUSTAINABILITY



FINANCE STABILITY ESSENTIAL FOR SUSTAINABLE BUSINESS

Businesses must be financially stable to be able to promote themselves as sustainable, according to suppliers from across the packaging market.

Sustainability is an issue touching many markets related to the packaging sector, with companies from both the cartonboard and inks markets speaking out about the necessity to be financially stable in the current climate to facilitate future investment in "green" activities.

Mike Impastato, Flint Group's vice president of strategic marketing for packaging and narrow web, said: 'The business must be stable financially and able to generate a profit which allows it to reinvest in technology and people.'

'A business that does not generate a profit capable of reinvestment cannot attract and keep people who will invent the new products, or provide the services to support their customers. Even the best technology is yesterday's technology tomorrow.'

'To be successful you must have a mindset of continuous improvement and be able to financially invest in it. Even if revolutionary improvements can't be made, there is always a way to incrementally improve a product. If you don't, your competitor will.'

Johan Granås, Iggesund's Invercote product manager, said: 'Money is an integral part of sustainability. If you're not sustainable financially then no-one can hold you responsible for the things you

do that are bad for the environment. Who will pick up that mess?'

'We've plenty of history where we've not been so good but are trying to right these wrongs by being good today. You can be pretty sure that not everything the industry does today is sunshine and balloons, and in 20 years we'll look back and think "that wasn't such a good idea". Being sustainable means making money to repair your wrongs from the past and prepare for the future.'

Iggesund has made a number of investments in recent times to improve its sustainability credentials, namely by developing its energy production capabilities with investments at its Swedish mill in a recovery boiler and a biomass boiler at its folding boxboard mill in Workington, UK. This followed investment in its waste water treatment a few years ago. 'We're preparing for the future,' said Granås.

Fellow cartonboard producer Metsä Board has made investments at three of its four folding boxboard mills, including a biomass power investment that will see 75 percent of the energy consumed at one of its mills derived from natural resources.

Granås added: 'The financial requirements of sustainability need highlighting, as products with a good record of sustainability often come from companies with a healthy financial standing. It's not a coincidence.'

INKS GET INTERNATIONAL FOCUS



PULSE SWITCHES FOCUS TO EXPORT

UK narrow web ink specialist Pulse Roll Label Products has setup home at a new 2,500 sq m (27,000 sq ft) facility as it targets a growing international customer base. The new facility is located near to its current 500 sq m (5,000 sq ft) location in Yate, near Bristol in the UK and will provide Pulse with the space to grow its customer base overseas.

Pulse managing director Gary Seward said: 'We're increasing the market we're attacking. Historically, we've been focused on the UK with a little bit of export but now we want to be addressing the export market more.'

'We're moving to a more international role. Markets that are already big for us are in eastern Europe, such as Poland, Russia, Ukraine and Latvia, and we're making a big push for the Far East, in Thailand, Singapore and Japan. We're due to recruit an agent soon that will handle those markets, as well as China.'

Seward added that Pulse is moving to lean manufacturing principles that will see it use as little space as possible for production at its new facility.

MERCIAN MOVES INTO DIGITAL CARTONS

Mercian Labels is to begin offering digitally printed folding cartons after seeing its potential for customized, cost-effective short-run printing over the sheet-fed litho process.

The new service uses a Xeikon 3000 series digital printing press coupled with in-line converting, allowing it to produce printed folding cartons featuring variable data and multiple designs.

Early samples were printed on high-quality 400 micron folding cartonboard, and incorporate a number of security features such as microtext, variable barcodes and variable text and numbering.

Mercian Labels managing director Dr Adrian Steele said: 'The conventional sheet-fed litho manufacturing process for printed folding cartons limits the creativity that brands wish to incorporate into their packaging.'

'Digital printing permits the inclusion of personalized content on every pack, with infinite versions for trials as well as inclusion of unique brand protection features. The Xeikon imaging technology we use offers fantastic full-color, 1,200dpi quality using lightfast and FDA approved food safe toners.'

'The Mercian Labels Group has combined digital print with an innovative and unique converting process to print and die-cut the cartons in a single pass that is ready for conventional folding and gluing. Die origination is cheap and fast, and we are looking to bring lead times down to those offered to our labeling customers, typically being 3-5 days from artwork approval.'

Steele added: 'We expect this new service, which we believe to be the first of its kind in the UK, to attract excitement and interest from brands of all sizes looking to differentiate their offering using printed cartons. Our labeling experience shows us that customers who have taken advantage of the benefits of digital printing have seen significant increases in their businesses as multiple SKUs appealing to smaller but higher value niche markets becomes cost effective. We expect a similar trend to happen in printed folding cartons.'



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TECHNOLOGY TO SAVE ENERGY



MACHINE DESIGN TO REDUCE ENERGY CONSUMPTION

Universal Converting Equipment has claimed the use of technologies such as regenerative braking can drastically reduce the energy consumption of converting machinery.

Technical director Dave Ward used regenerative braking, which recovers energy during braking and turns it into an alternative power source for other systems, as an example of the savings that can be made by designing machines in a way that makes them less energy-hungry.

Ward said: 'Commonly we design in regenerative motors rather than more traditional pneumatic brakes, so rather than braking energy being lost as heat, it is turned into electricity and used by other systems within the machine.'

'In some applications the brake energy is enough to reduce power consumption of the machine by 40 percent or more.'

Universal Converting Equipment offers a series of other energy consumption reduction features in its slitting and winding machinery besides regenerative braking, including: the use of high-efficiency AC motors; removing hydraulic systems wherever possible; providing intelligent turn-off, which sees unused systems put on standby; and using touchscreens that go into hibernation when not used for a period. The company said this was driven by ecological and financial demands from the market.

Ward concluded: 'We design our machinery to be as frugal as possible with energy and have identified significant areas where energy savings can be made; in some cases functionality and performance has been increased as a positive side effect.'

Alongside conventional converting equipment, Universal offers customers a range of roll handling kit. A review of the material handling market can be read on p18.

PRESSTEK TO USE DRUPA TO DRIVE BUSINESS RECOVERY

Digital offset printing system supplier Presstek will use Drupa to promote its 75DI sheet-fed platform (pictured, right) and create 'more opportunities' for the company as 'the printing industry recovers from the effects of the economic downturn,' according to chairman, president and chief executive officer Stanley E. Freimuth.

Total revenue in 2011 was US\$120 million, a decrease of 6.7 percent, or US\$8.6 million, from 2010. Year-on-year, equipment revenue decreased 3.1 percent to US\$20.7 million, consumables revenue fell to US\$76.3 million from US\$82.3 million and service revenue declined 7.6 percent to US\$23 million.

Gross margin for 2011 was 28.9 percent compared to 32.6 percent in 2010. The reduction was primarily the result of an unfavorable equipment and consumables product mix, a stronger yen and unabsorbed manufacturing overheads in its factories, Presstek said.

Presstek did state that it had sold five 75DI sheet-fed presses on three different continents during 2011, with two installed and additional orders received during the fourth quarter.

Freimuth said: 'Presstek faced another challenging year in 2011, as adverse economic and industry conditions continued to negatively impact print volumes. However, we were pleased with activity in the fourth quarter. We had previously reported that we expected fourth quarter revenue and gross margin



dollars to be flat relative to third quarter numbers, and our results were better than expected.

'In May we will be showcasing our 75DI press for the first time on a worldwide stage at the Drupa tradeshow in Düsseldorf, Germany. We are excited for the world to see the capabilities of this dynamic and versatile press. The technology in Presstek's DI presses is truly remarkable, and has come a long way since the DI press was first introduced many years ago.'

Freimuth added: 'The 75DI is the only press on the market that can go from digital file to saleable sheet in six minutes and print at 16,000 impressions per hour. It is also the most economical press in the market for four or more color jobs with run lengths between 500 and 20,000 impressions, which is the range of most jobs being run today.'

'We will be driving this message harder to the market to create more opportunities for Presstek as the printing industry recovers from the effects of the economic downturn.'

Read PPW's detailed Drupa exhibitor preview on p16 for insight into package printing technology that will be on show

TRELLEBORG PRINTING BLANKETS APPROVED FOR FOOD PACKAGING

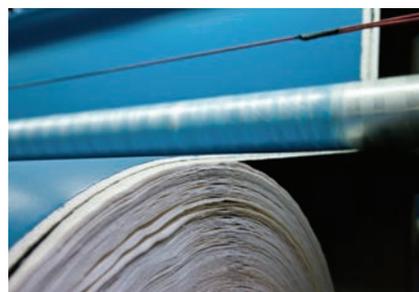
Printing blanket manufacturer Trelleborg, has received accreditation from independent testing institute ISEGA for both its Rollin and Vulcan range of printing blankets, confirming that they can be safely employed in the printing process of food packaging. ISEGA is an independent testing institute with capability for analytical and consulting work in the pulp, paper and board; plastics; packaging and consumer goods; and colors, lacquers, additives and other chemicals markets.

Thomas Linkenheil, product area director at Trelleborg Engineered Systems, said: 'The food packaging industry is fast becoming a growing and highly attractive market for Trelleborg, so to receive such an industry-wide sought after certification is a remarkable achievement.'

'The fact that not one, but both of our core blanket ranges have been recognized by the prestigious standard,

makes the accreditation even more special.'

Trelleborg has recently unveiled two new blankets in its range. The Vulcan Kart-One (pictured, below) is a hybrid blanket that has been developed for the packaging market for use with both conventional and UV inks. The new Rollin LibiX has also been purposefully developed for the packaging market, and is suitable for use with both conventional and UV inks and incorporates a solvent-free carcass.





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Combined activities at DRUPA 2012

Combined power for sustainable innovation

Enabling the conversion to sustainable printing

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We share the common aim of driving the conversion from conventional to solvent-free printing. As front runners in this conversion we are fast becoming the preferred suppliers for chemistry and engineering solutions for the printing industry.

The high quality and efficient **COMEXI FLEXPRESS F2** press will be showcased to print innovative and sustainable products for the flexible packaging market. **BASF** will highlight their sustainable approach to the converting world by showcasing their solutions for water-based printing inks and lamination adhesives and biodegradable films for flexible packaging.



COMEXI GROUP · Polígon Industrial de Girona · Avinguda Mas Pins, 135 · 17457 Riudellots de la Selva GIRONA (SPAIN) ·
Tel: +34 972 477 744 · Fax: +34 972 477 384 · comexi@comexigroup.com · www.comexigroup.com

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Waste reduction systems can help minimize material loss at the core in certain automatic splicers

Pressure on productivity? Try automation



Nick Coombes talks to Gavin Rittmeyer, vice president of sales and marketing at Martin Automatic, about the ways in which roll change automation can make a difference to boosting profitability.

Current economic data has some indicators pointing up, some pointing down, while others show no discernable pattern at all. Whatever conditions converters and printers face now, they need to focus on key questions that never change. What else can I do to boost profitability? How can I do things better? What tools do I need to accomplish both of these?

In a sound economy, when orders are strong and margins are comfortable, wasteful processes and habits tend to be overlooked. In a soft economy, printers have to look more closely at ways to eliminate wasteful practices to maintain or improve their profitability.

On web-fed presses, material waste is generated every time the press is stopped. Material that is discarded rather than converted to a finished product is both lost potential revenue and wasted working capital. 'Take a typical web press,' says Gavin Rittmeyer, vice president of sales and marketing at Martin Automatic. 'Stopping for a manual roll change will waste at least one press length of material and maybe more, depending on the type of press and work being done. Automating these roll changes can save at least three to six percent, often more.' He points out that clever printers will also make savings

through better use of stock – using a splicer for staging rolls gives faster job changes, and makes more efficient use of butt rolls on repeat or future jobs.

Another factor that may be overlooked or go unaddressed is how much useable stock is thrown away at the end of a roll. One method of reducing material loss at the core in certain automatic splicers is through the use of a waste reduction system (WRS). This enables a printer to run the maximum useable material from a roll by exercising additional control over the web. 'The more expensive the substrate being used, the faster the return on investment, so liquid or aseptic packaging, or products made from expensive laminates, like toothpaste or cosmetics tubes, make good candidates for WRS,' he explains.

Automatic roll changing also improves the labor component of manufacturing. There are many ROI approaches to calculate how much labor is wasted by changing rolls manually, and how much this could be improved with automation. Automatic splicing also has a beneficial effect on labor savings in subsequent processes, as one customer comments: 'A single manual roll change on a print job means over 30m of stock has to be edited out of the print run. It also wastes ink, and we need extra post-press time to

edit the bad material out of the final roll.'

Rittmeyer says: 'I want to emphasize that automating the unwind, rewind and tension control elements of a process is not about eliminating press operators. Rather, the converter who produces inefficiently – that is, without automation – will find it difficult to stay in business and maintain margins, as he is faced with downward pressure on price and upward pressure from material costs. If he follows that course, he will sustain losses that will force him to cut back on hours, then on people and finally shut down. The objective of automatic roll changing is to avoid this by making existing employees more efficient and productive.'

Improving process

Process improvement can be measured in a number of ways. In terms of net production speed, the addition of automatic roll changing typically results in increases of 10 percent or more. This is because the press no longer needs to slow down, stop and speed up at every roll change. The operators also feel more comfortable running the press faster because they know that roll changing does not require frequent monitoring, or constant brake and tension adjustment.

Measured in throughput, the improvements from automatic roll

changing are in the 11-33 percent range. According to Rittmeyer, one film printing customer, who has installed a Martin Automatic splicer and automatic transfer rewind to his servo-driven press, says: 'We can now achieve in a day what used to take us a day and a half. It is like adding extra hours of production capacity to each and every shift.'

In addition to pushing work through the press faster, automatic splicing can improve process quality. By maintaining speed and tension levels, images stabilize and color matches are maintained, allowing for optimum impressions from the beginning of the run to the end. And, since there is less chance of a damaging build up of solids on the plates, there is less need to clean the plates during the print run, so they perform better and last longer.

Reducing energy consumption

Running at a consistent speed also has positive effects on curing quality, as speed reductions on UV presses can

often result in changes in UV power output and curing intensity. During manual roll changes, UV lamps are typically powered down to 20-25 percent, and the exposure shutters are closed. These bulbs remain in a standby mode until the press is back up to speed. While the energy consumed in this standby mode may not be significant, the UV bulb's useful service life is being wasted. With automatic roll change, the UV system is powered up and stays that way until the end of the run.

'We continue to study the effects of automated roll changes on power consumption,' says Rittmeyer, 'but one German printer recently came up with some interesting statistics by conducting a comparison test to measure the energy consumed by two presses running identical jobs that involved two roll changes. The first test measured the energy consumed with manual roll changes, and the second with automatic roll changes. The results showed an average of 23 percent less power

per job and a reduction in electricity consumption costs of €10,000 per year, using automation.'

Extending press life

The evolution of materials toward lighter film stocks has posed a challenge to printers. For some, whose presses may still be relatively young in terms of hours, it is a painful recognition that these presses may have exceeded their useful life. However, for printers whose jobs still run well on an existing press, an investment in automatic roll changing is both affordable and productive, as well as a practical and affordable alternative to purchasing a new press.

'Older presses tend to lose register during deceleration and acceleration, which results in additional substrate waste beyond that expected in make-ready. With a splicer that incorporates inertia compensated tension control, additional waste is reduced by the fact that, once up to speed, the press will operate at a stable speed and tension throughout the full run,' says Rittmeyer. This problem is less prevalent with newer servo-driven presses. 'But,' he says, 'the increase in quality may be enough to extend the life of an older press and enable the printer to stay profitable.'

'A one-size-fits-all solution is rarely in a printer's best interest, which is why we ask detailed questions about his production environment and apply sound engineering principles to come up with the most appropriate technology. Our aim is to optimize an automation package so that it will deliver the best performance and ROI, giving customers exactly what they need,' Rittmeyer says.

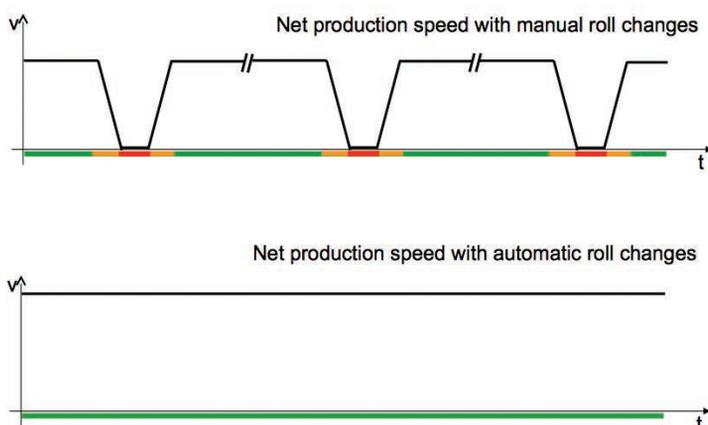
Future – and present – growth

The ability to complete jobs more efficiently and quickly allows printers to take on business they might otherwise turn away for reasons of capacity or profitability. Automating the roll changes enables printers to increase their turnover and their opportunity for more business.

'I'm not suggesting that automatic splicing and rewinding is the sole answer. A lot of material waste occurs before a stock roll reaches the press. For example, a lean manufacturing analysis of roll shipping, storing, and handling practices may offer opportunities for better efficiency. Training operators to remove outside roll wraps with care, rather than slabbing off unnecessary stock, can save significant money. Even keeping a cleaner shop will net big savings.'

'Many a printer has discovered the value of implementing such no-cost or low-cost improvements, and paid for automatic roll changing with the money saved.'

Reducing waste by automating roll changes



Process improvement can offer a number of benefits to printers and converters

The Cerutti R970/2 press is described as a highly automated line that maximizes productivity by dramatically reducing job changeover times



Rotogravure technology in a changing market

Nick Coombes talks to Costanza Cerutti, communication manager at Cerutti Packaging Equipment SpA, to trace the history of the business, which was founded by her great-grandfather and has grown into a global leader in gravure package printing.

When Giovanni Cerutti started working in his father's workshop in Casale Monferrato in the late 19th century, he could scarcely have foreseen how the machines he designed and built would go on to gain global prominence more than 100 years later. From such humble beginnings, Cerutti went on to build its first rotogravure press in 1950, which was installed at leading Italian publication printer Mondadori Group.

By the beginning of the 1960s, Giovanni, together with his son Luigi, decided to move into the sector of package printing and established a new plant in Vercelli, which was later expanded to include a purpose-built research and development (R&D) center.

Growing the business

In 1981, Giancarlo Cerutti, grandson of Giovanni, and Costanza's father, was appointed president and CEO of the Cerutti Group, and the company rapidly became the leader in the rotogravure printing sector, serving both publication and packaging markets. To extend this influence, in 1982 Cerutti decided to expand its presence in the printing communication industry, and installed its first flexographic press for newspaper printing at La Repubblica in 1985. This led to further expansion in Cerutti's core competences with the acquisition of Flexotecnica, which manufactures CI flexo presses, the Spanish company Iberica, and the American organizations Zerand/Bernal, which produce various types of die cutting and sheeting machines.

A software design center was opened in 2004 at Trivandrum, in the Kerala region of India, closely followed, in 2007, by Cerutti and Koenig & Bauer (KBA) signing an agreement that transferred to the company all KBA's intellectual property rights relating to rotogravure printing presses for magazines,

catalogues and decorative paper. Today, the Italian company is the worldwide leader in this market segment, and holds a majority share in the gravure package printing machine market, employing 930 people around the world.

Technology for modern package printing

The company's dominance of the package printing sector is the result of its ability to adapt to market trends and invest continually in R&D activities. Within its purpose-built facility, Cerutti has three working presses, complete with a solvent recovery system, and these allow the company to run extensive trials for developing market leading solutions. Costanza Cerutti explains: 'It was as a result of monitoring market trends, which indicated ever-decreasing print run lengths, that we developed and launched the Cerutti R970/2 press. It's a highly automated line, and maximizes productivity by dramatically reducing job changeover times.

'Our R970/2 customers tell us they now regularly handle 10-20 production jobs in a single 24-hour period.' This, the company claims, permits its customers to focus on just-in-time orders of high-quality packaging. This new level of productivity applies to both flexible packaging and short-run carton printing.

The R970/2 is a highly effective production tool, capable of printing a large volume of orders each day using machine paced changeover. This system provides the operator with a pre-prepared service trolley for each print unit, complete with a new gravure cylinder and ink tray. At the end of the print run, the machine automatically performs a complete wash-up of each selected unit, including ink tray, gravure cylinder, doctor blade and ink piping. Then, in parallel operation, it automatically changes the gravure cylinders for the new job, and finally, automatically changes the ink pans ready for the new color.



Cerutti has further developed its standard cart type press, the R980, into a series capable of short and medium runs for differing markets



Costanza Cerutti is the great-granddaughter of Giovanni Cerutti, founder of the gravure specialist

Ms Cerutti says: 'A full 10-color changeover of all these items, or just the selected ones, can be completed without operator intervention in 12 minutes. The R970/2 is also equipped with a revolutionary new HC drying system, which increases efficiency by utilizing our own unique circular impinging jets that give a superior heat/mass transfer to conventional slot nozzles.' The HC dryers, given their unique layout, provide an increased between-unit dryer length, whilst halving the total web length within the press. 'This also improves set-up waste on each print job,' she adds.

This automation allows short runs to be profitable, and maximizes the return on investment in a margin-sensitive marketplace. 'Of course, the machine paced changeover has to be matched by efficient service trolley preparation, but, given the correct preparation, we maintain the R970/2 to be a market leader in short-run gravure printing, and it accounted for 80 percent of our sales in 2010 with a total of 47 presses shipped within the 12 month period.'

Expanding the range

In addition to the R970/2, Cerutti has further developed its standard

cart-type press, the R980, into a series capable of short and medium runs for differing marketplaces. The Cerutti R981/R982/R983 presses all feature a removable trolley that carries the new gravure cylinder, ink tray, ink tank and detachable ink pump, which allows for rapid manual job changeover using a "pit-stop" technique. To cope with extremely short runs, where the next print job trolleys need to be pre-prepared and ready in time, the R982 has been developed and designed in cooperation with washing machine manufacturers, which sees the entire trolley, along with all components, Teflon coated and solvent-resistant, to enable them to be washed and assembled off-line.

'The R981 is the basic configuration,' explains Costanza Cerutti. 'It's a flexible press for the most diverse of markets, and can use different inking systems with an inner and outer pan, or with inner and outer pans plus idle inking roller. It is also available with integral printing cylinders and with sleeves that are locked by air chucks.'

The R983 is designed specifically for cartonboard printing, and for hologram application or cigarette boxes. 'This can withstand the very high web tensions

needed to run these substrates,' she says. For short-run markets with a narrower web width, Cerutti has developed the R990. This sleeved press encompasses a special cantilevered change device that allows sleeves to be changed in a matter of seconds, which is particularly useful when no ink change is required.

'All of our press platforms have been enhanced for further waste reduction using the Cerutti Auto Presetting System (CAPS), which offers customers waste reduction at the start of new and repeat jobs, and has reduced pre-setting times and costs too. An additional register scanning head on the first print unit assists in phasing all the cylinders and sequencing them into register, with a dramatic reduction in material waste,' she says.

In 2011, Cerutti launched its R1060 format press, designed for specialist applications. It incorporates the automated trolley exchange for reduced changeover times and can be supplied in print widths up to 1,800 mm and with print speeds of 600m/min. 'The launch went well, and we received many enquiries for applications in flexible packaging, transfer printing and heavy-duty PVC printing for swimming pool liners. It just highlights the Cerutti Group's flexible capacity,' she concludes.

An eye on the future

With packaging now such a large part of the Group's business, Cerutti has established Cerutti Packaging Equipment SpA as a wholly owned subsidiary of parent Officine Meccaniche Giovanni Cerutti Spa.

While many industry experts forecast the demise of gravure printing on cost grounds, Cerutti believes that with skillful R&D, and diversification into new market areas, it has more than enough ability to sustain and grow its business in the 21st century.



The R990 is a sleeved press that encompasses a special cantilevered change device that allows sleeves to be changed in a matter of seconds



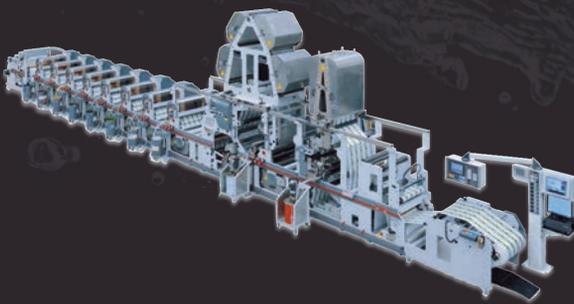
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Watershed has purchased three MPS presses, with a fourth ordered, and has hinted at even more investment to come

Watershed Packaging eyes up new markets

Nick Coombes visits Leeds to find out why longtime UK label converter Watershed sees a diversification into flexible packaging as key to its future growth.

Founded in 1993, and managed ever since by John Waters, Watershed Packaging has always been a model of consistency, with a record for consolidation that has seen it grow from supplying packaging consumables to become a leading label converter with three UK sites: Leeds, which is still its headquarters, Blackwood in Wales and Beverley, also in Yorkshire.

The company's success, which has seen annual sales double in the four years since 2007 is attributable to its energetic management team, according to group managing director Stephen Walker. 'We run a tight operation and are all very much hands-on. The key to success is specialization, both in the skills you have and the work you do.'

This point is taken up by Anna Wood, group sales director: 'We're a very sales driven organization and have the capacity to secure large orders with our team. Our recruitment policy is to secure the right sales people, even from outside the industry, because we believe we can always teach them about print.'

Technology investment

Various acquisitions over the years have richened Watershed's business experience and refined its expertise, and in 2004 the company installed its first new narrow web flexo press.

The MPS press installed was a seven-color EF 330, fitted with delam/relam and chill drums to allow the production of unsupported filmic substrates, and according to Walker: 'It sold itself with its flexibility, which suited our requirements perfectly, and its operator-friendly design.' In 2006, it was joined by a second MPS press, this time a seven-color EP 330 of similar specification, but with the added advantage of being able to run flexo or screen in all print heads.

As business boomed and the MPS lines were kept fully loaded, the company acquired Aurora Colors in 2008 to grow its business, but by now the market was beginning to slacken,

and Wood began to look elsewhere for business. 'We saw labels as a saturated market where profits were determined by service and quality – and while we knew we offered both, saw no sense in making further investments in new technology to serve a stagnating market.'

Changing markets

With label run lengths declining, but demand for flexible packaging on the rise, Watershed invested in a third MPS line, which was installed in 2011. Another EF 410, but fitted with Automatic Print Control (APC), which reduces make-ready time, stores job data for repeat work, and reduces waste, the new MPS, 'just eats work,' according to Walker, who claims to have it running regularly at 180m/min in perfect register, which is helping to grow the flexible packaging element of the company's output.

With its eyes on the shrink sleeve market, Watershed has also invested in a Freschi Tubolatrice sleeving machine. It is the first of its kind in the UK, and typifies the company's policy of continual investment.

Watershed has also ordered a fourth MPS line – this time a duplicate EF 410 of the 2011 machine, both of which use sleeve technology and enjoy a new shorter web path. 'We have budgeted £1.8 million (US\$2.8 million, €2.15 million) for presses in 2012,' says Walker, hinting at future investment. 'We always buy quality, even if it costs more, and believe in preventative maintenance, because you cannot put a price on reliability.'

For Wood and her sales team the future looks bright, with a decision to scale back on self-adhesive label volumes in favor of new and more profitable market opportunities in sleeves and linerless labels, as well as serving the rising demand for sachets. Currently a group staff of 70 generates over £8 million of turnover a year, with a move to enlarged premises due in 2012 set to improve productivity further.

Lighten the

The handling of rolls of material is an important consideration for any printer or converter of flexible packaging. David Pittman speaks to a selection of those offering machinery to meet this need to find out the true benefits on offer.

As the market for flexible packaging grows so will the demand for printers and converters to handle increasing volumes of material.

In the pursuit of productivity gains, so companies have looked to make the most of their printing and converting machinery's capacities, and minimize downtime. While actual improvements to the hardware have formed a core component to maximizing potential, so have growing roll sizes and weights

In practical terms, this means that at either end of a web-based printing process, printers and converters are required to lift and manipulate heavy rolls of material, from inserting a virgin web to an unwind unit, through to moving printed and finished rolls off a slitter rewinder to be palletized.

Health and safety

The option to manually move increasingly large and heavy rolls is shrinking, with numerous government

directives requiring companies to work within certain parameters when it comes to material handling. The International Organization for Standardization (ISO) has a range of standards covering material handling equipment including lifting and storage equipment, and manual handling, while the European Union has a number of directives to facilitate national legislation amongst member states on musculoskeletal disorders.

Colin Jones, managing director at STS Trolleys, a UK-based manufacturer of bespoke roll handling equipment, says: 'The most valuable resource any company has is its people. For this reason it is important to do things safely and efficiently.'

'The days are gone when you simply got more people to manually handle heavy rolls or boxes. In today's high-tech, lean manufacturing facilities it's all about working smart with the minimum amount of people whilst keeping them safe and healthy.'

Universal Converting Equipment, an international supplier of converting equipment from slitter rewinders to hot melt coaters, offers a selection of roll handling technology that is designed to work alongside its core machinery.

'Health and safety is the big issue,'

says Alan Jones, managing director at Universal. 'You should see what some people do in their factories when they don't know what the legal requirements for lifting heavy products are. You see workers trying to take a 50kg load off a machine and get it down onto a pallet.'

'For the sake of not a lot of money, you could have a little machine to do it. It's not just about the company being sued either as you don't want employees missing work with a bad back. It's in the company's interest to keep its staff healthy.'

Efficiency gains

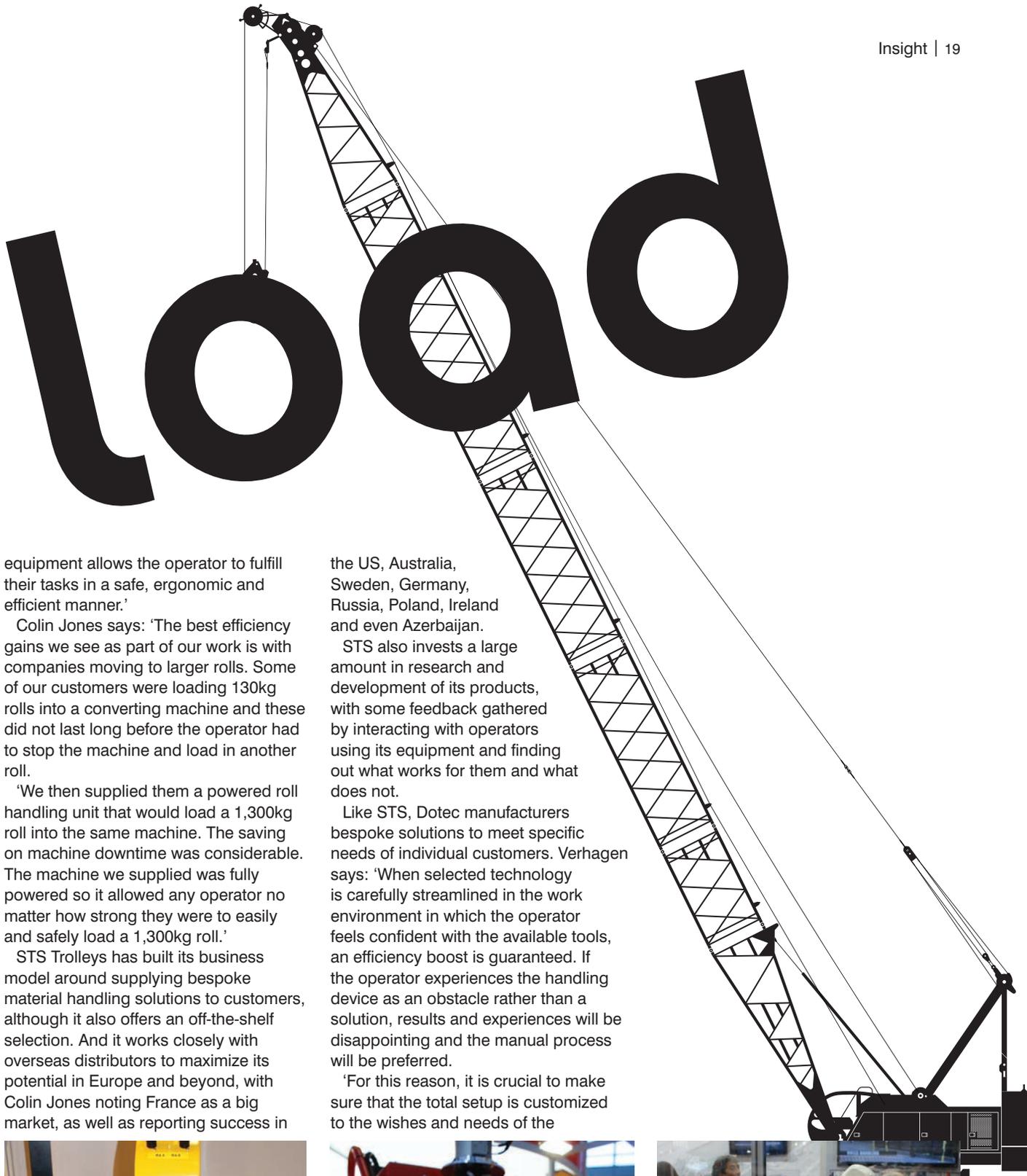
The correct application of roll handling equipment can provide printers and converters with a host of other operational benefits, namely more efficient production processes.

Wouter Verhagen, international account manager at Dutch firm Dotec, says one of the main gains for the converting market is the flexibility assisted material handling can offer.

'Cycle times are key indicators and operators have to adapt to circumstances that often change and where flexibility is required. Coping with these challenges requires focus, effort and commitment. In order to keep up with the physical load in these processes, material handling



Dotec's LiftAssist features a simplified control system (above, right and left image on adjacent page)



equipment allows the operator to fulfill their tasks in a safe, ergonomic and efficient manner.'

Colin Jones says: 'The best efficiency gains we see as part of our work is with companies moving to larger rolls. Some of our customers were loading 130kg rolls into a converting machine and these did not last long before the operator had to stop the machine and load in another roll.'

'We then supplied them a powered roll handling unit that would load a 1,300kg roll into the same machine. The saving on machine downtime was considerable. The machine we supplied was fully powered so it allowed any operator no matter how strong they were to easily and safely load a 1,300kg roll.'

STS Trolleys has built its business model around supplying bespoke material handling solutions to customers, although it also offers an off-the-shelf selection. And it works closely with overseas distributors to maximize its potential in Europe and beyond, with Colin Jones noting France as a big market, as well as reporting success in

the US, Australia, Sweden, Germany, Russia, Poland, Ireland and even Azerbaijan.

STS also invests a large amount in research and development of its products, with some feedback gathered by interacting with operators using its equipment and finding out what works for them and what does not.

Like STS, Dotec manufacturers bespoke solutions to meet specific needs of individual customers. Verhagen says: 'When selected technology is carefully streamlined in the work environment in which the operator feels confident with the available tools, an efficiency boost is guaranteed. If the operator experiences the handling device as an obstacle rather than a solution, results and experiences will be disappointing and the manual process will be preferred.'

'For this reason, it is crucial to make sure that the total setup is customized to the wishes and needs of the



Material handling equipment can maximize efficiency of package printing operations



Cason Handling's offering features automated robotic arms that can lift and manoeuvre materials

operator and the converting or printing equipment.'

He adds: 'The infrastructure has to be customized in order to create a fluent flow of loading/unloading shafts and palletizing rolls, and vice versa. This means a clear view on all produced materials and measurements are necessary in order to define the best equipment.'

Universal's Jones says: 'This type of machinery can speed up processes and efficiencies. Take slitting machines, where you can get a roll straight off the shaft onto another hosting device. This allows you to restart the slitting machine and have that being productive while you handle finished rolls, which can be packed and palletized at a sensible speed while the slitting machine is producing the next set.'

'Historically, one roll was slid off the shaft, wrapped and labelled while the machine was stopped for up to five minutes.'

Universal's roll handling equipment is designed to work with its range of converting machinery and to add value to these products. It offers a range of roll handling solutions rated to different capacities depending on the application, with those that can handle up to 300kg the most popular as they will take care of most rolls, according to Alan Jones.

He says Universal's converting machines normally start off with large rolls being loaded into the unwind system, so needing a system that can take a roll off the floor and place it in the machine. Universal offers attachments for its roll handling trolley to facilitate this, including a variant that will grab a roll standing in a vertical position by its core and rotate it to a horizontal position, as well as cradle, twin-arm, rotary V-bed and conventional single-arm systems.

At the rewind point on its slitting machines, Alan Jones says a robotic handling device can be used to take

all rolls off the shaft and lower them to a position where they can be further processed with 'the minimum of fuss'.

Atlas Converting's Titian SR9 DT slitter rewriter, launched at the International Converting Exhibition (ICE) in Munich during November 2011, features a similar system. Available as an option, the reel stripping device automatically takes fully loaded cores off the rewind shaft and moves them to a secondary unit, allowing the main slitting rewinding unit to promptly return to its maximum 1,000m/min production speed.

Material handling machinery was heavily on show at ICE Europe 2011, with Dotec present alongside solutions from Germany's Zeilhofer, Italy's Dalmec and fellow Italian firm Cason, which has recently moved into the material handling market.

Mechanics

All STS equipment uses hydraulics to provide its lifting power, which Colin Jones says is to permit its equipment to be used for the maximum amount of time. 'You will always find hydraulics on commercial heavy-duty equipment. Take a forklift truck for example, where the forklift may have a battery but all power functions on the head are hydraulic.'

Universal's roll handling solutions primarily use electric motors to provide lifting assistance, with an in-built battery and charging unit with meter, and a braked motor to ensure accurate and safe control.

Verhagen says Dotec equipment is designed to offer ease of use, speed and good posture to the operator. 'It is of foremost importance that operators can work at their own speed – and speed up or slow down according to the circumstances,' he says.

That's why Dotec's LiftAssist technology uses pneumatics to power movement, as well as a gyroscope to keep the load at a constant orientation.



STS uses hydraulics to provide lift assistance to make it easier to handle rolls

In addition, LiftAssist features a simple control system via the handle, and requires the operator to lift only one percent of the load weight.

'There's a lot of interest in the market, but companies tend to be reactive rather than proactive, and will try and avoid the outlay unless they are forced to do something,' says Universal's Alan Jones.

'In the UK, people have lost sight of the benefits of running a safe and efficient operation. Instead they think they will save money and use people instead. The truth is that making the right investment in material handling technology upfront can save an awful lot of time and money.'

Colin Jones says: 'The equipment we design is for commercial, continuous use 24 hours a day. As a result it is more expensive but we would expect it to still be doing its job in 15 years time.'

'You can engineer equipment to last a long time and be very reliable provided you engineer it properly. So much equipment these days is poor quality and breaks down all the time. If a roll handling unit is broke, how are the operators going to load the machine?'



Controls are designed to be as intuitive as possible to make operation simple



Material handling equipment, such as that on offer from Zeilhofer, is designed to make the operator's life as simple as possible



STS offers heavy-duty roll handling solutions that can handle diameters from 600-1,100mm



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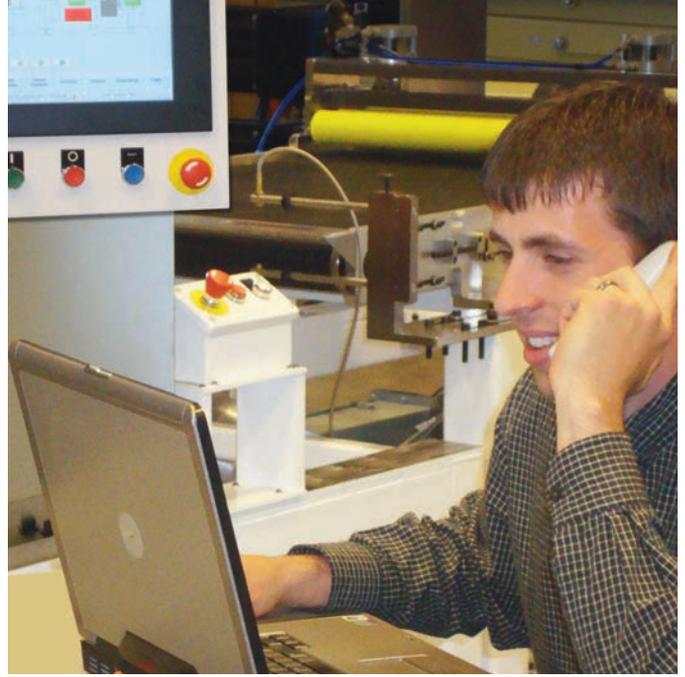
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Innovation, productivity, sustainability



Bobst Group is the world's leading supplier of machinery and services to packaging manufacturers in the folding carton, corrugated board and flexible material industries. Founded in 1890 by Joseph Bobst in Lausanne, Switzerland, the company now has a presence in more than 50 countries, runs 11 production facilities in eight countries, and employs over 5,000 people around the world.

Nick Coombes reports

For those who work in the cartonboard or flexible packaging industry, the Bobst Group product range includes Bobst die cutters, folder gluers and web-fed gravure presses, Rotomec gravure printing lines, laminating machines and specialty coating lines, Kochsiek gravure lines, Fisher & Krecke CI flexo presses and General vacuum metallizing lines.

No other consolidated manufacturing group in the printing industry comes close to this diverse capability. In line with its declared objectives of delivering innovation, productivity and sustainability, Bobst Group continually invests in research and development, along with manufacturing processes and a sales and service network that works with its customers to deliver the equipment and services they need. It is this approach that has earned Bobst Group's printing and conversion equipment, and its service back up, a global reputation among producers of packaging, whether they are processing cartonboard, corrugated, or synthetic materials.

In the highly competitive flexible packaging sector, the development of effective technical solutions that reduce

material waste and cut unproductive time is highly relevant to maximizing the productivity and profitability of gravure printing equipment. The integration of Bobst Registon register control system with Rotomec electronic shaft technology has been instrumental in decreasing the waste produced when printing flexible materials by the rotogravure process. All Rotomec gravure presses now incorporate its High Dynamic Interface (HDI) system, which delivers register correction several times faster than conventional systems, and is particularly effective at those critical times when machine speed is being varied.

To improve performance at make-ready and changeover, Rotomec gravure presses can be equipped with the Total Automatic Pre-register Setting (TAPS) system. This development enables major productivity gains in press operation on any application and any production run length, providing a reliable pre-register system. The system works with a single operator touch of a dedicated push-button located on the press's main console. TAPS then starts the press, moves all the cylinders into register position and switches the register



Accucheck inspects the print on every carton run down the line

control into automatic mode by reading a dedicated pattern printed onto the web. The procedure takes just a few minutes, whether it is a new or repeat job, enabling converters to reduce their waste to exceptionally low levels.

The smart Graphic Positioning System (smartGPS) available for Fischer & Krecke CI flexo printing equipment moves the print and registration setup process from the press to pre-press or plate mounting. Along with a new, specially developed mounter, and some additions to the sleeves, the system enables plates to be mounted in perfect register to one another.

SmartGPS topographically measures the surface and circumference of the combined printing package of a job, as well as the anilox, with an accuracy of microns. This surface information is combined with information on the durometer of the package components. All these parameters are entered into specially developed algorithms, which calculate the optimum print setting for each sleeve. This information is then transferred to a rewriteable RFID chip embedded in the sleeve of the anilox and plate respectively.

This embedded information is transferred to the press when the sleeves are loaded. When told to come on impression, each sleeve is able to achieve perfect printing and registration from the very first impression, whether it is a new or repeat job. This dramatically reduces waste, including substrate, ink, solvent, energy, hourly press time, disposal costs, and labor, as well as significantly increasing process consistency in many ways. For example, the setting is consistent irrespective of operator and ambient conditions, or of

inks and substrates being used.

The past year has seen a particular focus on in-line processes in folding carton manufacture, in particular on ways to achieve “zero fault” packaging production. Typical of these has been the Bobst Accucheck system, which, when integrated into a folder gluer, checks the print on every carton run down the line. It is the first such system available for folder gluers. With just-in-time production now the prime manufacturing method for most carton makers, time-to-market on new products and promotions has been shortened dramatically. Brand owners therefore need packaging suppliers to deliver products during a very narrow time window, meaning the packaging must be faultless, both mechanically and in terms of print. As the folding and gluing process is normally the last production process before the carton is dispatched to the packing line or brand owner, Accucheck acts as a final quality check on the product being sent out.

Building on over 20 years of innovation

in high-speed print quality control cameras and image processing, Accucheck uses a high-definition camera – based on the Registron quality control system – to scan each carton as it enters the folder gluer, comparing the real-time image against a reference. Accucheck has been designed for the high rate of data flow received from the camera during production, enabling it to interface with the host folder gluer and ensure that any non-conforming carton is logged in the management system, and ejected.

Accucheck is able to detect a range of print and print-related defects such as hickeys and spots, physical defects of the carton such as scratches or rubs, inaccurate die cutting and problems with the control of color variation. Depending on the settings defined for the run, the defective carton can be allowed to continue, or be automatically ejected, without affecting production. Whether ejected or not, defects are recorded for later analysis.

At the launch of Accucheck, Jean-Pascal Bobst, CEO of Bobst Group, said: ‘Our machines are designed to give manufacturers the flexibility to do things you simply cannot do with other equipment – keeping our customers one step ahead of the competition. The launch of Accucheck demonstrates our commitment to zero fault packaging – we believe the application of this technology will revolutionize the quality control process for packaging manufacturers. We are proud that we were first to bring to market a user-friendly and extremely versatile printing defect detection system with Registron, and our customers continue to rely on us to maximize their quality, performance, and productivity.’

Bobst Group has always prided itself on after-sales support, which has allowed machines to be upgraded long after their original installation. Many upgrades for Bobst products are now searchable online following the launch of the website www.boostmybobst.com. Divided into six categories, improving quality, improving productivity, making use easier, winning



Bobst Group offers an unparalleled range of machinery for packaging printers and converters

new markets, improving uptime and reducing environmental impact, the improvements are available for a vast selection of Bobst branded machines ranging from flexo presses to folder gluers.

With demand for packaging showing little sign of abating globally, many converters run their equipment at close to production capacity and therefore require quick and reliable access to parts and services to maintain their machines in good working condition. These are provided by Bobst Group's 12 service centers, which have the responsibility for all service activities in the region they cover, and also have access to the technical, manufacturing, and logistic support from Bobst Group manufacturing sites around the world. This is seen by Bobst Group as a lifetime commitment to its customers and the industry.



Bobst CEO Jean-Pascal Bobst

NEWS: BOBST EXPECTING 2012 DECLINE

Swiss folding carton machinery supplier Bobst achieved 2011 full-year results comparable to 2010, but predicts worsening sales in 2012.

In a pre-results announcement, Bobst said consolidated sales for the full-year 2011 totaled CHF1.27 billion (€1.1 billion). This included a CHF76 million (€62.9 million) increase in sales volumes, a CHF33 million (€27.3 million) gain from changes of scope of consolidation (increased by Gordon and reduction of Atlas), but also a CHF119 million (€98.5 million) negative exchange rate impact.

Despite the major exchange rate influence, Bobst said it achieved nearly the same level of sales as in 2010, which were recorded at CHF1.28 billion.

A geographical breakdown shows that the Asia and Oceania region is growing in influence, now representing 20.9 percent of total sales, up from 19.4 percent in 2010. Despite the strong negative impact of exchange rates on the European and American business, both of these regions also continued to make a healthy contribution. Europe contributed 47.3 percent (48.3 percent in 2010) and Americas 28.3 percent (29.1 percent in 2010) to total sales.

The Bobst Group added that its transformation program is being implemented successfully, which is helping to drive a positive trend in profitability. The consolidated net result

for 2011 will be close to breakeven and the underlying net result will be positive. The Bobst Group strategy successfully compensated for at least some of the exchange rate impact during the year.

Sales of sheet-fed and web-fed products continued to recover from the downturn, despite 2011 exchange rates, reflecting strong market share and competitiveness according to Bobst. Sales of services and spare parts were lower than in the previous year due to the negative exchange rate impact, which offset increases in activity and volume for the company.

Sheet-fed sales grew slightly to CHF609 million (€504 million) year-on-year, with web-fed sales growing from CHF304 million (€251.6 million) to CHF310 million (€256.7 million). Services segment sales dropped from CHF364 million (€301 million) to CHF345 million (€285.5 million).

Further details will be given during the Bobst Group results announcement on March 28.

Bobst added that 2012 started with a lower backlog of orders than at the beginning of 2011, which it said was owing to the impact of exchange rates. At the present level of order intake and exchange rates, the company should achieve sales in the region of CHF1.13-1.23 billion (€935 million to €1 billion) in 2012.

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The future



The cartonboard market has much to shout about regarding its environmental credentials, but is it doing enough? David Pittman speaks to key players in the industry to find out.

From governments and legislative bodies, and the industries who work within their jurisdictions, to the brands whose reputations are on the line and consumers whose conscience is being tested, there can be no doubt that the environment is a topic that has grown in significance over recent years.

From cars and machinery emissions, to food miles and over-fishing, there are few areas of life that have not been touched by environmental concerns, more often than not highlighted by leading names in each area being exposed in the press by campaign organizations like Greenpeace for activities deemed to be bad for the environment.

Christer Nordman, sales and marketing director at Pankaboard, a specialist

producer of higher density boards, says: 'The environment is not just an issue for the packaging market, it is happening everywhere.' Nordman says Pankaboard has taken to using only virgin fibers in its products to avoid any potential cross-contamination in food packaging, and says: 'This is a trend that will continue and will influence the virgin fiber and recycled board markets for food and non-food markets.'

As a whole though, having a substrate with a renewable material at its heart means cartonboard is one of the few materials with a positive story to tell.

Pro Carton president Roland Rex says: 'A study by German market research organization GfK has shown that two-thirds of consumers want environmentally friendly packaging.'

'Cartonboard, made from wood

fiber that is sourced from sustainably managed forests, is the only significant packaging material for fast-moving consumer goods made from a renewable material. Secondly, 87 percent of paper, cartonboard and cardboard packaging is collected and reused for making recycled paper and cartonboard again, while 78 percent of packaging is made from recovered fibers, which stay in the loop several times before they end up in thermal usage.

'Using cardboard packaging firstly made from wood fiber, then secondly from recovered fiber, is the most sustainable and environmentally friendly way for packaging. And this is definitively recognized by the consumer.'

Speaking jointly, Päivi Harju-Eloranta, director of sustainability in Stora Enso's renewable packaging business



area, and Ohto Nuottamo, senior packaging adviser in the same unit, say: 'Cartonboard is made from trees and has, therefore, sustainability built into it.'

'As a renewable packaging material cartonboard is part of the natural carbon cycle: it is powered by the sun and at the end of its life it can be used as bioenergy. Before that, the fibers have five to seven lives in various types of packaging products through recycling.'

Johan Granås, Iggesund's Invercote product manager, says: 'The environment is high on the agenda with customers we speak to. But sustainability is a term that has been abused. A lot of people refer to a whole chunk of different things when talking about sustainability, like raw material production, industrial processes,

be sound and based on sustainable resources. Also the end-of life impact should be positive to the environment.'

'The role end-of-life plays is more important than before. When used packages are recycled, they provide new raw material for new fiber-based packages. In the longer run, the brand owners are becoming aware that the non-renewable raw materials cannot be tolerated anymore, especially if the recycling is not well organized.'

Olli Maki, vice president of cartonboard sales at Metsä Board, agrees. 'Brand owners are looking more and more at

'Polarization in the media around a specific issue puts pressure on the market on one issue, when there are plenty of other things that are significantly more important. This forces the whole industry to try and come up with an answer to one problem for one piece of the puzzle.'

As such, Granås says the cartonboard market needs to do more to promote the benefits it offers, including talking about the negatives. 'The industry has not been good enough in promoting what it does that is good. We can't pretend that it's

is carton

emissions, energy and water use, and others. There's a move now towards the more ethical side of sustainability: sourcing and how the forest has been managed. This has all been wrapped up in sustainability.'

He predicts the ethical strand of sustainability will be what becomes most prominent in future years, as buyers become younger, more critical and more conscious of their surroundings.

'We feel this already but doing the right thing will become an important part of business. People with brands that are worth something cannot afford to be associated with bad press.'

Harju-Eloranta and Nuottamo state: 'In general it can be said that conscientious players in the supply network are becoming aware of the significance of lifecycle analysis. Instead of studies with a limited scope, the whole cradle-to-cradle impact of the packaging material is taken into consideration. This means that sourcing of the raw material must

lifecycle analysis for all parts of their business, and are interested in knowing that material is coming from legal and sustainable sources.'

Metsä Board is part of the Metsä Group ownership cooperative that is formed of 125,000 private forest owners from across Finland, and which allows it to ensure its environmental credentials. Maki says: 'As they own the forest and are dependent on it for their income, they have an interest in its welfare and caring for it to maximize its long-term benefits. This makes sustainability a number one rule in the company in order to meet the needs of not only the customers, but the forest owners too.'

Media polarization

Granås warns that high-profile media coverage of certain issues that are viewed as important to safeguarding the environment for the future is confusing for both consumers and the cartonboard market itself.

not a resource-heavy industry, but at the same time we're too shy about saying what we do to work in the best possible way and promoting our strengths.

'We should be showing that fiber-based materials are truly renewable, and are recoverable. We should be proud of what we're doing, as the industry is part of something good.'

'The good thing about fresh forest fiber is that it is a renewable material in an endless loop,' says Maki. 'I feel lucky to be in an industry that can say the main material source is here to stay. There's always new material coming through with the forests being renewed, and fiber-based packaging can minimize the amount of material needed in the first place, before being recycled back into the loop.'

Alternative to plastic

Nordman says: 'Folding boxboard uses trees as the source of its raw material, and consumers are starting to



understand that wood is the only raw material on earth that is renewable. The cartonboard industry has already shown some of the benefits it can offer but in the future it will be offering many more alternatives to plastic.'

Advances in cartonboard have meant modern folding cartons are able to offer comparable properties to other, more rigid materials like plastic, but with a reduced weight. Maki says the whole supply chain has an interest in lightweighting of packaging, as it improves functionality while lowering costs and reducing waste management.

Maki continues: 'Other raw materials are being used and disappearing. By combining renewable qualities with less weight, the story keeps going and going for the cartonboard market.'

Stora Enso's Harju-Eloranta and Nuottamo add: 'Our main driver in the development of cartonboard is resource efficiency. This means efficient use of wood, water and energy.'

'By constantly developing lighter packaging materials, it means less use of wood. Lighter packaging materials mean lighter packages and reduced emissions in transportation. And if packaging is not recycled or recovered and it is sent to landfill, it means less packaging waste.'

'Awareness of the environment is growing all the time. Current drivers are the debate on the availability of natural resources, climate change and littering problems. Here the raw material manufacturing industry has failed to understand its responsibility

in taking the message of renewable packaging beyond the converter, to the end user, even the consumer. We have a humongous job in front of us trying to get the complex message of renewable resource management across to the consumers.'

Maki says package printers and converters are fairly well educated on environmental and sustainability issues, and that they are partaking in professional conversations on the subject, although adding: 'It's a fairly straightforward topic to comprehend but can be complicated by legislation in different markets. There's so much information and so many opinions out there that it can be quite difficult to follow what is right and what is wrong.'

Granås says another issue with high-profile press coverage of the environmental agenda is that it often requires reactive decisions, which are not in keeping with the nature of cartonboard production. 'Cartonboard production is capital intensive, so we struggle to respond to short-term things. The capital outlay is massive, so we can't just adjust depending on the latest flavor in the news. The industry has to be much more structured.'

He says government legislation is a good driver for the cartonboard market, highlighting the Swedish government's national programs to monitor and control the relationship between cartonboard

producers and the environment. Maki says Finland has similar rules that have been in place for around 100 years, promoting the environment and controlling the forests. 'The government has a great interest in keeping things in good order.'

'This allows us to work towards the future, rather than reacting to things from the past,' adds Granås. 'A structured process is important for us as it's not a short-term, reactive issue.'

Furthermore, an industry framework allows companies to make a more standardized appraisal of their performance against environment credentials, says Granås. 'If you compare different sites on a single parameter, you'll often get different results, depending on where they are located, the nearby environment and how it is working. That can be quite hard to explain to customers.'

A holistic approach is said to benefit both the cartonboard market and its customers. Granås says Iggesund works with one particular Swedish furniture retailer who operates with a fluid appraisal system for its suppliers that requires a plan of action from those that don't meet all its criteria on how they plan to improve in the future.

'This approach lets you leverage the areas where you are good, even if you're not good everywhere and compensate the cons with the pros and then work on improving the areas where you are below their expectations.'

'We've seen a lot of companies adopt this type of holistic approach in recent years as some were being too narrow minded and needed to take a broader perspective of material sourcing.'

Granås adds: 'It boils down to wanting a supplier that is more or less good in all aspects.'

Iggesund has been working to this model for a long time, offering those it supplies a promise that, 'there will be no surprises,' says Granås. 'We've shied away from talking about carbon footprints and other topics, instead saying we're good all over and making sure customers understand that if you buy from us then we guarantee that we are good in all areas.'



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Papermaking for the green environment

Nick Coombes visits a 300-year-old mill in Germany that is highly focused on production quality and efficiency, and speaks with Kerstin Dietze, marketing manager for new business at Sappi, about the reasoning behind the development of a new high quality paper

Sappi, the South African conglomerate founded in 1936, prides itself on the sustainability of its production, and highlighted this recently at its Alfeld Mill, near Hannover in Germany's Lower Saxony region.

The mill, which has been a production site for paper since 1706, and part of Sappi since 1992, is an integrated facility that produces both pulp and paper, and Alfeld's 800-strong workforce is fully engaged on five paper machines producing wood-free coated fine paper and specialty paper. Annual pulp production currently stands at 120,000 tons, while paper production is at 330,000 tons. Of the latter, approximately 40 percent is supplied to the packaging market, with the balance going to the commercial and publishing printing areas.

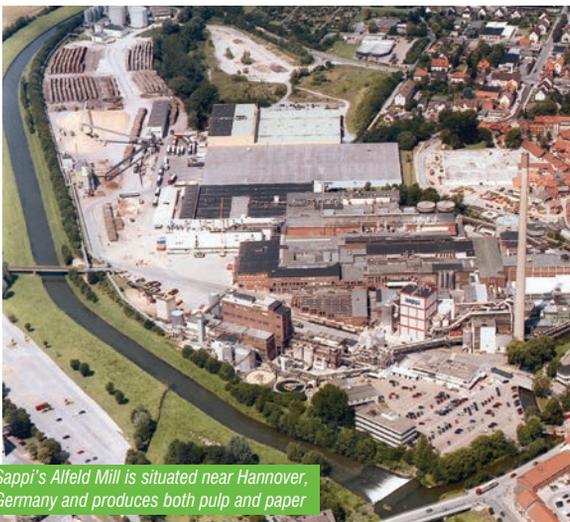
Self sufficiency

According to the company's environmental manager Jens Kriete: 'Alfeld can control the complete process from woodchips to paper, which means it can manage the environmental impact of its products more effectively than many of its competitors.' By producing pulp next to the paper machine, one process becomes redundant, because there is no need to dry the pulp before transporting it to the machine. This saves a considerable amount of energy. At the same time, the black liquid that is produced in pulping is used as an energy resource onsite and is part of the 48 percent of Alfeld's primary energy consumption generated from renewable sources.

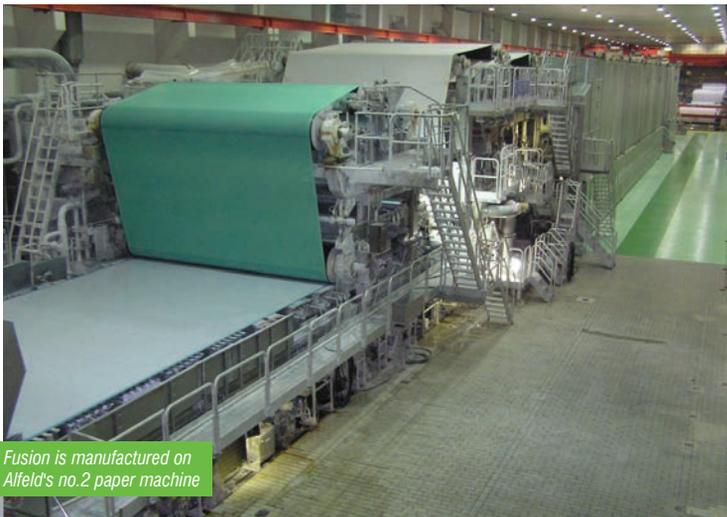
The Alfeld Mill is ISO 14001 and Eco Management and Audit Scheme (EMAS) registered, and in fact was the global pioneer of chlorine-free paper production. Today, the chemicals used in pulp production are recycled in a closed loop system, and the beech and spruce trees used at the mill are mostly harvested from managed forests within 100km of Alfeld. Currently, 94 percent of fibers used are either PEFC or FSC certified.

Alfeld was also the first mill to install an anaerobic-biological plant to treat the combined wastewater from pulp and paper production, in which special microorganisms transform the organic load in the wastewater to biogas. This treatment reduces the chemical oxygen demand (COD) of the wastewater and increases the amount of biogas produced and used for heat and power generation.

Alfeld's central location in Germany is a further key to its success, according to mill director Stephan Karrer, who explained that road and rail communications are excellent and the nearest port for shipping is only 200km away. With around 1,000 tons of paper being produced everyday, in grammages from 17 to 400, and in single, double, or triple coated form, there is a need for high traceability of product throughout the production cycle. These are known as Key Performance Indicators (KPI). Karrer proudly claims that customer orders placed before 14.00 hours on one day are delivered the next, and that the new rail link, added in 2006, has moved 50,000 tons of paper shipments from road haulage (some 2,000 trucks) and



Sappi's Alfeld Mill is situated near Hannover, Germany and produces both pulp and paper



Fusion is manufactured on Alfeld's no.2 paper machine



Retailers claim 70 percent of purchases are impulse driven, so the greater the appeal of the packaging the more likely the success of the product

reduced carbon dioxide pollution by 1,000 tons as a result.

Product development

The latest product to be developed at Alfeld is Fusion, Sappi's new high-quality top liner, which the company claims raises the benchmark for performance in the quality packaging market. Developed using the special paper capabilities that Alfeld offers, Fusion uses exclusively virgin fibers that give it a high whiteness for brighter results and improved tearing and cracking characteristics, which make it more suitable for many of today's new finishing techniques.

The paper is coated and calendared to produce a gloss surface for high visual impact, which in addition to giving end users greater on-shelf appeal for their products, also improves machine performance in the printing and converting departments, and reduces waste.

According to Kerstin Dietze, Sappi's marketing manager for new business regarding specialty papers: 'Developing a grade that brings something new to the marketplace and that stands out against the competition, is both an exciting and daunting challenge.'

'Confident the highly competitive consumer packaging market required a solution to help improve the shelf-shout of products, Sappi's research and development team set out to do just that. Packaging plays a key role in making products more inviting, enhancing customer loyalty and delivering all-important sales, and in these circumstances, it can help to communicate the value, so choices are not simply based on price.'

Performance tests

These new performance levels of Fusion were proven with the cooperation of litho-lam machinery manufacturer Asitrade, part of the Bobst Group, which ran trials on its own newly-developed Masterflute line. With the new Asitrade

line capable of more than 10,500 sheets/hour, the challenge with lighter weight stocks is to position the sheet accurately – static electricity and wrinkling being the major problems, but also excessive glue levels, which create a washboard effect. According to Ad Jongmans, sales and marketing director at Asitrade: 'Even the lightest 90gsm Fusion ran well.'

Although the Masterflex/Fusion test was simply laminating, the results were significant, according to Dietze. 'We saw up to a 30 percent saving in the volume of glue consumed, which not only reduces cost, but with a drier sheet, allows faster onward processing.' She reasons that if the product offers better quality printed packaging with more shelf impact, and reduced production costs and improved handling, it must set a new standard in the market.

Market changes

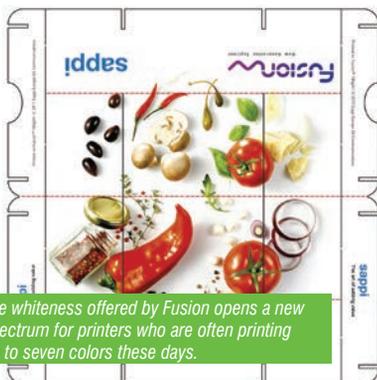
Multi-color printing is now commonly used in the liner market for boxes, shelf-ready packaging and displays, microflute consumer packaging and electronics goods packaging. This is a key growth market as the use of multi-color printing on packaging has increased from three to 20 percent. This growth had been slightly stalled by the prevalence of shine through the coating, which makes the surface less white and the colors less striking – but this is not

the case with Fusion. 'It enables creamy tones to be created which other grades cannot match,' says Dietze, 'which ties in with printing trends that are driving the need for higher performance substrates.'

Retail outlets claim that 70 percent of purchases are impulse driven, so the greater the appeal of the packaging the more likely the success of the product. Dietze says: 'Designers want more natural skin tones and hair tones, and need to be able to reproduce corporate colors accurately. The whiteness offered by Fusion opens a new spectrum for printers who are often printing up to seven colors these days.' In addition, she points out that its high performance often allows a lower weight to be used than with competitors' products, saving money and reducing waste.

As part of Sappi's drive for sustainability, both the Alfeld Mill and its newest product, Fusion, appear to tick the right boxes in what is becoming a more environmentally aware market for printed package production.

Although 300 years in the making, the production facility at Alfeld is very much 21st Century, with its eyes set firmly on today's environmental issues.



The whiteness offered by Fusion opens a new spectrum for printers who are often printing up to seven colors these days.



Kerstin Dietze, marketing manager for new business at Sappi

The beverage market has been an early adopter of MirriNor as a packaging material



Raising a glass to high-end packaging

A new high-end packaging material produced using Smurfit Kappa's Norboard T-flute microflute laminated with a high-quality, biodegradable metallic film from Mirri is aiming to revolutionize the market for carton packaging, and provide new routes to market for the two firms behind the development of MirriNor. David Pittman reports

MirriNor is described as a packaging product that combines the flexibility of Smurfit Kappa Sheetfeeding's Norboard T-Flute microflute carton material with Mirri's high-quality, printable metallic bio-film, producing cartons capable of 'lifting brands into a premium sector', so marketing information for the material claims.

T-flute forms the base of MirriNor, which is said to bring structural strength to the material compared to more traditional solid carton grade alternatives. It is manufactured using a patent-protected process that Smurfit Kappa says offers handling characteristics similar to a traditional cartonboard, but with significant benefits, such as reduced weight due to a slim caliper and the ability to accept a number of different print processes. The Mirri film allows printing directly onto the material using offset, flexo or digital print technology, with embossing, foil

blocking, engraving, gluing, cutting and creasing also possible in the post-press environment.

Smurfit Kappa technical sales manager Richard Revell says the application of a printable bio-film to a microflute material opens the door for the material to be used in a number of applications where it may have been overlooked. Not least, he says, because the microflute form enables MirriNor to be curved and used to replicate the visual impact of a composite tube or tin.

'Glenmorangie will put a 12-year-old whisky in a box, but an 18-year-old may well get put into a composite tube or tin. With the use of T-flute, MirriNor can be used to create the form of a tube while the Mirri film allows you to recreate true metallic colors and effects,' Revell says.

This helps create the perception of value in a product, with brand owners and printers able to make small adjustments to

the finish, rather than substituting a different material, to create the appearance of luxury and turn commoditized products into desirable limited editions.

As well as the visual benefits, Revell says this offers cost and sustainability benefits. 'Some applications need a heavy-duty cartonboard outer using inserts to create structure, so they are shelf-ready and aesthetically pleasing, but MirriNor allows you to achieve all of this with one material and a more sustainable footprint.'

While the substrate at the heart of MirriNor is a corrugated material, Revell says this need not preclude the traditional solid board market from handling and converting the product. 'There are a few things that are different to note if you're not used to handling a compressible material like a microflute.'

Revell has helped produce a technical guide on MirriNor, which provides printers and converters with answers to a number of technical questions and it is available to download from the MirriNor website.

The guide covers storage and handling, printing, inks and finishing, as well as listing some recommended technical partners, such as color management specialist Color-Logic. It is advised that handling should be minimized to reduce the risk of damage to the film, nip pressures should remain similar to when working with solid carton grades, while most current compressible printing blankets are suitable for MirriNor. MirriNor is suitable for conventional and UV inks, although they must be suitable for use with coated or non-porous materials, similarly for varnishes.

'It's not like reinventing the wheel,' Revell says. 'If you can ride a bicycle, you can probably ride a moped. If you can ride a moped, you can probably ride a bike. If you can ride a bike,

you can probably drive a car. There are always nuances and new skills to learn, but once you learn how to do these things they become second nature.'

T-flute as a substrate adds inherent strength to the packaging material, according to Revell, with traditional solid board material requiring further processing to laminate and add strength, compared to the flute running perpendicular to the grain that adds skeletal strength to T-flute, so allowing greater processing without a reduction in strength and performance of the packaging, he claims.

The weight characteristic of MirriNor is another benefit he highlights. Available at 850-900 microns, Revell says that thickness is hard to come by in solid boards, and requires over 600gsm of fiber. For MirriNor, the fiber content is 440gsm; 410gsm for T-flute alone.

'Not only is there less weight to start with, you can remove elements without compromising the structure. It's a print-ready, strong product. Print it, process it and finish it, then send it out the door.'

MirriNor has already generated interest in the packaging market since its official launch at the turn of the year, with Revell saying a number of beverage firms are in the process of trialling it. A confectionary firm is doing likewise, as are two clothing brands.

'Even a sports brand is testing it for the promotion of one of its products. Interest is primarily coming from across Europe and the Americas. 'The diversity of interest upfront has been phenomenal,' says Revell.

'MirriNor allows both Smurfit Kappa and Mirri to reach markets we were struggling with before, and to take normal, run-of-the-mill products and make them exclusive,' he concludes.

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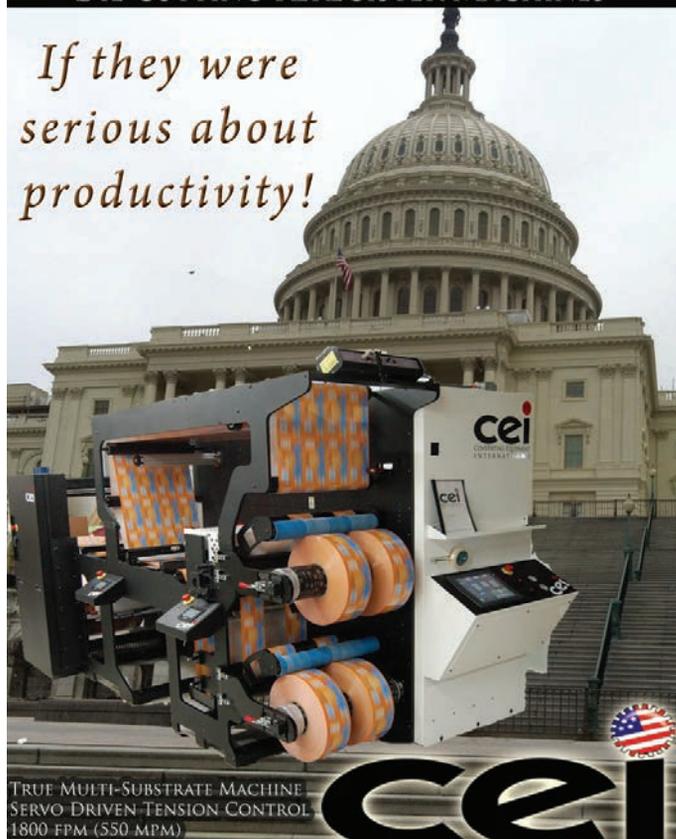


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The future of digital



New digital presses, new solutions and new applications will be on show at Drupa. Mike Fairley looks at some of the changes and developments that visitors to Drupa will experience.

While the narrow web label industry has been an early adopter, and now major user, of digital printing technology for the production of high-quality prime labels, package printing companies have to-date been far more cautious about investing in this next generation technology.

Yes, there have been some applications for the short-run digital printing of shrink sleeves, pouches, sachets, blister packs and folding cartons but, in general, the web and sheet widths currently available have not appeared attractive enough for the majority of the more conventional package printing sectors.

However, this may be all about to change as wider, faster, higher resolution, digital presses are introduced at Drupa, along with the latest innovations in digital workflow, color management,

laser die cutting and in-line digital finishing solutions. Excitement about the forthcoming launch at Drupa of digital nanoprinting is also stimulating interest in the world of digital.

The new package printing survey by PPW also highlights growing interest in digital package printing. More than 45 percent of all the companies surveyed indicated that digital was one of the main technologies that they saw as an opportunity for product line diversification and growth. Some 60 percent indicated that short-to-medium run applications and personalization were also key opportunities, while more companies indicated they were looking at investing in a digital press within the next two years than they were in a new conventional analog press.

When asked where they saw the most opportunity for future growth with digitally printed packaging, package printers

indicated shrink sleeves (44 percent), flexible packaging and pouches – mainly in short run lengths (less than 1,000 linear meters/3,000 linear feet) and, to a slightly lesser extent, folding cartons.

This all seems to tie-in quite closely with the Drupa announcement made by Alon Bar-Shany, vice president and general manager of HP's Indigo division, who said: 'Packaging is very healthy and growing fast. We see packaging as a very different market to any other. It is growing dramatically in China and Brazil and Latin America but also in mature markets because of more differentiation and consumers are still increasing their packaging spend. Packaging follows GDP and we think this will continue in the future, so our focus is on packaging.'

'Labels and packaging is 20 percent of our business. Today we see a big opportunity for flexible packaging and cartons. You need the workflow and

finishing. At the moment you can't do short runs with flexible packaging – you have to deal with lamination and high-speed flexo/gravure machines.'

This should all be very good news to the major digital press manufacturers such as HP Indigo and Xeikon that have, so far, successfully installed some 1,800 presses into the narrow web label market and are now extending their products and range into folding cartons, flexible packaging, tube decoration and related markets.

In terms of the main electrophotographic liquid toner (HP Indigo) and dry toner (Xeikon) press manufacturers, they already have some 5-10 per cent of their machines producing printed packaging. With the printed folding carton and flexible packaging markets each rather larger in value than the label sector, the potential for them to capture an even larger share of one or more of these markets is a challenging opportunity that they are looking to develop.

Certainly, their new Drupa package printing developments – which for HP Indigo includes both wider web-fed and sheet-fed digital presses for package printing and, for Xeikon, a new folding carton suite – will undoubtedly be widely viewed.

The new HP Indigo 20000 continuous-feed press being launched at the show has been designed for flexible packaging and is claimed to be capable of gravure-quality printing on films as thin as 10 microns, with a printing frame of 73.6 x 110cm (29 x 43in), plus an in-line priming unit for industry-leading substrate flexibility. In addition, a new sheet-fed press (the HP Indigo 30000) has been designed for folding cartons, supporting substrates up to 24 points/600 microns and an in-line priming unit, while from Xeikon comes the Xeikon 3000 folding carton suite. These new flexible packaging and carton presses from the market leaders will most certainly receive a lot of show attention.

When it comes to inkjet, the technology is currently less widely used for package printing than the toner technologies. Having said that, the Agfa :Dotrix digital press has successfully gained a growing share of the digital package printing market. Based on a standard industrial Edale flexographic press with a SPICE or single-pass inkjet color engine module attached to it, the machine combines the width and speed of a robust press with the flexibility of UV inkjet technology.

The end result is an ability to print on most substrates, from flexible film to carton stock, using materials as diverse as paper, boxboard, label stock, styrenes and PVC and, since the :Dotrix is fully modular, it can be configured with units

that pre-coat stock for specific effects such as varnishing, metallic coating, opaque white as well as in-line die cutting, slitting, sheeting, folding, etc.

But it is not just Agfa inkjet that is being targeted at the future needs of package printers. There are in excess of 30 inkjet presses on the market that are claimed to be suitable for one or more label and package printing applications. Further machines aimed at these markets are being introduced at Drupa.

Fujifilm for example, has now developed its Jet Press 720 for package printing applications and this, so the company says, will revolutionize the market for short-run, high-quality printed packaging. Using the SAMBA print head and water-based inks to print B2 size sheets in four-color at 1,200dpi resolution, Fujifilm is claiming offset-quality for the press, which is commercial on runs of less than 100 cartons. The company is also developing in-line converting solutions, but sees the application of this press among existing carton houses that have off-line facilities. At Drupa the press will be running folding carton products.

Also claiming to be suitable for cartonboard printing, the Screen Truepress JetSX being launched at Drupa is a B2 size variable data sheet-fed inkjet press (pictured, p36) aimed at printing on substrates up to 0.6mm in thickness.

UK-based digital press manufacturer, Domino, is another company showing a new inkjet press at Drupa. Using 'i' for 'Intelligent Technology', the Domino N600i has one of the smallest drop sizes on the market, to give high quality print on paper or filmic substrates. It allows Domino to claim the N600i is the perfect fit for digital capability with brand owner demands.

For FFEI, Drupa sees them showing both a Caslon digital spot color unit, as well as the Caslon digital color inkjet press that it developed with Nilpeter. This latter machine additionally prints digital UV-curable white ink for printing on a wide range of substrates.

While more commonly known for its high-speed document printing systems, Nipson will also be displaying its proven VaryPress 200 printers in both single-engine duplex (SED) and twin-engine duplex (TED) configurations. The TED line will demonstrate the VaryPress' powerful applicability for printing book blocks, newspapers, while the SED version will demonstrate the production of checks, labels, and integrated cards.

Nipson's compact 1865 will also be on the stand, performing its role as a proofing and label printer. All of the applications on the Nipson stand will be controlled by a network of VaryPress PrintServers, Nipson's comprehensive

print management package.

But it's not just new digital presses where innovation will be seen at Drupa. Innovation also comes in the post-press sector where solutions for the digital cutting and creasing of cartonboard will be on display. AB Graphic International is jointly launching with KAMA a dedicated converting solution for the carton producer that will demonstrate the effectiveness of digitally printing and converting short-run carton orders.

Also looking to streamline the carton finishing process and speed up time-to-market is Highcon who will be showing its Euclid digital creasing and cutting device. Claimed to reduce the carbon footprint of packaging production, the machine's precision laser optics and polymer technologies is looking to transform the future of carton cutting and creasing.

Esko too will be highlighting its digital finishing solutions at Drupa. With four Kongsberg configurations on the stand, Esko will be showing its wide range of digital finishing applications in packaging, display and sign making. Live application demos using a wide range of materials will be run on each of the tables, including the fully automated XP44 Auto. Esko's integrated software solutions for structural design - ArtiosCAD and digital finishing workflow - i-cut Suite - will be presented as well.

The digital finishing highlight of the event will be the new Kongsberg XN: a highly versatile and productive digital finishing table that can be configured easily for the widest range of different applications: from kiss-cutting to packaging mockups to heavy-duty milling.

However, perhaps the one digital technology that everyone visiting Drupa will want to see and hear about will be the launch of Benny Landa's Digital Nanographic Printing. A unique new printing process which employs Landa's proprietary nano-pigment inks (Landa NanoInks), the technology is said to impart exceptional qualities to the digitally printed output and enable game changing digital press performance. Landa Digital Nanographic Printing Presses are set to target mainstream commercial, packaging and publishing markets.

Drupa certainly looks set to challenge many of the traditional views on how folding cartons, flexible packaging, sleeves and related products are produced. If the years up to 2020 move to digital technology at the rate that the narrow web label sector has moved over the past eight years, then digital printing could undoubtedly revolutionize much of the world of package printing in the future. Is the traditional analog package printing industry ready for this revolution?

One world,

Following Package Print Worldwide's exclusive interview with show director Manuel Mataré, we now preview key companies from around the world that will be presenting package printing solutions and innovations at Drupa 2012

Drupa is set to attract nearly 2,000 companies from around the world to Düsseldorf at the beginning of May, with some 350,000 visitors expected to walk the aisles in the pursuit of the latest and greatest solutions and innovations for their printing needs.

This includes those involved in the package printing market, which show director Manuel Mataré says will have its biggest role in the history of Drupa at this year's event. Speaking exclusively to Package Print Worldwide, in issue #1 2012, Mataré said: 'The economic boom in the developing countries – predominantly in China and India – is bringing strong growth to the packaging industry. This is naturally also having an effect on package printing. Be it design, the preliminary stages, printing inks, print substrates, print or further processors, the entire value-added chain deals intensively with the subject of packaging. Added to this is the enormous potential that is beginning to show as a result of digital package printing.'

Companies from around the world will be present at Drupa 2012 to present different technologies and developments for packaging printers and converters, including the likes of Highcon from Israel with its Euclid digital carton finishing line, to the UK's Pulse with its range of inks and coatings.

CONVENTIONAL PRINTING

Heidelberg

Country: Germany
Hall 1, stand A1

Heidelberg will launch a new series of sheet-fed offset presses, including the Speedmaster SX which is based on a combination of the SM and XL platforms. It will also expand its portfolio of folding carton gluing machines with the new Diana X 80 and unveil the new Varimatrix 82 CS die cutter, as well as presenting the Dymatrix 106 Pro high-performance die cutter with new chase changer. These developments for the package printing market will be presented under the "HEI End" banner.

Comexi

Country: Spain
Hall 10, stand C62

Comexi and BASF will combine to show their vision for the flexible packaging market. The Comexi Flexo F2 press will be demonstrated, while BASF will presenting solutions for water-based printing inks, lamination adhesives and biodegradable films for flexible packaging. Comexi will also partner with Wikoff Color Corporation to showcase the sustainable printing of food packaging using low-migration, solvent-free ink on a CI offset press. Comexi will demonstrate its Offset CI-8 press, while Wikoff will show its range of Regal EB lithographic inks.

Koenig & Bauer (KBA)

Country: Germany
Hall 16, stand C47

KBA will show a hybrid offset and digital printing solution on a KBA Rapida 105 B1 press with integrated inkjet system. A new sheet guiding system allows inkjet systems to be installed at a distance of just 1mm (0.04in) from the sheet. The applications range from sheet marking for quality monitoring to coding for brand protection (bar, QR and/or numerical codes). Available only from KBA, this new sheet guiding system offers huge potential for creating new applications for quality monitoring and in-line finishing. New large format Rapida presses will also make their debut in Düsseldorf.



Heidelberg is to launch a new series of sheet-fed offset presses



Gallus will focus on in-line folding carton production

one Drupa

Komori

Country: Japan
Hall 15, stand D4

Komori is to launch its new Lithrone GX40 press for carton production, which will be shown in a six-color format. H-UV-equipped, this 40in sheet-fed offset press is also fitted with an in-line coater, making it an ideal machine for package and special printing applications.

Windmüller & Hölscher

Country: Germany
Hall 15, stand A41

Windmüller & Hölscher will show a 10-color Miraflex CL 10 flexographic press and printing stations from the Heliostar S gravure press, as a representation of the company's comprehensive press portfolio. The company will also present developments to the Easy range of automation modules, which shorten set-up times, increase productivity and minimize waste, the company claims.

Edale

Country: UK
Hall 15, stand A63

Edale will be showing all-new machine footage, literature and various samples from its current range of printing and converting machines, with a strong focus on the packaging and folding carton market.

Gallus

Country: Germany
Hall 2, stand A25

Gallus will be putting the spotlight on producing folding cartons in an in-line process. Live demos of the Gallus ICS 670 machine system focus on a host of technological innovations and reveal key advantages of in-line production with respect to flexibility, productivity and quality. Gallus will be demonstrating a combination of its HiDef flexo printing system and a totally new gravure unit, as well as other high-quality finishing processes, such as rotary screen printing or cold foiling in a single pass. A new blank ejection option for the Gallus FCL flatbed die cutter is also being introduced.

Goss International

Country: US
Hall 17, stand A59

Goss International will present commercial and newspaper printing and finishing systems, as well as its new web offset presses for packaging, the Sunday Vpak. Goss International is part of the Shanghai Electric Group, and the large-scale industrial company will exhibit a range of printing technologies at an adjacent stand. Goss said the variable repeat Sunday Vpak press offers a 'game-changing' web offset alternative for packaging applications.

Bobst

Country: Switzerland
Hall 10, stand A4

Folding carton printing and converting specialist Bobst will be present in hall 10 alongside other companies from within the Group, including Fischer & Krecke, Asitrade, Kochsiek, Schiavi, Rotomec and General Vacuum Equipment.

Müller Martini

Country: Germany
Hall 14, stand C21

Müller Martini will present its variable size web offset printing press, VSOP, for printing packaging materials. The VSOP is an infinitely variable size web offset press built around sleeve technology. Rapid size changes, cheap print forms and a high printing quality make it ideal for small and medium runs in the packaging market.

Manroland web systems/sheetfed

Country: Germany
Hall 6, stand D27/D29

Recently acquired manroland web systems will be showcasing a selection of printing systems and services in order to present itself as high-performance partner of the printing industry. It will exhibit close to manroland sheetfed systems, now a separate company that was taken over in a management buy-out backed by investment from the UK's Langley Holdings.

Manroland sheetfed

Country: Germany
Hall 6, stand D29
See above

Focus Label Machinery

Country: UK
Hall 10, stand E61

Focus is to demonstrate its new Centraflex UV model with water-cooled central impression drum, which is designed to compete in the growing market for unsupported flexible packaging, shrink sleeves and the niche market for printed casings. In order to stabilize the substrate temperature whilst subjected to the heat of UV dryers, the new press will incorporate a water-cooled CI drum, using chilled water together with air-cooled lampheads on each print station.



Selectra will show various systems for presses and converting equipment

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Moog

Country: Germany

Hall 3, stand A35

Moog sheet-fed gravure presses will be shown printing special samples that highlight the capabilities of sheet-fed gravure. These include the refinement in all premium applications on cartonboard, paper and plastic materials, such as pressure effects in metallic pigments, UV or water-based varnishing, printed tactile effects and blind embossing.

Apex Machine

Country: US

Hall 15, stand A23-6

Apex Machine will be introducing its new high-speed C-90 fully automated turnkey cylindrical part printer which includes a vision inspection system and in-line packaging into bags. The C-90 can be configured for a variety of product sizes, and can be offered with additional functionality such as in-line assembly, application of caps and various integrated options for packaging or downstream handling. It also provides: fast changeover; high-quality multi-color print using either dry offset, FlexApex or a combination of printing technologies; and feature production rates of up to 600 parts per minute. FlexApex is a new offset printing process developed by Apex that will also be introduced. This process offers a cost-effective, high-speed, high-density, high-quality, multi-color print alternative to dry offset, screen and gravure applications using solvent-free inks.

DG Press Services

Country: The Netherlands

Hall 15, stand B24

DG Press Services will be showing its first Vision SP narrow web offset printing press integrated in a printing tower. The Vision SP is based on the Drent Vision press, and is available in a width of 520mm or 850mm that enables printing on paper and foil with short changeover times while maintaining all the abilities of a high-speed printing press. The Vision SP uses conventional offset printing plates and has servo-motor driven

impression cylinders that are separately driven from the plate and blanket cylinders. Vision SP prints on all kinds of films and is also suitable for printing on paper and even lightweight cartonboards including small folding cartons. Coating and white printing units for print on transparent or aluminum foil, as well as a flexo unit, can be implemented at any position in the press. Digital printing units for variable data can be added. Further, the Vision SP 520 is available as an upgrade packaging for existing vision presses, enabling the Vision to be utilized as a packaging press.

PRESS ANCILLARY PRINTING AND FINISHING EQUIPMENT

Advanced Vision Technology (AVT)

Country: Israel

Hall 3, stand B69

Advanced Vision Technology (AVT) will be launching an exciting range of new products at Drupa 2012, using the latest web inspection technology to focus on improving print quality. This will include: AVT's on-press in-line spectral measurement SpectraLab; the all-new PrintVision/Argus Elite with upgraded viewing capabilities, a brand new man-machine-interface and pressure setting from the image, which will also be demonstrated on the F2 press on the Comexi stand; the PrintVision/Jupiter system demonstrating RightSeal (the improved dual optic head operation for cold seal monitoring) and iReg (a semi-automatic registration setting for CI Flexo presses); the PrintVision/Apollo system; and the 100 percent inspection platform PrintVision/Helios II, which serves as a process control tool on-press or a 100 percent quality assurance guard on finishing machines for narrow web applications. AVT's new PrintVision/Titan for the metal decorating industry will also be shown.

Laem System

Country: Italy

Hall 12, stand E70

Italian companies Laem System and Eutro Log will exhibit together with the aim of increasing productivity by means of a highly automated system. Laem will demonstrate the slitting rewinding capabilities of its existing RB4 model, which will output finished reels onto a high-tech robot system able to perform quality checks, label and wrap each reel, palletize and stack them. Laem will also show its newer TR4 slitter rewinder, which will be displayed on a giant plasma screen and demonstrated twice a day.

Kolbus

Country: Germany

Hall 16, stand D22

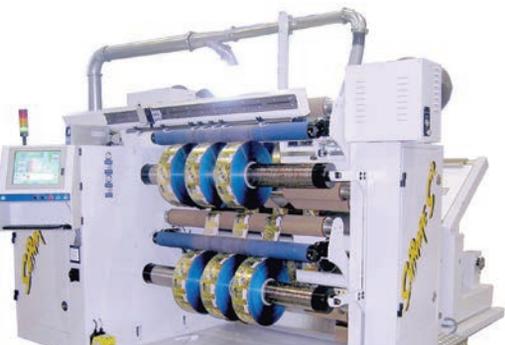
Kolbus will show its DA 260, designed to produce 65 cases per minute, but that it is now targeting at the packaging market. The machine was recently demonstrated at an Open House in Germany running a variety of packaging items including boxes for wines and spirits, perfume, watches, jewellery and electronic items. It also produced a complex pen box involving four separate boards - one of which was curved - and applied a magnetic closer. Both box and inner liner can be manufactured automatically on the Kolbus machine. This opens the market for producing a whole range of products automatically, using different types and sizes of board.

QuadTech

Country: US

Hall 17, stand A1

Press control technology provider QuadTech will showcase an assortment of groundbreaking color control and inspection innovations for the packaging market, including: its true 100 percent inspection system, which uses line-scan technology to compare each print repeat



Ashe will run live demonstrations of four finishing machines



Laem System and Eutro Log will promote productivity as a route to profitability

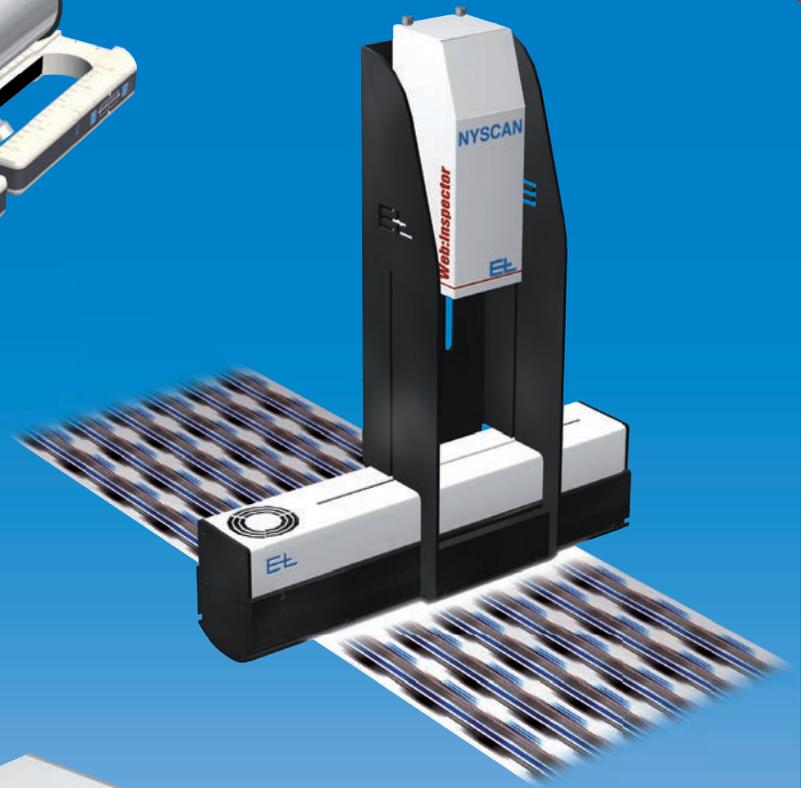
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against a “golden template” which is a printed copy considered by the press operator to be as close to perfect as possible; an inspection system with SpectralCam, that provides 100 percent defect inspection and true spectral color measurement using a 31-channel spectral sensor; the QuadTech web viewing system for mechanical zoom to show a repeating defect in a much higher resolution; and the QuadTech color measurement system with SpectralCam, which can accurately calculate $L^*a^*b^*$, E, Density and Density at full press speed. Other systems include color measurement SpectralCam HD, Autotron 2600 register guidance with ClearLogic and PDF verification.

Hönle

Country: Germany

Hall 6, stand 30

Hönle Group is to show its portfolio of UV, UV-LED and IR/HA drying systems and peripheral UV equipment for different print processes. This includes the UVAPRINT series, a compact-sized high-performance dryer for curing inks and varnishes even at high production rates; the new jetCURE series for wide-format inkjet printing applications; and the LED Powerline, a high-performance array that is optimized for pinning and final curing in inkjet printing. The Group's sheet-fed offset specialist Eltosch will show its Light Guide UV module for demanding curing tasks and the ECOPowerDry an IR/HA drying system based on the combination of separate independent IR/HA segments.

Martin Automatic

Country: US

Hall 3, stand D50

Martin Automatic will exhibit a range of splicing and web handling technologies, and visitors to its stand will be able to discuss the benefits of roll change and tension control automation and how they impact on production. Demonstrations and exhibits will include: a complete

narrow web automatic butt splicing unwind; a wide web tapeless heat seal butt splice system for non-wovens and films; a web transport system for delicate webs; a splice exhibit featuring overlap and butt-to-butt splices on various substrates, including taped, tapeless and hot melt splices; and return on investment evaluations to help determine waste savings and productivity improvement from adding non-stop roll changing. Martin Automatic's splicing and rewinding technology will also be displayed on the Berhalter AG (Hall 11, stand C70) and Labelmen Machinery Co (Hall 10, stand A74) stands.

Tectonic International

Country: UK

Hall 16, stand B66

Tectonic International will show the latest addition to its range of print inspection systems, K3WiFi, which uses a digital camera for high-quality image replication with pin sharp contrasts and fine details necessary for exact and continuous print inspection. Color monitoring and plate mounting systems will also be on show on the stand.

Kempsmith Machine Company

Country: US

Hall 15, stand A11-5

Kempsmith manufactures die cutters to go in-line with printing presses, or that can be used off-line with preprinted stock. Featured products are web-fed flatbed and rotary die cutters, and its new variable repeat rotary die cutter that uses only one set of cutting cylinders to produce a variety of folding carton products and repeat lengths. Rotary pin stripping allows the user to strip internal and external waste. Changing repeat lengths is easily done by simply peeling off the flexible magnetic die and replacing it with a new die of a different repeat length. The CC series flatbed web-fed folding carton die cutter shares the same features as the rotary for the converting market.

Selectra

Country: Italy

Hall 10, stand E50

Selectra will show technologically advanced equipment such as automatic register controls, automatic viscosity systems, web guides and video inspection systems for printing presses and converting machines. This includes the new automatic register control Eye Touch-2, the new viscosity system Selevisco-9000, the Inspecto CS2 web inspection system and the new web guide Seleguide 9000 with LED optic, ultrasonic and infrared sensors.

Prime UV

Country: US

Hall 16, stand A54

Prime UV is introducing the Diamond FLEX series of high-speed UV processors. Designed for wide web, flexible film processing, Diamond FLEX UV lamps are designed to fit easily around CI drums and downstream chill rolls. The Prime UV Mini-Digital series of compact, air cooled UV lamps for narrow web, digital and label presses will also be on show, as will air-cooled MultiLamp UV systems for converting lines and high-speed web presses.

Tresu Group

Country: Denmark

Hall 10, stand A62

Tresu Group will unveil an in-line, pressure-controlled varnishing concept for high-speed, sheet-fed and web offset printing presses, suitable for UV and water-based varnishes. Based on Tresu Ancillary's flexo technology, this new self-regulating concept comprises the Tresu UniPrint combi chamber doctor blade E-line and Tresu coating circulator, plus a Tresu coating conditioner. The system will enable sheet-fed and web offset printers to coat printed products at faster speeds, without the risk of micro-foaming and blisters in the coated surface caused by the transfer of air into the coating from the anilox roll



AVT will give visitors the chance to see its latest web inspection technology



Tectonic will show technology for exact and continuous print inspection

cells. A key feature of the concept is the company's pressure control technology. This ensures a sufficient pressure so that a constant barrier is maintained between the chamber doctor blade and the rotating open anilox cells, preventing air bubbles from entering.

Ashe Converting Equipment

Country: UK

Hall 12, stand C50

Ashe Converting Equipment will be giving live demonstrations throughout the show on four separate finishing machines all based on roll form slitting and rewinding. Ashe will be able to show its advantageous techniques of design to both flexible packaging and label converters, including the Sapphire S2 dedicated secondary slitter rewind machine for various substrate web widths of 600-2,000mm. The Diamond model will also be running an unsupported film. With its integral unwind stand, the machine allows converters to slit and rewind multiple substrates at high speeds with quality and precision, keeping space and investment down to a minimum. The Opal range, dedicated to the narrow print and label industry, will be demonstrated on the stand with three different forms within the range. The Opal standard label inspection slitter rewind machine will accommodate the latest in 100 percent print inspection and automatic control for defect-free finished printed rolls. An Opal full rotary die cutting converter will also be on show. This machine will also be coupled to the three spindle entry-level in-line turret rewind unit which is being officially launched at Drupa 2012.

Madern

Country: The Netherlands

Hall 11, stand A62

Madern will show a new entry-level die cutter compatible with different tool possibilities. Also on display at the Madern booth is a segmented cutting die

with a revolutionary design of adaptation parts, a low cost solid cutting tool and a set of creasing and cutting cylinders for the liquid packaging industry. On the embossing side Madern will introduce a new low-cost segmented embossing system.

GTI Graphic Technology

Country: US

Hall 5, stand A24

GTI will show a variety of visual color control products geared to ensuring that the final package is an acceptable visual match to the brand's specifications. ISO standard lighting systems for critical color comparisons will be showcased as well as our innovative soft proofing/viewing system for contract virtual proofing. GTI will introduce the simultaneous color viewer (SCV) as a visual tool to assess the degree of color shift in a material – be it substrate, ink, or metallic coating. The SCV provides instant color rendition of a single color sample, or pair of color samples, under four different light sources (with and without UV) to help in the design decisions between different colorants and color formulations.

Yancheng Hongjing Packaging Machinery

Country: China

Hall 12, stand A79

Yancheng Hongjing Packaging Machinery will display the ES-1700PCW automatic folder gluer with new technology for automatic adjustment of jobs. The company manufactures automatic folder gluers, automatic die cutters, automatic foil stamping machines, automatic corrugated laminators and others. The company was formed by the merger of Yancheng Golden East Asia Packaging Machinery and Yizheng Longsheng Machinery. In 2006, Shanghai Hongjing Printing & Packaging Machinery was established to be in charge of domestic sales. In

2008, Shanghai Eagle International Trading was established as the export department and/or the exclusive exporter of Yancheng Hongjing Packaging Machinery equipment worldwide.

Comexi

Country: Spain

Hall 10, stand C62

Comexi Proslit will officially launch the S-turret slitter rewinder that it is hoping will enable it to expand the flexible packaging market into rigid and semi-rigid material converting applications. This includes cartonboard, lids, paper and markets related to personal care and pharmaceuticals. Main features of the S-turret are: an unwinder with three possible maximum diameters from 1,000mm, 1,250mm and 1,550mm, with a capacity to support weights of 1,350kg, 2,150kg, and 3,000kg respectively; possible machine widths of 1,400mm, 1,700mm and 2,200mm; the ability to handle rewind reels up to 1,000mm in diameter; and the capacity support a maximum weight along the entire width of the rewinder shaft of 1,000kg. The S-turret also features a number of innovations, such as: the Advance Linea Winding System, a control system that maintains the lay-on roller fixed to the frame and moves the rewind reel shaft as it becomes larger; a bowed roller especially intended for variable and adjustable bow pre-rewinding applications; and Direct Drive technology to improve energy efficiency and reduce maintenance times.

Nicely Machinery Development

Country: Taiwan

Hall 12, stand A52

Nicely is to demonstrate its customized EG-7001 turret-style slitter rewinder. The EG-7001 is purpose-built to handle various paper materials from art paper to cartonboard and to meet requirements for downtime saving. The shaftless, direct floor pick-up unwinder is suitable for jumbo rolls up to 1,250mm wide, with a loading diameter up to 1,500mm. It is able to produce slit roll from 10mm wide with output diameter up to 600mm at a maximum speed of 500m/min.

Dongguan JZHD New Energy Equipment

Country: China

Hall 3, stand E18-2

Dongguan JZHD New Energy Equipment is a wholly-owned subsidiary of Shenzhen Haoneng Technology and focuses on the coating technology for Li-ion battery and optical films, with a market share of more than 40 percent in China. It will exhibit an optical film coater, slot die coater, auto winding machine and slitting machine.



The Screen Truepress JetSX is a B2 size variable data sheet-fed inkjet press



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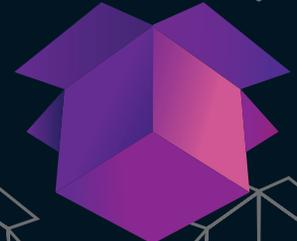


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Lamina System**Country: Sweden****Hall 12, stand C25**

Lamina System will exhibit both laminating/mounting machines and folder gluers, including: the Lamina FAS+, a fully automatic high-speed sheet-to-sheet laminating/mounting machine; the Lamina SA, a sheet-to-sheet semi-automatic laminating/mounting machine; the Lamina Glueline, a fully automatic non-stop folder gluer for one piece or two piece boxes; and the fully automatic Crash Lock gluer, which Lamina describes as the most compact automatic gluer on the market that is able to manage various materials.

MarquipWardUnited**Country: US****Hall 10, stand D40**

Visit MarquipWardUnited and its UK subsidiary Apollo Sheeters to see the TSKM sheeter featuring splicer technology, automatic pallet discharge and modern operator controls, as well as new twin-cut knife cylinders.

MG Electric**Country: UK and India****Hall 16, stand A45-3**

Representatives from both MGE UK and MGE India will be on hand at Drupa to demonstrate the ancillary equipment it manufactures for the sheet- and web-fed lithographic printing industries. MGE India will also be available to discuss the various products that it represents in India. Specific products on display will be MG Electric's Pressmate range of dampening and dosing equipment, water purification systems and cooling systems. Representatives from the company will also be available to discuss aqueous and UV coaters (Harris & Bruno), IR\UV drying systems (Pierry Manufacturing Inc) and ink pumps (Hydrair UK) for both sheet- and web-fed press applications.

Autobox**Country: UK****Hall 10, stand E65**

Autobox will show a complete box making and printing system, the HiPak, HiFlex and HiCut, all featuring Autobox's Quick Set technology that enables the machines to auto-set for different box sizes or styles typically in less than one minute. Autobox machines can handle box blank widths from 100mm to 2.6m by unlimited length. Over 100 different box styles can be produced without the need to change tooling. The recently launched HiFlex range of single and two color flexo printers, servo driven for quick set-up and accurate print registration provide a cost effective solution for adding print to boxes.

Eberle**Country: France****Hall 12, stand D35**

Family-run Eberle will show a variety of machines, including: the high-speed Optima for cutting cartonboard or plastic tubes; a running winding line with a Zenith automatic cut-off unit; the Victoria Evolution in-line multi-knife cutter with programmable diameter and cutting length; the Vesna care cutter with electric and programmable knife diving; and Profiline electric guillotine.

APL Machinery**Country: India****Hall 12, stand B35**

Indian UV coating and curing machine specialist APL Machinery will be running live demonstrations of its FAUV 2840 fully automated UV coating and curing machine, capable of speeds up to 10,000 sheets per hour; Digi UV, a UV coating and curing machine for digital printouts; and Interdeck with shutter system. APL will also demonstrate its CSF 2030 screen printing machine, with a 20 x 30in clamshell model on show.

Karville Development**Country: US****Hall 6, stand A74**

Karville will be presenting various converting capabilities, including the SLIT-UHS turret, Inspect-S, Inspect-V and KSG pouch machine. The KSG pouch machine is a multi-format machine able to produce stand-up pouches, center seal and side-gusset bags from one web, using soft folding technology. This allows flexible packaging converters to use one platform to produce multiple pouches. The machine runs at speeds up to 45m/min or 180 shots per minute, with option to increase up to 240 shots per minute. The roll film unwinding is done by constant motion AC drives and it comes with a PLC control with a touchscreen interface. The film is fed by three AC servo motor drive systems and one frequency drive constant motion with AC drive. The machine has the capability to store up to 175 recipes.

Goebel**Country: Germany****Hall 10, stand, C48**

Goebel will present the fully automatic KPW3 slitter rewinder. The machine processes coated, uncoated and thermal papers up to a working width of 1,600mm and at a speed of up to 600m/min. The minimum slitting width, depending on the equipment version, is 37mm. The complete production process – from unwinding of the material to the packaging of the finished rolls – runs fully automatically, increasing operational efficiency.

EyeC**Country: Germany****Hall 3, stand A96**

EyeC will be demonstrating state-of-the-art in-line system that meet the demands of today's printed packaging market, including narrow web label inspection, double-sided patient leaflet inspection, checking folding cartons for print errors and blemishes running up to 400m/min. It will also be demonstrating systems for inspecting flexible packaging up to 600m/min. In addition to these in-line systems, established off-line Proofiler systems with scanners from A3 flatbed to large format B1 scanners and beyond will be shown, as well as ProofRoller, which inspects prints on cylindrical objects such as tubes, aerosol and cans. Finally, discover EyeC's solutions for artwork proofing and pre-press areas with systems that compare text in Microsoft Word documents to PDFs as well as text and graphics between two PDFs. A patient leaflet that takes two hours to proof-read manually can be checked in less than a minute, and is fully documented. EyeC systems are also on display at several other booths including Ashe Converting Equipment, Kohmann, Heidelberg and KBA.

DIGITAL PRINTING TECHNOLOGY**HP Indigo****Country: Germany****Across Hall 4**

HP Indigo is launching 10 new digital printing presses at Drupa 2012, including models dedicated to package printing. The HP Indigo 20000 is a web-fed press for flexible packaging, offering claimed gravure quality printing on films as thin as 10 microns, while the 30000 model is a sheet-fed press for folding cartons on substrates up to 600 microns/24 point. Both are based on the HP Indigo 10000 29in B2 format sheet-fed digital press. Other presses on show will be the 7600, 5600, W7250 and the T410 and T360 web-fed inkjet presses offering monochrome printing at 800ft/min and 600ft/min in color, plus the T230 that offers 400ft/min printing in both color and monochrome. HP will also show print module solutions for adding monochrome or full color variable content to pre-printed offset materials, and new options for HP Scitex wide format presses.

Presstek**Country: UK****Hall 4, stand B3**

Presstek will be showing a five-color 75DI digital offset press with aqueous coater. The 75DI is marketed as a highly automated B2 digital offset press that is available in four- to 10-color

configurations. It has a full range of productivity enhancing options, including an in-line aqueous coater. The 75DI features support for 300lpi and FM screening, the ability to go from the digital file to sellable sheets in six minutes, and a small environmental footprint. The press prints up to 16,000 full-size press sheets per hour.

Xeikon

Country: Belgium
Hall 8a, stand B44

Among the innovations on show from Xeikon will be a new folding carton suite and Quantum, a new technology that combines electrophotography and inkjet. Xeikon said Quantum will enable document printing at high speeds as well as a lower cost, while maintaining the highest level of image quality and eco-sustainability. This will be the technology platform on which Xeikon will develop all its future product lines for document printing. At the core of the folding carton suite is the Xeikon 3000 Series of digital color presses, designed and developed for the label and packaging markets. The other elements of the suite, such as substrates, workflow, toners and finishing elements, many of which are supplied by Xeikon's Aura partners, are all stringently tested, ensuring customers are fully integrated.

Screen

Country: The Netherlands
Hall 9, stand A40

Previewed in 2010 and now commercially developed, the Screen Truepress JetSX will be launched at Drupa. A B2 size variable data sheet-fed inkjet press, Screen claims the new model can print four-colors at speeds up to 1,620 sheets per hour on substrates up to 0.6mm thick, making it suitable for package print production on cartonboard. According to the company, a European beta site will be established after Drupa, and interested parties are invited to find out more at the expo.

Fujifilm

Country: Germany
Hall 8b, stand A25

Fujifilm's Jet Press 720, which was

launched at Drupa 2008, has been developed for printed packaging applications and uses the Samba print head technology and water-based inks to print B2 size sheets in four-color at 1,200dpi resolution with four levels of greyscale and an improved color gamut. Fujifilm claims offset quality for the press, which is commercial on runs of less than 100 cartons upwards. The company is developing in-line converting technology, but sees the application of this press among existing carton houses that already have off-line facilities. Also new for the package printing market, is Fujifilm's Flenex direct laser engraved (DLE) platesetter, which the company claims will speed up flexo plate production by simplifying the process, and by eliminating chemical usage, enhance its eco-friendly stance by being 100 percent VOC-free.

FFEI

Country: UK
Hall 5, stand C18

New at Drupa 2012 is a Caslon digital spot color unit, working alongside the Caslon digital color inkjet press it developed with Nilpeter, which prints digital UV curable white ink for printing on a wide range of substrates. This new capability eradicates the need to pre-print white ink on a traditional press, shortening production times, minimizing cost and providing increased job control according to FFEI. This will be supported by the RealPro workflow system, a fully automated production system for commercial, digital and label printers. Visitors to the FFEI stand will also see live demonstrations of RealVue 3D Packager, a 3D tool for carton prototyping.

Memjet

Country: US
Hall 5, stand E28

Memjet will be exhibiting at Drupa for the first time along with its OEM partners, who form a key part of its business model. The company supplies technologies and components to OEM partners across the printing industry, with Memjet's color printing technologies providing high-quality color printing at high speeds, while consuming considerably less energy than competing technologies of inkjet and laser. Memjet's scalable high-speed inkjet technology features printheads that lay down 1,600dpi color graphics by delivering up to 700 million drops of ink per second with more than 70,000 ink nozzles on a single printhead. Memjet's controller chip includes more than 100 million transmitters that support these speeds while facilitating communications among sub-components of the printhead, auto-maintenance and printer ink delivery.

DIGITAL FINISHING AND CONVERTING

AB Graphic International

Country: UK
Hall 2, stand B36

AB Graphic International will launch a dedicated converting solution for digitally printed cartonboard in a joint operation with cutting and creasing equipment manufacturer KAMA. To demonstrate the effectiveness of digitally printing and converting small order quantities, the joint endeavour will feature a Short Run Packaging Center where the centerpiece of the stand will be the Digicon folding carton solution from ABG with Kama flatbed die cutting and creasing modules. The pair will exhibit close to HP as the Digicon folding carton solution can be installed in-line with a number of Indigo digital presses.

KAMA

Country: Germany
Hall 2, stand B32

KAMA will show finishing solutions for short-run packaging printing, as well as offset and digital commercial printing, including the ProCut 76, the world's first flatbed die cutting and hot foil stamping machine up to format 760 x 600mm. KAMA says the ProCut 76 has a dynamic design and boasts improved performance. Other highlights on the stand include AutoRegister for ProCut 53 for high register precision in digital printing, and the ProFold 74 folder gluer, designed for small runs. With new components and innovative tools such as a pre-breaking unit, cold gluing system and pressing belt, it is described as the most flexible folder gluer for small and mid-sized runs in the field of commercial and packaging printing.

Atlantic Zeiser

Country: Germany
Hall 11, stand C56

Variable coding, serializing, personalizing and printing on different materials and formats in a wide range of applications will form the centerpiece of the Atlantic Zeiser stand. Along with KBA, the company will also be presenting a highly modern hybrid sheet printing and coding system under the slogan "digital meets offset".

Highcon

Country: Israel
Hall 4, stand B28

Highcon will show its Euclid digital creasing and cutting device for folding carton converting, which it claims will revolutionize the market. The machine uses precision laser optics and polymer technologies to transform cutting and creasing from



China's Ronsein offers printing plates for various applications, plus other services

an analog to a digital workflow, so streamlining the finishing process of carton production. The Highcon Euclid is said to dramatically increase speed to market, eliminate costly production steps and reduce the carbon footprint of packaging production. Moreover, the implementation of this new technology will drive numerous new packaging opportunities for converters, packaging printers and brand owners.

PLATES/PLATEMAKING

Kodak

Country: US

Hall 5, stand F9

Kodak is to show a selection of technologies at Drupa, including its latest version of the Prinergy workflow system and the Sonora XP plates, which it describes as the 'next generation of process free technology'. Kodak says Sonora XP plates increase productivity, simplify operations and remove costs by reducing the number of steps required for platemaking. These plates completely eliminate all costs associated with processing equipment and chemistry, while requiring less floor space and reducing energy consumption—all great for the environment, but even better for the bottom line.

MacDermid

Country: US

Hall 5, stand A37

MacDermid will unveil the new Lava 5080 thermal plate processor, as well as innovations to the LUX platemaking process, the Liquiflex platemaker, the Aspect Quadra RS and MacDermid Accent Coating plates. The Lava 5080 enables high-volume platemakers to take advantage of improved productivity and

workflow, creating press-ready plates in under an hour. And by eliminating solvents from the process, the carbon footprint of thermal platemaking is significantly reduced, when compared with traditional solvent platemaking.

basysPrint

Country: The Netherlands

Hall 8a, stand B44

basysPrint will unveil its next generation of 4-up and 8-up computer-to-plate (CtP) UV platesetters for the digital exposure of UV sensitive offset printing plates. Incorporating state-of-the-art optical modules, the new UV-Setter Series 460x and Series 860x deliver resolutions of up to 2,400dpi and combine the latest industrial components to offer a range of unique features for flexibility as well as improvements in both productivity and profitability. basysPrint will also introduce a new family of CtP UV platesetters for very large formats.

Apex Group of Companies

Country: Netherlands

Hall 11, stand B26

Apex Group of Companies is one of the world's largest manufacturers of precision flexographic ink-to-plate transfer technology, including anilox rolls and sleeves for narrow and wide web, corrugated, offset and coating applications. Apex also invented and holds the patent on the Genetic Transfer Technology (GTT) product line, the successor to conventional hexcell anilox products. GTT employs a revolutionary open-slalom ink channel geometry that predictably and consistently provides flexo results that rival offset and gravure quality. With GTT, flexo printers can now streamline press operations across multiple facilities, reduce anilox

inventory and variation, and reliably deliver consistent quality from the shortest to the longest of press runs. From high-definition process work to monochrome corrugated printing, GTT brings peak performance within reach of all flexographers. With manufacturing and sales operations on six continents, Apex adds further value by supplying customers with end-to-end anilox or GTT solutions including ink measurement devices, cleaning products and educational/use-and-care seminars.

Chongqing Huafeng Printing Material

Country: China

Hall 6, stand D79

Chongqing Huafeng Printing Material is part of Huafeng Aluminum Group, and is a manufacturer and exporter of senior-grade CtP plates, CtCP plates and PS plates in China, with three production lines offering an annual production capability of 15 million sq m. Its printing plates are widely used in high-grade package printing, commercial color printing, newspaper printing and UV ink printing markets, and exports to more than 30 countries worldwide.

JM Heaford

Country: UK

Hall 10, stand E62

The ergonomically designed wide web 2CS flexo plate moulder with moving cameras mounted on precise linear motor drives has been further refined since being shown at K 2010 for the first time. The Vision System enables selectable target formats, digital image enlargement, video image recording and other features. This machine has numerous options to further enhance the quickest and most accurate mounting, essential in today's production environment. The operator interface on this machine is particularly user friendly and the machine is capable of linking to pre-press plate layout software for direct download of plate coordinates. For customers who demand production standard proofs using all press parameters the Flexo Proof Press will be demonstrated on the stand. The model on show is fitted with servo drive controls and a large HMI touch screen with integrated Vision System.

Amsky Machine Equipment

Country: China

Hall 9, stand A22

Pre-press enterprise Amsky will show two new devices: the Ausetter 800UH and Aurora 800U. The Aurora 800U is an overlapping-style plate loading system designed to minimize the time for plate loading and unloading. Plates are loaded from the reverse in an uncovered style, which Amsky says makes it impossible to scratch the plates.



Flexo Concepts will show a selection of cleaning systems for package printers

Ronsein Printing Plates**Country: China****Hall 3, stand E80-3**

Ronsein Printing Plates is a manufacturer of digital and analog offset printing plates, including positive conventional PS plates, negative conventional PS plates, positive thermal CtP plates, violet polymer CtP plates, violet silver halide CtP plate, positive UV-CtP plate, negative UV-CtP plates and flexo plates. Ronsein offers a combination of value-added services beyond printing plates themselves also.

Jet Europe**Country: The Netherlands****Hall 9, stand E56**

Jet Europe will present new developments in plates, plate processing, wash and cleaning equipment as an example of growth in its product portfolio to offer integrated plate production solutions. This includes Digiflex, Kodak Flexcel NX and Xeikon Thermoflex X CtP devices, as well as its own Waterpress plates, solvent plates, Interflex solvent washers, Jetline plate processing equipment, Waterpress and Polyflex plate processing, Jet Eco Cleaners, Jet Sleeve Cleaners, cleaning products and mounting tape.

Glunz & Jensen**Country: Denmark****Hall 5, stand C38**

Glunz & Jensen will be exhibiting Concept 201 C, a complete integrated unit that can manage the entire flexographic production cycle for 66 x 81cm format plates from exposure and washing to drying and finishing. In addition, Concept Degraf 305 DW has a double washout area for digital flexographic plates up to 92x120 cm (36 x 48in). Concept 305 EDLF is an advanced multi-process unit for the exposure, drying and finishing of flexographic plates available on the market, and is capable of processing plates up to 92 x 120cm (36 x 48in). Concept 870.1 C DW is the newest generation of integrated units designed for water-washable plate production. It can be used for both letterpress and flexographic production for plates up to 66 x 81 cm (26 x 32in), and includes exposure, processing, drying and finishing.

Heights**Country: UK****Hall 8b, stand C1**

Heights will talk about its recently launched Manta 660 flexo plate processor, which recently started shipping to the US where they are to be used to wash out the new Asahi AWP plate. Heights have secured an exclusive deal to supply the Asahi Master

distributor in North America with the Manta and are confident that this will result in more units being shipped to the US over the coming months. The Manta 660 is also to be assessed for processing plates from other plate manufacturers such as MacDermid, Toyobo and Flint. The Manta has already been approved by Toray Industries in Japan for its Torelief range of plates and will be actively promoted to their worldwide dealer network.

Ohio Gravure Technologies**Country: US****Hall 17, stand C22**

For the packaging market, Ohio Gravure is introducing the Spectrum engraver line. The line allows fine shallow to deep embossing cells using a single engrave head on one cylinder, as well as feedback control for rotation, positioning and cutting. It said only the Spectrum engraver with hybrid engraving allows standard engraving for line work and high-quality engraving for continuous tone on one cylinder in one cut with a single engrave head.

Flexo Wash**Country: Denmark****Hall 12, E34**

Flexo Wash will exhibit the new PK Easy Load for cleaning both gravure cylinders and press parts with solvents. This machine can be connected to one of Flexo Wash's distillers. This new machine will be made with electrical pumps and PLC control. The machine will be running, so people can get an idea of how it works. Flexo Wash will also exhibit its anilox roll cleaner, where it is possible to clean anilox rolls, anilox sleeves and gravure cylinders, and the Flexo Wash Plate Washer, where customers can clean 20m of plates in one hour without any possibility of damage to the plates. Flexo Wash will also exhibit a sleeve washer for cleaning of print sleeves or plates still mounted on sleeves. In the offset market, the new FW Offset Cleaner for cleaning of anilox rolls and a PK ECO WR XL for cleaning of press parts will be shown.

Flexo Concepts**Country: US****Hall 11, stand C34**

Flexo Concepts will introduce its exclusive QuikWash wash-up retrofit system and a line of traditional plastic wash-up blades. The company will also showcase its TruPoint plastic and composite doctor blades and MicroClean dry media anilox cleaning systems. QuikWash cuts wash-up times and solvent consumption by half, while TruPoint plastic and composite doctor blades are an economical and practical substitute for steel in a wide range of

flexographic and sheet-fed offset coating applications. The MicroClean dry media anilox cleaning system is a safe, effective and environmentally-friendly method of restoring original volume on anilox rolls, sleeves, rotogravure cylinders and coating rolls.

INKS AND COATINGS**Jänecke+Schneemann****Country: Germany****Hall 7, stand D5**

Jänecke+Schneemann has been manufacturing printing inks since 1843, and has been run by the same family for six generations. Its stand, 25 percent bigger than previously, will feature developments in the fields of LED UV, HiReactive and low-migration inks, as well as analytics. Jänecke+Schneemann will also use Drupa to inform the market about a new offset and UV inks manufacturing plant it is building in Hannover. This is said to be one of the most significant investments in the company's history, with a similar investment already carried out several years ago for the production of flexo inks. The new facility for offset and UV ink production will be completed within the next two years.

Opti-color Mess- und Regelanlagen**Country: Germany****Hall 3, stand B30**

Opti-color Mess- und Regelanlagen will present the opti-Blend 4000 automatic ink supply and control system for use with modern gravure and flexo printing machines. Opti-Blend 4000 systems are available as single-station units or with a central control and screen for up to 12 printing stations. Production data can be stored per printing station and per job, and made available for external use and evaluation. In the ink tanks the level is measured continuously with automatic refill valves for inks, extender and solvents. The dosing is based on individual recipe parameters for each component. During the dosing, the added amounts are precisely measured to maintain a constant mix/ratio in the tank. This data is also used for an effective analysis of the consumption in process. Combining with the ViscoStar falling ball systems it is also ensured that the mixture in the tank and machine circulate in a controlled way during printing.

INX International**Country: US****Hall 3, stand A50**

INX International, INX Digital International and Sakata INX will demonstrate a combined global presence at Drupa. This will include the Evolve advanced digital solutions line of equipment, which

features the new NW140 digital narrow web press with UV LED-cure single pass output, the CP100 cylindrical printer and the MD series of flatbed printers. INX offering will include various inks, coatings and color management solutions, such as INX Digital's Prodigy brand of customized industrial inkjet inks and low-migration packaging ink technology.

Pulse

Country: UK

Hall 3, stand A69

Pulse is a narrow web inks and coatings manufacturer with products for many applications in print, particularly packaging, where performance demands are high. Its products are sold worldwide with solutions for blister seals to pre-print flexo and barrier coatings for frozen food to the finest gloss UV for cosmetics packaging.

Ultrachem

Country: UK

Hall 6, stand A75

Ultrachem will discuss new coating innovations along with showing its complete range of UV inks. These products are complemented by a range of Fogra-approved washes and fountain solutions, which are currently used in the newspaper and packaging sectors around the world.

Planatol

Country: Germany

Hall 13, stand A7

Planatol will present all common adhesive technologies, from hot melts to aqueous dispersions, for a wide range of applications. A highlight is KF 591, a water-based adhesive for film lamination on printed substrates with excellent adhesion properties, available as 1K or 2K. This system uses a new crosslinker, which enables the customer to reduce the necessary amount from max five percent to max three percent.

InkSpec

Country: Canada

Hall 6, stand D77

InkSpec will show new additions to its product line including ink temperature control and a new generation viscosity control technology that is more versatile and user-friendly. The technology at the heart of the Intelligent In-line Sensor (IIS) forms the basis for this further development and for the printer translates into tight control, high quality and potential for cost savings. In addition, InkSpec will showcase the anilox roll cleaning product Microlox and related equipment. Microlox allows for effortless cleaning of a roll in less than 15 minutes, whether for solvent, water-based or UV inks.

PRE-PRESS AND MIS SOFTWARE

DuPont

Country: Germany

Hall 8b, stand C24

DuPont is showing the latest additions to its Cyrel flexographic system portfolio, and a complete Cyrel FAST Round workflow. Key components include DuPont Cyrel FAST Round 1450 FR, a sleeve making system that uses dry, thermal technology to quickly process high-quality photopolymer sleeves, eliminating all solvents and aqueous solutions from the plate room; and a digital Imager ESKO CDI 1450 Cantilever with a UV Inline 2 feature in flat-top mode. The FAST Round workflow will be supplemented by a Cyrel Microflex Multiple Sleeve mounting system that allows the mounting of multiple Cyrel Round sleeves to register on one single print adapter, increasing flexibility of the high-productivity sleeve workflow. New compressible adapters optimized for the DuPont Cyrel Round Workflow by Inometa will be introduced, which feature a rubber stop and bayonet locking system.

Colorware

Country: The Netherlands

Hall 7, stand D16

Color analysis specialist Colorware is launching its new and improved Printability Test suite in PressView, which means ColorWare now enables printers to make a complete print analysis before the final print production. The PressView Printability Test analyzes the exact color behavior for any given ink and substrate combination for all print processes. It measures this data to analyze the status of a specific ink/paper/press combination and to present the optimum tolerance level of this combination. The PressView Printability Test will also calculate the closest color match and density, determining the optimum density value and density bandwidth of any specific ink/substrate combination and predicting the exact color performance of the ink-of-choice on the selected substrate.

EskoArtwork

Country: Belgium

Hall 8b, stand A23

On its biggest ever tradeshow stand, Esko will present a number of its software developments. This includes: Suite 12, a major update release of Esko's workflow software featuring WebCenter 12, Automation Engine 12, Color Engine 12, Studio 12 and the edit programs ArtiosCAD, PackEdge, ArtPro and DeskPack; digital flexo technologies, such as a CDI Spark 2530 with digital In-line UV1 and the CDI Spark 4835 Auto with digital In-line UV2; HD Flexo Pixel+ technology, which is an optical, electronic and screening enhancement for HD Flexo imaging; HD Flexo plate imaging technology through the CDI imager (In-line UV2); and digital finishing, with a new Kongsberg XN digital finishing table that can be configured for a wide range of different applications.

Bodoni Systems

Country: UK

Hall 5, stand A41

Bodoni Systems is launching version 5 of its pressSIGN print standardization tool that features a raft of new features specifically aimed at the packaging industry. In version 5 of pressSIGN, printers or print buyers will be able to set any standard based on any color combination that may or may not contain CMYK. Printers can use any color bar that suits their printing process in order to measure and score the sheet. PressSIGN shows the operator how to adjust the color in order to achieve the lowest possible Delta E against the print target. PressSIGN contains the pantone libraries and allows users to create their own libraries by measuring a swatch, importing CxF files or typing in a L*a*b value.



Trelleborg's Institute of Contemporary Print is offered as a creative and interactive space



Besides colors, bring effects onto the paper that cause a higher pulse rate and a weak feeling in the knees.

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Innovative technologies from manroland transform your printing plant into a workshop for good feelings. Enhancement methods such as applying cold foil with the ROLAND InlineFoiler Prindor, effect and functional coatings, or printing with UV inks and coatings create premium-quality, exceptional printed products. This makes every printed sheet something very special: a business card for your printing company. WE ARE PRINT.®



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ISI Graphic System**Country: Malaysia****Hall 7, stand B9**

ISI Graphic System will show new features in its MaxPro suite, which incorporates trapping, step-and-repeat and color conversion. MaxPro allows users to create trapping to linework, contone and transparency areas. Technical color plates such as those used for white ink or varnish can also be defined quickly and easily using a range of user-friendly tools and options. MaxColor has been developed to reduce separations and/or convert CMYK Separations to spot colors, with the resultant image using less ink, producing more vibrant colors and a better quality registration whether printing gravure, flexo, dry offset or offset. With MaxStep, users have the ability to interactively create bespoke step and repeat layouts, or use pre-defined die cut guides to automatically generate layouts according to the requirements of the printer or converter. It fully supports industry standard formats such as CFF2 and has the ability to produce final layouts for plate or cylinder. Visitors will also have the opportunity to see how high-quality packaging proofs can be produced with the Star Proof/Epson Stylus Pro WT7900 combination. Star Proof accepts Raster data in 1 Bit Tiff or Barco "Len" file formats at resolutions up to 4,800dpi, screen rulings up to 230lpi and offers support for the latest high-definition flexo screening technologies

Optimus**Country: UK****Hall 4, stand D4**

Optimus will celebrate its 30th birthday at Drupa with a host of new functionality aimed at helping support our customers' business growth.

Building on the Optimus dash MIS, it will be will be launching two new dash modules to assist in greater revenue generation. The dash Sales Generator provides instant analysis of sales generated giving a clear understanding of the impact of revenue so business can promote the right products to the right people, while the dash Campaign Manager utilizes the data available in the dash Sales Generator to enable the sending of email or printed mail-shot campaigns. An additional new mobile solution to work alongside dash MIS will be shown. Cloud Mobile is designed for sales teams on the road using mobile tablet devices and allows them to prepare instant quotations, take orders for standard pre-defined products, finished goods and view customer specific information including job history, current job status and quotation history.

Sistrade**Country: Portugal****Hall 7a, stand D15**

Sistrade will present the latest developments of Sistrade Print, a 100 percent web-based ERP/MIS system, specifically designed for printers of rigid and flexible packaging, including offset, flexo and rotogravure. Sistrade said this sector of the printing industry, due to the associated output format, differs from the other sectors, placing an increased emphasis on technical aspects combined with specific estimating according to the product type versus production control in real time. It will also present some of the most important features of the system for the rigid and flexible package printing market, such as estimation of any type of work, automatic calculation of printing and stamping cylinders, the plates and

the die cutter format, and folding and gluing calculations, amongst others.

Hybrid Software**Country: US****Hall 7a, stand E10**

Hybrid Software will be demonstrating its unique Order Lifecycle Management (OLM) concept, which is designed to streamline the integration of existing software, hardware and workflows including online ordering, production, pre-press, MIS, financial systems and databases. Hybrid's OLM software is designed for use in all areas of print, from commercial offset and digital to packaging, labels, inkjet and the screen/sign markets. The main product is FaceLift, which allows seamless integration between production workflows, MIS/ERP systems, third-party websites, external databases plus other sources of digitally held information. FrontDesk provides an interface between the printer and his customers, while FileForce connects multiple production facilities within an enterprise environment.

Shuttleworth**Country: UK****Hall 9, stand E3**

MIS systems specialist Shuttleworth's new user interface, based on an Outlook style, look and feel, will be central to its stand. The design is said to make the software easier and more intuitive to use whilst providing a customizable view for each user. The interface also includes a drag and drop capability from Outlook. Shuttleworth Business Intelligence will also launch at the show as a set of tools including dashboards and mobile apps to 'release the power of Shuttleworth MIS', the company said. Visitors will also be able to see the supply chain management software, a web-based tool designed to enable manufacturers to quickly get prices from their suppliers so they can respond immediately to their customer needs.

Metrics**Country: Brazil****Hall 6, stand C43.**

Metrics is a leading provider of MIS for the printing and packaging industry in Latin America. At Drupa 2012, Metrics will present new technologies designed to help printing companies automate processes, simplify tasks, reduce costs and improve response time to customers, being even more competitive. IQuote is a state-of-the-art estimating tool which can handle digital, offset and mixed production environments. IQuote makes simulations and automatically creates the best production plan considering all technical characteristics of products, machines, materials and



The KAMA ProCut 76 is the world's first flatbed die cutting and hot foiling stamping machine up to the format 760 x 600mm



Karville Development will highlight various converting solutions

related costs. During Drupa, Metrics will also bring new offers for small and medium businesses.

Arden Software

Country: UK

Hall 8b, stand C15

Arden Software will be demonstrating the next generation of its Impact packaging design and manufacturing software, and the WEBcnx Project lifecycle and workflow management solution.

ROI360 (Pageflex)

Country: UK

Hall 4, stand A2

ROI360 will be promoting its latest suite of Pageflex products including Storefront and iWay web-to-print solutions. ROI360's Pageflex products focus on web-to-print marketing portals, online marketing platforms, cross media marketing and variable data publishing. The Pageflex v8 and iWay v6 releases will be shown with significant enhancements and new global trading features. There will also be demonstrations of Pageflex's mobile-to-print solutions and digital media partnerships.

OTHER INDUSTRY SUPPLIERS

Trelleborg

Country: Italy

Hall 6, stand B61

Printing blankets specialist Trelleborg, will launch the "Institute of Contemporary Print", a creative and interactive space in which visitors to the show can relax, experience exciting art and discover the possibilities of modern print. The Institute promises visitors the opportunity to see more innovative printing solutions under one roof than ever before. Trelleborg will also show its new Vulcan Synthesis Evo and Rollin MyCoat blankets.

PrintConcept Grafische Maschinen

Country: Germany

Hall 6, stand D30

PrintConcept Grafische Maschinen GmbH offers vacuum sheet-fed and web cleaning system from US firm Doyle

Systems, as well as contact web cleaning systems by means of elastomeric and adhesive rolls Polymag Tek, also from the US, with which PrintConcept has an exclusive European sales agreement. Depending on the product, PrintConcept says it can offer a solution for most kinds of materials, from paper, cartonboard and corrugated board to films, foils, aluminum coated materials, metals, printed circuit boards and photovoltaic substrates.

Simec Group

Country: Italy

Hall 11, stand C77

Simec Group is a family-run business that designs and produces rolls and sleeves for many uses and applications, including packaging, flexographic printing, glues and adhesive coatings and embossing of various materials. Simec Group has been operating in the flexographic and embossing fields since 1960, and designs and manufactures its own products. It has three factories and twelve production lines. At Drupa 2012, Simec will present mechanically engraved rolls on steel, copper and nickel for printing, coating and lamination. It will also show laser-engraved anilox rollers and sleeves in both conventional and high-performance versions tested for high-quality output with new HD polymer technologies. Other tools on show will include embossing rolls for various applications such as paper, tissue, films, plastics and aluminum, and cleaning systems and storage systems for both rollers and sleeves.

Messersi Packaging

Country: Italy

Hall 12, stand D49

Messersi will present wrapping machines for palletized products and innovative solutions for paper factories that allow steady, well-made and nice looking pallets. For the cartonboard industry, it offers a complete range of strapping machines with press and stretch wrapping systems suitable for any need.

Longford International

Country: Canada

Hall 13, stand D1

Longford will be highlighting its pharmaceutical track and trace system for serialization of pharmaceutical cartons and the C350 high-speed tipping feeder, which is able to accurately place leaflets, coupons etc onto a carton on a folder gluer at speeds up to 70,000 pieces per hour.

Impack Packaging

Country: Canada

Hall 9, stand E61

Impack Packaging specializes in the analysis of work methods and the design and manufacture of equipment for manufacturers of folding carton, micro-fluted and corrugated packaging. It focuses on ergonomics, productivity and workplace health and safety, with a range of products tailored and adapted to folding carton folder gluer manufacturing needs. Impack will present the Ergosa semi-auto folder gluer packer, and the Virtuo automatic folder gluer packer at Drupa, both with applications in the packaging market.

Galred Europe

Country: The Netherlands

Hall 10, stand E5

Galred specializes in used machines, such as flexographic and rotogravure printing presses, bag making machines, extrusion lines, blown film lines, slitter rewinders, laminators and recycling lines. It claims to offer a complete package, meaning it is not only involved in the buying and selling process of the machines, but also technical support, insurances, transport, dismantling, rebuilding and all related activities. Galred is the official agent for Italy's C&C Flexo and a partner for SCAE Europe, also from Italy. It also works with partner BVA-auctions to organize used machinery auctions for the printing market.

Turn over for more on the used machinery market



A second chance

The used machinery market will have a strong presence at Drupa, generating leads and helping the machinery market maintain its longevity. David Pittman reports

While Drupa will act as a launch pad for numerous new printing presses, technological innovations and software upgrades, so too will it act as a gateway for the used machinery marketplace.

Dealers and printers alike will come to the show with an idea of the machinery they want to buy and sell. Mike Steele, chairman of the British Used Printing Machinery Suppliers Association (BUPMSA), says: 'Dealers and end users will come to the show with a shopping list of machinery they want to buy and, equally important, a list of kit they want to sell. They are there to do business.'

David Kitson, sales manager at used Heidelberg machinery specialist Roberts Graphics, says: '[Drupa] is a very important show for us, and not just for meeting end users. It is nice if we can meet end users and agree sales at the show but due to the nature of our business, and often the scale of deals, this is not always feasible. It is usually in the weeks and months, and often years, afterwards that sales are realized. That being said, we have agreed sales whilst at the exhibition in previous years with new and existing customers.'

'We do not aim to make sales at the show. We aim to speak to as many people as possible; not just end users, but our colleagues in the used machinery industry and also the OEMs to keep abreast of current technology, trends and what customers are buying.'

'This is not just with regard to machinery but also consumables and parts. Due to the fact we supply machinery globally we also need to

make and refresh relationships with the international network of people in our industry. It is very difficult to quantify the success of exhibiting at any show as it is only in the time following the show where the contacts made may result in actual sales and delivery. One of our strengths is the network of contacts we have and shows such as Drupa help to extend and cement these relationships.'

The trade of used machinery is a truly global enterprise, with Europe, India, Latin America and the Middle East being a few key areas highlighted by Steele. More than 90 exhibitors at this year's show are listed as used machinery dealers, and while many are based in Europe, they trade around the world.

Roberts Graphics is one such company, and Kitson says: 'We currently have many enquiries from buyers across the globe but one of the biggest challenges we face is finding suitable equipment. The current economic conditions and apparent lack of available finance means there is less investment in new machinery, which has slowed the turnover of used equipment. This lack of availability is despite the fact there have been a number of machines available through insolvencies and consolidation; a trend that we are hopeful we have seen signs of slowing.'

'We can only speak from personal experience but we have not experienced much of a slowdown in business. Perhaps we have been fortunate or perhaps the reason for this is because customers are looking at used equipment as opposed to new. There are

various young machines available at a fraction of the price of new, making them a strong consideration.'

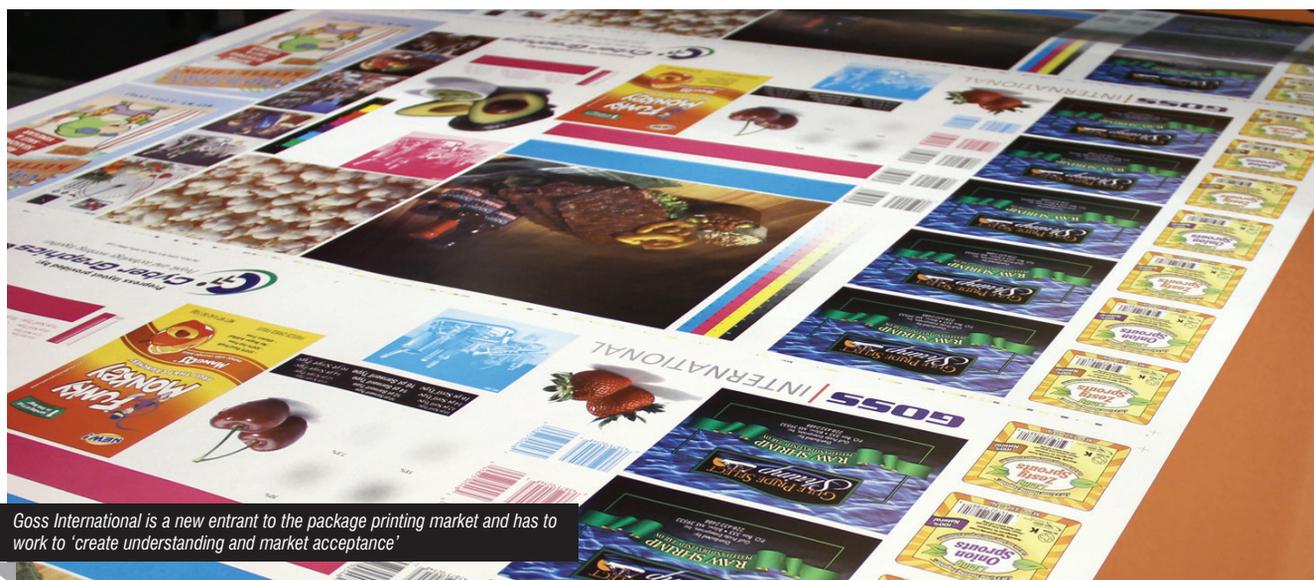
'The tough financial conditions do present opportunities to purchase machines through insolvencies and consolidation although this inevitably reduces future capacity in the market. The ideal situation for us is where machinery is available as a result of investment in new, extending the longevity of the market.'

Kitson notes that the used machinery market is rarely pivotal in OEM research and development, saying: 'The very fact we are dealing with used machinery means we are rarely supplying the very latest technology. We do work with the OEMs, whether this is for spare parts, retrofit additions to existing machinery or for proprietary knowledge, but don't this doesn't directly contribute to the evolution of the industry.'

'The rate of change of development is always increasing as manufacturers try to get the most productivity out of the technology they produce and it takes some time to filter through to the used machinery market.'

However, Steele says that the OEM and used machinery markets are intrinsically linked, and help each other facilitate capital investment in equipment. 'Nobody buys a brand new machine without something going out the factory door, and they don't just buy that kind of heavy metal to bin it.'

'Like the used car market, they buy it, use it and then move it on to a new home,' Steele says.



Goss International is a new entrant to the package printing market and has to work to 'create understanding and market acceptance'

Goss goes global with Vpak

Goss International will use Drupa to introduce its Sunday Vpak package printing technology to a global audience after spending the last year establishing a foothold for technology three decades in the making in other markets. David Pittman reports

Goss International's Sunday Vpak variable sleeve web offset package printing presses are part of the ongoing evolution of the Sunday technology, says Peter Walczak, the company's director of product management for packaging presses.

Sunday Vpak presses are available in two platforms, the Vpak 500 and Vpak 3000, with the former offering three press sizes (521mm/20.5in, 851mm/33.5in and 1,041mm/41in web widths) and the latter having four web widths (1,118mm/44in, 1,397mm/55in, 1,626mm/64in and 1,905mm/75in). Vpak 500 presses are rated up to 1,200ft/m, and Vpak 3000 for 1,500ft/m.

Two 851mm (33.5in) Vpak 500 models and one 1,626mm (64in) Vpak 3000 will be shown at Drupa, and will be used to demonstrate nested plate capabilities, sleeve changing, make-ready times and other features of the range.

'Sunday technology was developed in the 1980s as a way to advance web offset printing technology,' says Walczak. 'This revolved around eliminating blanket gaps as seen on conventional offset presses, so removing a lot of the parameters that limited press performance, like web width, speed and cylinder circumference.'

'Sunday technology evolved gapless or sleeve blanket technology, which is at the heart of any package printing or variable offset process.'

As such, the Vpak presses that will be seen at Drupa are a 'culmination of all that has gone before,' says Walczak, and show the, 'true evolution of the design. There have been many applications for Sunday technology as the core system has been developed and propagated to different markets, such as publication, commercial and newspaper printing. Now it is available for packaging.'

These years of involvement in other markets give Goss a certain pedigree, although Walczak is aware that the company is a new player in the package printing market and so has work to do to educate potential customers on the history of the company itself, as well as the Sunday technology upon which the Vpak presses are based.

'We have a breadth of knowledge of the web offset market, and know how to make that equipment run fast and in an efficient way. Packaging is just a different type of application

we're applying our technology to. It's important that we leverage this position though, and don't just offer a "me too" press, as then there'll be no value to us or our customers.'

Refraining from becoming just another press manufacturer to offer a package printing solution is one of the reasons why Goss has kept its initial marketing focus targeted on the North American market, although this will change at Drupa.

'We want to lead the market so didn't want to spread ourselves too thinly around the world, and not be able to support customers the way we wanted to,' says Walczak. 'We've kept the focus in North America by design so we can develop understanding in the market and gain a foothold, but that will change at Drupa.'

'As a new entrant to package printing, we've had to work to build understanding and comfort for our customers with Goss and the Sunday technology in order to create interest and then orders.'

For customers outside the US, Walczak says Goss will be able to leverage the heritage of the Sunday technology upon which Vpak presses are based and tap into its extensive existing installed base. 'Whether a short train, plane or car journey away, potential customers will be able to go and see the performance and integration of the core technology anywhere in the world.'

Walczak adds: 'We're coming into this market and have to build trust. Goss International is a worldwide name, but not in the packaging industry. We're just as new as anyone else so have to work hard to create understanding and market acceptance of our company and its technology in the packaging industry.'



Peter Walczak, the company's director of product management for packaging presses



Broadening the market for narrow web carton finishing

The evolution of narrow web carton finishing continues to be driven by the adoption of new technology in the wider printing market. David Pittman reports

The adoption of new technologies within the package printing market will pave the way for greater adoption and development of narrow web carton finishing equipment, according to suppliers of such systems and technologies.

The evolution of digital printing into a viable solution offering productivity and quality comparable to conventional print techniques, such as offset, is chief among these, at least according to AB Graphic International (ABG).

ABG is a leading supplier of converting machinery for the packaging and label markets, including rewinders, sheeting and core cutting, to the Omega line featuring a range of conventional converting technologies. It also offers Digicon modular finishing lines and associated solutions for digital applications, such as Digilam and Digicoat, as well as semi-rotary and flatbed folding carton die cutting solutions. It partners with Germany's KAMA for flatbed technology.

ABG's Matthew Burton says: 'In terms of short-run narrow web carton production, this has been a very recent development only made possible by the latest digital presses being able to handle a multitude of thicker substrates such as folding carton board. The new ability to run board through narrow web digital presses allows for profitable short runs, personalisation and variable data insertion.'

Burton continues: 'Existing customers are a mixed bag of label converters looking to diversify their business and carton

producers who want to be able to provide cost effective short runs to their customers for the first time. So far all our carton installations have been HP Indigo customers and there are now systems in India, Europe and the US.'

A Digicon Series 2 narrow web carton finishing system was on show at Schneller Leupold's recent Open House event (see p56) to mark the installation of an HP Indigo WS6600 digital press. Marcus Tralau, chief executive officer of KAMA, says HP Indigo has been important to how it has seen adoption of its technology in the narrow web carton finishing market.

'For us, it's a completely new market. The idea came about when we discussed with HP what we could offer in the post-press area for digital printing, and how the two of us could work together to move further into the packaging market. The idea we came to was to find a solution together that used an in-line web-fed system, which was a change of direction for us as we are a sheet-fed company with no experience in web. This then developed further into adding a third partner, AB Graphics, with the installation shown at Schneller Leupold a combination of HP, ABG and KAMA technology.'

Conventional printing remains an area of growth for some narrow web carton finishing system suppliers. Germany's Rotocontrol designs and manufactures inspection, slitting, rewinding and die cutting finishing machines for the narrow web industry, from smaller basic rewinders to feature-rich, sophisticated models with multiple options. Rotocontrol's

offering includes the RSD, RSC, DRM and RSP platforms.

The company's Heather Roth says it has seen a growth in demand for systems to handle flexible materials and shrink sleeves, as well as demand for solutions able to handle materials wider than 21in, 'which indicates that the packaging market may be growing for us,' she said.

'Most of our customers are established converters purchasing machines to enter new markets which require greater capability than their current machines can provide or because the end users are demanding better quality, including 100 percent inspection.

'Since we are focused on rotary die cutting technology and hot stamping or folding machines, the customers considering our equipment for this market are looking at things like sheeting and stacking modules, in-mold label die cutting and stacking and other finishing capabilities on our RSD platform. Large capacity unwind options, multiple die stations and flexo coating or overprinting stations are common requests.'

Burton says ABG's customers have formerly had issues with the cost of tooling, but the use of flatbed technology employed in conventional carton production by KAMA has eliminated this issue. 'The KAMA and semi-rotary systems are our newest development. Listening to customer feedback and responding to this will enable us to continue with new developments and respond to market demands.'

Tralau says the development of an in-line varnishing process has been a big help to the adoption of digital printing, and as such related narrow web carton finishing systems, by offering a, 'big advantage as it is done directly after printing, which is really good and shouldn't be underestimated.'

He adds: 'We also have the potential to do hot foiling in-line. This is an issue with sheet-fed as you need a different machine, but with a web-fed in-line system it is possible to offer hot foiling before or after varnishing. Only a web solution makes this possible. It's a big thing from my point of view as someone from the sheet-fed market, and an important difference to sheet-fed solutions. Meeting with customers convinced me of this.'

'The next stage is folding and gluing, and customers are starting to ask about doing this in-line. At present, they may have to take the blanks produced from short run jobs on the digital press and transfer it to another folder gluer that is placed at the end of a line doing long runs.

'This costs, as they have to stop the line to set-up to fold and glue the short run, before changing back to the long

run. This stop can take too long and cost too much, so it doesn't make sense.

The market needs an in-line folder gluer that meets the demands of short-run jobs. This is our next goal. Then we will have a complete workflow from printing, varnishing, die cutting, creasing, gluing and folding. Then the workflow is perfect.'

Roth says: 'We continue to add standard options to our RSD product line. It is a very modular system and we can quickly provide proposals on machines with customized configurations. We will continue to develop modules for this product as the market dictates.'

Goss International's new line of Sunday Vpak variable sleeve web offset packaging presses are to be available as part of a complete production system. Available in both wide and narrow widths, from 521mm (20.5in) up to 1,905mm (75in) on two platforms, Goss International's Peter Walczak, the company's director of product management for packaging presses, says it will likewise be listening to customers to respond to market demand and their individual needs.

'One of our strengths is in integration,' he says. 'Goss has a strong pedigree in the commercial printing market that we are bringing into packaging, and commercial presses have to be integrated with a number of downstream systems.'

'Our mindset is that a web press needs to run as fast as possible without holding back; in the packaging area this is ideally done roll-to-roll, with finishing done off-line. Some customers want an in-line solution however and, while we're not manufacturing those systems, we will integrate the press as the heart of a system using technology from other suppliers. We're not set hard and fast on anyone supplier, but rather we'll work to find the best solution for the customer and integrate it with the system.'

'Most of our activity in the narrow web market has focused recently around web-to-sheet and then off-line die cutting, giving them flexibility in the finishing process.'

Walczak adds: 'We take responsibility for the whole system, from specification to operation.'

'Take register and color control as an example. We have our own systems but customers are more than welcome to specify a system from another supplier. However, we'll take the information generated by those systems and agree or disagree with it, as opposed to allowing them to make moves on the press. Other OEMs will just let these systems make the move on their press, but we won't. We know how our press performs where as they don't, so have

no idea of reaction times and the number of cycles needed for the move to take affect. If we just let other systems do it, it can compromise productivity as these ancillary systems can end up correcting corrections and chasing themselves.

'We like to control that completely as it really has an impact on waste and performance of the press. It's no different with finishing, as tension is part of that function so we will recommend the type of motors that should be used.'

'It's about close cooperation between us as the primary machinery supplier and secondary system suppliers. This is where we see ourselves as unique. Printing is our forte, but there are other better suppliers of finishing systems. Those that supply complete, closed loop systems might have a good system but it might not be the best overall. This gives us an advantage.'

Walczak notes that in-line finishing systems can limit the potential speed and flexibility of a press, going against Goss's view of running a web-fed press 'without holding back'. Tralau admits there are some frailties in an in-line solution. 'If one module breaks the whole unit stands still,' he says. 'And the system is a little less flexible when it comes to substrates. Thicker substrates won't work as well, if at all. If you want to change substrates from thick to thin, then web-fed is a little less flexible. It takes longer to feed the web into the machine as the system can be 15-20m long, so takes time.'

'The ideal solution is if the same substrate is used all the time. If it needs to be changed, perhaps sheet-fed is a more flexible solution. It all depends on what the customer wants to do. He has to look for his ideal solution.'

Tralau adds: 'It is not easy to estimate how the market will develop for us, as this is the only kind of in-line solution in the world specifically for digital end users. When HP arranged the Open House at Schneller Leupold, they could have invited twice as many people such was demand, which shows us that there is interest in the market.'

'And before the installation at Schneller Leupold we'd already sold more than half a dozen units worldwide, which is very positive and further shows demand.'

ABG's Burton adds: 'We expected a very good year for our carton finishing products as more and more companies realize the benefits of being able to produce short-run cartons while at the same time add variable information and personalization.'

The conventional carton converting market is hopeful of a good year also, with Rotocontrol's Roth saying: 'We are looking forward to another year of significant growth and I expect that the folding carton market will contribute to this.'



Members of the global printing community receive a briefing on the future of digital package printing from HP

Schneller Leupold aims to lead with digital

HP invited members of the converting industry to see first the installation of a WS6600 digital press at German folding carton producer Schneller Leupold. David Pittman went along to check it out, and hear about HP's plans for the digital printing market.

Located in the small German town of Schwabach, folding carton converter Schneller Leupold is working hard to keep itself at the forefront of the market.

The company has recently installed an HP Indigo WS6600 digital press, the first of its kind to be installed anywhere in the world. The seven-color, web press has been configured in-line with an AB Graphic Digicon Series 2 finishing system, featuring corona treatment, drying and inspection modules, amongst others. At the end, the web is passed through a KAMA flatbed die cutting machine, producing printed blanks, with waste rewound for disposal.

Bernd Aßmann, one of the managing directors at Schneller Leupold, said the installation of the WS6600 press shows how serious the printer is about staying at the forefront of the market and, in particular, the evolution of digital printing.

'We've been watching the developments in digital technology for several years, and asking is it good enough? For a long time the answer was no,' he said.

'You can wait and wait, but you may wait too long. We saw the technology had grown to a good point and we want to lead the market, not follow it.'

In terms of print quality, Aßmann said: 'We've a number of global brands as customers, so we need to be able to offer "offset-like" quality or better. Inkjet is not the way forward and

other digital printing solutions are still not able to meet our needs. HP Indigo technology is state-of-the-art, and has been tried and tested.'

Giving a presentation to Open House attendees earlier in the day, Dr. Jürgen Rautert, a former member of the management board at Heidelberg, said quality was no longer an issue for converters looking at digital printing (see p4).

He said: 'I think you could say the average quality being produced by an average operator on an offset press is probably not as good as the average quality being produced by an average operator on a digital press.'

Aßmann said Schneller Leupold will continue to work in the offset printing field, as digital alone cannot provide it with all the business it needs.

The folding carton converter handles jobs of all sizes and will combine conventional and digital printing to provide an optimum solution to its customer base, having worked hard to provide a quality offset solution over the years. 'We already achieve fast make-ready times with offset, so the difference with the digital press is minimal,' said Aßmann.

Nor will Schneller Leupold use the digital press to win artificially large amounts of short-run work. Instead it will make a heavy investment into the administrative functions needed to integrate the digital press to its operations, and invest in the

workflow system that will support it. This automated workflow system is hoped to be copied to the offset printing side of the business, Aßmann said, so providing a streamlined production process throughout the company.

‘For sure, the digital press will bring us new customers and open up new markets, but the business model is important. Just doing more small business won’t work for us.

‘Brands are open-minded about digital printing but they need to know the technology is up to the job. The hardware is the basis and print quality has been resolved. This is just the beginning.’

Riki Tzirin, packaging sales development manager in the EMEA region for HP’s Indigo digital press division, shared Aßmann’s view that the digital printing revolution is set to gather pace and momentum.

She said commercial printing accounts for about 80 percent of the market, with packaging and labels making up the remainder but being the area requiring the most resources and investment. Within that, digital printing is a growing force and one which is proving Indigo founder Benny Landa’s statement correct that ‘everything that can become digital will become digital’.

Tzirin said: ‘HP has made enormous investments between 1995 and 2011, and will continue to look to the future. There are more than 1,300 HP Indigo label and packaging installations worldwide, with an average of 1.5 machines per customer. This means that half of those investing are buying an extra unit, and understand the strong benefits digital printing offers.’

Tzirin said there will be more resources and support made available for the digital package printing market as a result of such statistics. This will include the ongoing development of HP’s partner program, where it is working with companies in other sectors of the market to produce a complete printing ecosystem. This ranges from pre-press software from EskoArtwork, materials from Iggesund, to finishing equipment from a range of companies.

The partner program was on show at Schneller Leupold with the WS6600 installed in-line with the AB Graphic Digicon Series 2 finishing system (see p54).

‘We are constantly evolving the partner program and working to add in those companies that HP customers want us to be working with. The partner program is a work in progress and is consistently being aligned with customers’ needs.

‘The future is packaging, and the future of packaging is digital,’ she said. ‘Technology has changed and digital is able to meet the demand for shorter

runs, customization and speed. HP is working to drive the market into digital by offering valued-added services post-installation to let companies flourish.’

Her colleague Marcelo Akierman, HP’s EMEA marketing manager, said it will be interesting to see how the printing market evolves beyond current buzz terms of QR codes and snap tags, as digital becomes the norm in all aspects of life.

He highlighted a number of examples of promotions and websites that allow consumers to personalize products from beer to tissue boxes, the potential for augmented reality and authorization codes printed on packaging, improving the interaction between consumers and

packaging. However, for printers, there are more obvious advantages of a move to digital.

‘The way we’re shopping is changing but we still need packaging. Whether you buy online or in the shop, packaging is needed to make sure the product reaches the customer in its intended state.

‘The market needs to embrace digital printing and take advantage of the benefits it can offer. The amount of work isn’t declining, but runs are getting shorter and the work is needed faster, so printers should respond to market segmentation.’



Attendees are given a walk-through of the workings of the seven-color WS6600 digital press



Schneller Leupold has installed its WS6600 in-line with a number of finishing modules



QuadTech's SpectralCam narrow web inspection system monitors color throughout the job by capturing 31 channels of accurate color data within the visible spectrum

Inspection revolution drives print quality



Having developed sophisticated registration and defect control systems, inspection equipment suppliers are now moving on to measure color at full line speeds. Andy Thomas reports

Accurate and automated measurement of brand colors, in-line and at speeds up to 900m/min, has been up to now a “holy grail” for flexible packaging printers. Color measurement has generally been an off-line operation, requiring the press to be repeatedly stopped, analysing samples cut from the web until targets have been reached.

But recent developments by inspection system suppliers looks set to change that situation, and give converters the ability to offer end users a written guarantee not just of print quality, but of color fidelity, and all to internationally accepted ISO standards.

While density measurements have been with us for some time, it is generally agreed that spectral data, using $L^*a^*b^*$ values, is the most objective means of defining and measuring color in the way it is perceived by humans. These values are represented in three-dimensional space: a vertical luminance (L^*) axis, with horizontal red-green (a^*) and yellow-blue (b^*) color axes.

Not only must such a system be able to operate at typical flexible packaging line speeds, it must also take sample color measurements at different locations anywhere across the web to avoid missing color variations which occur on just one side of the web. This problem is almost always a result of uneven pressure being applied by the printing cylinder.

QuadTech has entered the field with SpectralCam, a module integrated into the company's inspection system. SpectralCam allows the press operator to choose multiple areas within the image for inspection. It captures 31 channels of color data within the visible spectrum (400 – 700nm) from multiple points in each area of interest. The operator provides $L^*a^*b^*$ target values for a maximum of 72 targets, each with a minimum area of 3 x 3mm. An additional camera ensures measurements are

taken from the right place using a strong feature such as a barcode or text as a reference point.

SpectralCam can detect a 0.3 ΔE variation, which is generally reckoned to be the threshold at which color variation is visible to the human eye. QuadTech's SpectralCam HD adds high-definition dot viewing and web stabilization capabilities to the basic system, facilitating on-the-fly detection of dot abnormalities such as pin-holing, bridging, doughnuts and halos. Images are captured at 2,500dpi and are made instantly accessible over a network.

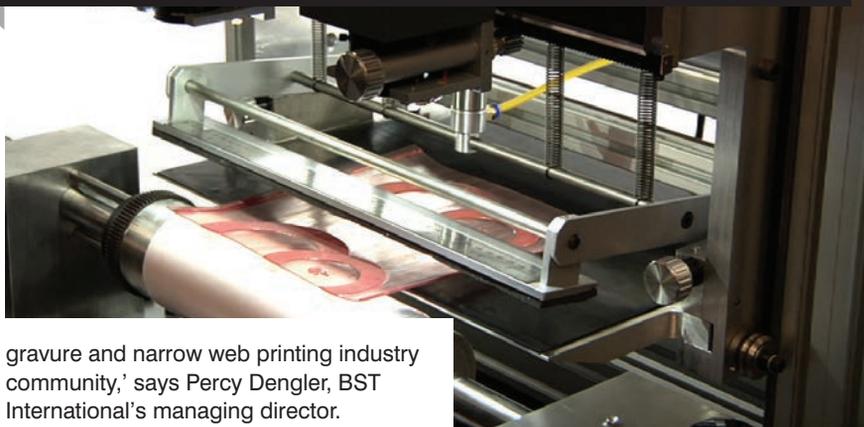
'SpectralCam HD is likely to be of particular benefit in flexible packaging printing situations, where the ability to view dot profiles is paramount, and to operators of central impression-flexo presses, which require significant pressure adjustment,' says QuadTech's John Cusack. The device operates at up to 3,500ft/min (90m/min). A web stabilizing unit allows spectral color measurement of transparent and opaque films on-the-fly without risk of substrate corrugation.

AVT has just launched its own modular spectral measurement solution called SpectraLab. SpectraLab provides absolute color measurements in $L^*a^*b^*$, to match with the brand owner's color standards and design. At Drupa, SpectraLab will be demonstrated on a PrintVision/Jupiter inspection system which is also demonstrating RightSeal, an improved dual optic head for cold seal monitoring, and iReg, a semi-automatic registration setting for CI flexo presses.

Last October, BST also announced it was developing a real-time in-line spectral color measurement system, this time as part of a joint partnership with color management specialist X-Rite. The project will see the development of both an in-line spectral measurement system and stationary handhelds delivering comparable results.

'Ensuring color control is the decisive issue for the flexo,

Inspection technology, such as that from Tectonic, is offering end users a written guarantee not just of print quality, but of color fidelity, and all to internationally accepted ISO standards



gravure and narrow web printing industry community,' says Percy Dengler, BST International's managing director.

'Combined with our extensive experience in web quality assuring technology this will result in a system creating a new era in press color control in this field.'

X-Rite is equally excited about the project, with its chief technology officer Dr Francis Lamy enthused that the two companies would, 'build a solution that sets new milestones in color driven value creation in flexo and gravure workflows'. In particular, it will further leverage X-Rite's Pantone tools and standards expertise.

An inspector calls

Turning to developments in the wider inspection field, Drupa will be the place to see the latest version of AVT's PrintVision/Argus Elite system, which now includes upgraded viewing capabilities, a new man-machine-interface, and – an intriguing development - pressure setting from the image. The PrintVision/Argus Elite will be demonstrated both on the AVT stand and on the new Comexi F2 press.

In a development of particular interest to the pharma packaging industry, AVT's latest PrintVision/Helios II 100 percent inspection platform now includes braille automatic in-line detection, which works in parallel with print inspection.

For narrow web offset converters, AVT has launched the Microcolor/Mercury remote ink control along with the I eal in-line Delta E color measurement system, which measures color consistency throughout the print run. Other developments here include PDF job verification and 100 percent verification of barcodes and variable data codes and numbers.

Capitalizing on the growing use of personal communications tools, AVT has extended iPrint connectivity to iPhone/iPad mobile devices, both of which now appear as connectivity options on AVT inspection systems.

Nikka Research has added a new member to its Alis automatic inspection family in the shape of the compact L1 model for narrow and mid web packaging presses. This wedge shaped

camera is designed for inspection on printing presses and rewinders. The established Alis L2 line of print quality inspection now covers web widths up to 760mm.

For all products, Nikka Research has introduced a new "applet" concept. Applets are modular functions, which can be easily added to existing systems in order to extend their functionality. Applets for barcodes, Datamatrix, Delta E color monitoring, in-image measurement, OCR and variable data are ready to mix into a system matching individual customer requirements.

Erhardt + Leimer has widened its offering to the flexible packaging market with an improved version of its TubeLight illumination system. A new LED light source allows homogenous illumination in the wide web sector on print widths up to 1.5m. TubeLight has also been improved for better inspection in difficult printing and web conditions like embossing, screen printing, metalized materials and holograms. Also useful in the package print sector, the company's Elscan inspection range now features a new dual flash system for metallic film packaging applications.

Verification specialist Eye-C is now promoting its ProofRunner in-line inspection system, which uses a high-speed line camera to continuously acquire a high-resolution image of the entire web. A computer system then identifies all printed items on the web and tracks them through the print or converting run. The same computer performs an intelligent comparison of each printed item against the customer proof. The advanced pattern analysis of the ProofRunner can distinguish between the different types of defects, so every significant deviation will get caught and displayed while permissible fluctuations caused by the printing process itself – such as minor registration errors or small squeeze marks around the individual letters – can be automatically passed. The system also allows inspection of hot and cold stamping elements.



AVT's new SpectraLab will be at Drupa

Eye-C's Profiler, meanwhile, is an off-line system that digitally compares the first samples from the printing press or the samples of incoming materials against the signed-off proof. Every item printed across the web or sheet is processed in one pass. An integrated scanner accommodates all print formats up to 60 x 43in (1,600 x 1,100mm).

The Tectonic K3 Digital expands the company's print inspection system range. K3 Digital has an icon-based menu system and touchscreen navigation, which facilitates quick set-up including one-touch camera controls and repeat length position control. The color monitoring tool found on the K2 color check system is expanded on K3 Digital and provides a higher level of color monitoring of regions of interest – analysis based on the CIE Lab color model – and includes alarms for color monitor error notification. K2's image transfer feature is enhanced, providing the print manager with immediate live access to current activity on the press.

Lake Image Systems has tackled the issue of QR code verification with its new Discovery Revolution print quality inspection system. The software, which is capable of inspection of continuous webs printing at speeds in excess of 1,000ft/min, may also be implemented on sheet-fed presses. Lake Image Systems' vice president Pat Hoskins says: 'Discovery Revolution ensures that every QR code printed is legible and accurate, and will quickly access the proper website when a QR code is read. Inaccurate QR codes are flagged for removal or further inspection.'



In-line inspection and color measurement are essential tools in the pursuit of print-perfect packaging

Providing packaging perfection

In-line inspection and color measurement are essential tools for any printer or converter looking to provide total package print quality, states John Cusack, product manager at QuadTech.

In the fast-moving consumer goods market, there can be no compromise in quality. It is not merely that a package must make a big impact at the point of sale either, as in some markets, such as pharmaceuticals, the inability to root out defects can be a life-or-death issue.

An inspection system must deliver consistent results when inspecting all packaging substrate types. It must be able to inspect the entire substrate width, and each and every print repeat, every time. It must also work in-line, and on-the-fly, at high speeds, sometimes up to 900m/min.

Essential features include a high-resolution camera with solid state lighting as well as a closed-loop system, in which the printed work is measured against the “golden template” or approved original. The inspection system must be fully integrated within the press and able to communicate with ancillary equipment, and it must collect and store performance data for easy analysis.

Lights, cameras, action

In roll-to-roll applications, the inspection equipment is located after the final printing station and consists of a number of cameras aided by solid state lamps that provide constant, consistent illumination of the inspection area.

The print width, the minimum size of defect and the print speed are the factors that determine how many cameras are needed. Generally, cameras with 4,096-pixel CCDs are recommended for printing applications up to about 400m/min. This camera type covers almost all package print requirements.

The printing speed and camera line speed play their part

in determining the minimum detectable size in the machine direction. A 4,096-pixel camera operates at 17,500 line pixels per second. At a print speed of 300m/min, the minimum machine direction resolution is calculated at 0.285mm. Cross-substrate resolution is critical. A roll can be rejected due to defects no more than 0.1mm-wide. Hazing, in gravure applications, is the most notorious example. A defective doctor blade can result in a thin streak of undesired ink over thousands of linear meters.

As recommended resolutions are about 200dpi, inspection equipment tolerances tend to be from below 0.1-0.2mm across the web, and 0.15-0.35mm in the machine direction.

The transparency and reflectance of the substrates have a bearing on the type and number of inspection lamps used, as well as the angles at which they are positioned:

the top light shines a high intensity, focused beam exactly where the camera is looking to illuminate any non-reflective and non-transparent surface; the foil light beams a direct light at a low intensity to illuminate reflective surfaces like foil and reflective inks; and the back light shows defects on transparent or semi-transparent substrates, such as a clear window feature.

White LED temperature-controlled, actively cooled lamps give the best results. They provide consistent levels of quality, owing to their long life, and detect colors across a wider spectrum than is possible with the human eye, from UV to infrared. For one QuadTech customer in the US, the LED lamp even plays an essential role in identifying the presence of fire retardants in cigarette filter tips.

Closing the loop

The ability to compare the printed product with a fixed reference is critical to ensure consistent quality control. A golden template is a master image that is grabbed by the inspection system when the press is running good copy. Every printed repeat is compared to that original image by means of sophisticated software that automatically tracks and allows for lateral movements of the material through the press.

Alternative solutions use a rolling reference, where the first image is used to inspect the second image, the second to inspect the third, and so on. This approach avoids having to track the web movements, but has disadvantages where it concerns subtle defects that are too weak to be detected from one repeat to the next. A fixed reference is an ideal deterrent against quality deterioration during the print run, as it will detect even the slowest moving defect.

A golden template alone is not sufficient to provide total peace of mind. It is quite possible to faithfully print a graphic design defect-free, in register and within color parameters, yet find the wrong cylinder has been used, inserted upside-down or damaged while being inserted. The only fail-safe solution is a PDF verification program, to make structural comparisons between the golden template and the customer-approved digital artwork file.

Communicating and reporting

The inspection system acts as an early warning – the key objective is to deal with what has been detected.

A doctor blade streak is detected and the operator is alerted where the defects are contained within the roll. That information is relayed to the waste management system. The waste management system presents an overview of the roll, highlighting reject zones in red and acceptable zones in green. It controls the speed of the slitter rewinder, forcing it to slow down and stop exactly where red-zone reject materials are located. Waste is removed

and the roll is spliced. This frees the operator from relying on error-prone, time-consuming manual detection methods.

No inspection would be complete without the ability to audit, store and generate reports of both current and historical data. This enables traceability and accountability in the production process.

Color measurement

The key requirements for effective color measurement in packaging are: a standard, objective, spectrophotometric means of color measurement; an ability to monitor color quality throughout the print run; an in-line solution that avoids the time-consuming, labor-intensive task of stopping the press and sampling off-line; and the ability to measure the color at multiple locations both in the running direction and across the web.

Conventional roll-to-roll applications can only check color at the end of each roll, making it almost impossible to tell if deviations have occurred within the run itself, so the printer risks wasting thousands of meters of material.

Spectral measurement

No human eye sees color in the same way; its ability to detect colors can be compromised according to environmental factors as well as tiredness. Spectral data, using L*a*b* values, is the most objective means of defining color.

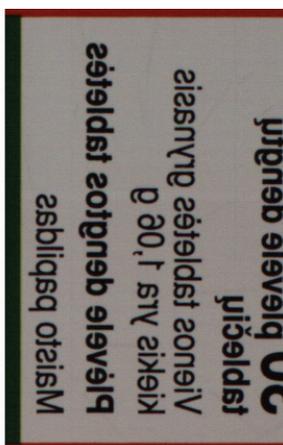
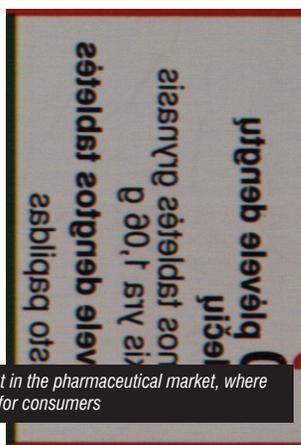
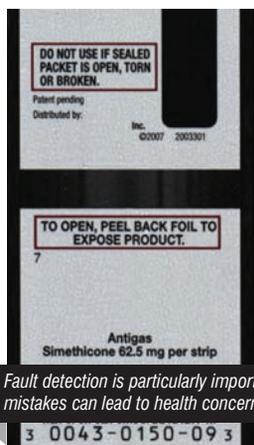
These values are represented in three-dimensional space: a vertical luminance ('L') axis, with horizontal red-green ('a') and yellow-blue (b) color axes. Taking sample color measurements at various locations anywhere across the substrate width means that unwanted color variations occurring on just one side are much more likely to be detected. This problem is almost always a result of uneven pressure being applied by the printing cylinder.

QuadTech has analyzed the requirements of an ideal inspection and color measurement system and



brought out a number of technologies designed so printers can meet both the legal requirements and exacting quality levels of brand owners. This includes: a tagless defect tracking feature that uses weight to determine waste removal and avoids the need to contaminate the roll with tags; Data Central, which acts as a central repository for production data, current and historical, that remains in constant communication with all color print inspection and waste management systems and records all activity down to the smallest defect; and the SpectralCam narrow web inspection system, which monitors color throughout the job by capturing 31 channels of accurate color data within the visible spectrum (400-700nm) from multiple points in each area of interest.

Inspection and color measurement are no afterthoughts. An in-line, spectrophotometric, integrated solution is the best way to deliver total customer satisfaction and minimized waste in a market where standards are extraordinarily high.



Fault detection is particularly important in the pharmaceutical market, where mistakes can lead to health concerns for consumers

An eye on innovation

Innovation is an integral part of the packaging industry, with companies from across the supply chain working on new products, technologies and services to create fresh opportunities. David Pittman reports

Across the supply chain, innovation remains a staple for the packaging industry. From new chemical compounds in inks and enhanced substrates with better environmental credentials, to new pre-press systems to maximize productivity and improving digital press technology, every link in the packaging supply chain is continuing to invest in growing its section of the market.

The recent Packaging Innovations exhibition, staged February 29 to March 1 at the NEC in Birmingham, UK, was an ideal opportunity to gauge the level of innovation currently occurring in the market.

New products

Companies with materials on show had a number of innovations to talk about. Flexible packaging supplier Cellpack, which ranges rotogravure and flexo printed films and laminates, waxed papers, wax laminates, flat bags and stand-up pouches, had a number of developments to talk to existing and potential customers about, including a gamma-treated pouch for food applications such as milk and yoghurt; a metallized pouch with spout for refill applications; and Softbag, a non-woven paper bag suitable for numerous markets.

Arkadian Flexible showed a new large spouted flexible pouch, as well as block

bottom packaging, as an alternative to rigid containers, which the company's Chris Melton said had been tried and tested over a number of years and showed that large flexible packaging had 'come of age'. As a result, benefits, such as reduced waste and easier storage, can now be more easily promoted, he said, with retailers and brands becoming more receptive to the idea of flexibles and the potential they offer.

Planned Packaging Films Ltd managing director Martin Cooper spoke of his company's work with sous-vide cooking specialist Loxton Food Co to develop a range of flexible food packaging for frozen food magnate Iceland.

Sous-vide, which translates from French to mean "under vacuum", sees food cooked in airtight pouches placed in hot water at around 60 degrees C. Cooper said the process means specially designed packaging is required to cope with the rigours of being filled and cooked, stored in a retail environment for up to 60 days and then taken home and reheated by the consumer using either a microwave or a pan of boiling water.

'It's a different market as the food is not cooked and then packaged; it's packaged and then cooked. The packaging also has to be shelf-ready and attractive. It's an expensive product that uses a high-quality, flexo printed, solvent-based plastic pouch.'

Beyond flexibles, carton specialist Benson Group showed its new Chrysalis Carton packaging, developed through its Medica operation in cooperation with design agency Burgopak. This pharmaceutical packaging is designed to keep the patient information leaflet (PIL) with the packaging, so meeting current and future pharmaceutical and healthcare packaging legislative requirements, said Paul Tye, Benson Group sales and marketing manager. A description of the design states that the outer carton and PIL are permanently connected, keeping the leaflet compact and accessible for when the consumer needs access to information about the product.

Benson's Split-it recyclable packaging was also on show, which features a carton lined with a film for use with ready meals, in place of traditional



Benson Group produces a selection of high-end consumer packaging

rigid plastic trays. The film and carton can be separated after the product is used, meaning the two can be recycled separately, increasing the environmental credentials of ready meal packaging. Tye said: 'The market potential is huge for more easily recyclable packaging.'

Swiss Pack Europe had a large selection of flexible packaging on show, ranging from small sizes up to 10kg bags, although its main innovation was the introduction of a patented nylon filter for the valves it uses in packaging for coffee beans. The company's EMEA region sales manager Keval Shah said nylon filters offer lifecycle benefits over traditional paper filters, which will degrade when used to prevent coffee bean packaging expanding due to the build-up of gaseous substances created during processing of the beans.

Swiss Pack Europe wasn't the only company showing innovations beyond substrates for packaging, with Cellac UK running a video on its stand highlighting a new bi-directional laser scoring system to create innovative flexible packaging openings, which the company's Michael Rock said could be combined with its Plix Pack closing system, also being showcased, to create highly bespoke packaging solutions offering ease of use.

A new lease of life

While the proliferation of new products was evident, so too was the work to enhance and better utilize what is already available on the market.

Packaging procurement business New Vision Packaging said an important part of innovation was being able to add value to existing materials. New Vision Packaging is the UK and Ireland agent for Italian transparent packaging specialist Scatolificio Cristina, and Stephen Shortland, managing director of the former, said it is developing new finishes and finishing techniques to create transparent packaging materials that feature foiling and printed silvers, or a combination of foiling and embossing.

'It is looking to add value to existing materials,' he said. 'It's all about print effects to showcase a product, although price remains key when introducing new products.'

The UK division of German UV specialist IST spoke positively about the growth in LED technology for curing as a means to reduce energy use during the package printing process, while Intelligent Finishing Systems (IFS) and DuPont likewise pushed developments to help the market add value to what is already being done. IFS showed the Petratto Metro finishing system, which joint managing director Tony Hards said allows converters to offer a number of extra services to produce a range of products, from boxes and CD cases

to bi-fold leaflets and filled document wallets.

Built on a modular design, packaging converters can install specific components they need to meet their customers' requirements, including carton forming, glue and tape application, capacity pockets and tabs.

Hards said: 'The Metro is designed to do away with hand work, by being built in units that offer extra capacity to converters for functions that would otherwise would have had to be completed manually.'

'We only started selling the machine at the turn of the year, but we've already had some sales in Europe. Our customers are quite reticent about talking about installing it, as it is allowing them to win business from their rivals that requires hand finishing, but which they can do mechanically.'

DuPont said it has made strides to improve the pre-press productivity of converters, with developments in its Cyrel round and Cyrel FAST round solventless sleeve technology, whereby converters can use more than one sleeve on a print cylinder.

Packaging graphics account manager Gary Weyman said up to four sleeves can now be used across on one cylinder with a minimum width of 300mm. 'This allows you to print four jobs at once,' Weyman said. 'It makes shorter run lengths commercially viable as you only have to make-ready once but can produce four jobs.'

Weyman added: 'We're also working to bring value to our customers, and are pushing ourselves as a consultancy organization where we'll work with converters to integrate viable solutions to their operations. People want to know what are the benefits they will get, and want integration to be as seamless as possible.'

Servicing the market

There was evidence too of steps being taken at a corporate level to innovate the market. The recently merged AGI-Shorewood is looking to evolve beyond its traditional core competences in the entertainment sector, where it produces packaging for a number of major TV and film studios, and move into other markets, such as beauty and personal care.

Sales director Anne-Marie Worden said: 'We're big in the entertainment sector but we're looking to broaden our horizons and broaden our customer base.'

Worden highlighted a new wine packaging concept, which uses an unfolding carton to reveal the bottle within, as an example of the work the combined company is doing to target new high-end markets. 'It's a very exciting time for the business.'

French company Leygatech was on the lookout for converting partners in the UK at Packaging Innovations. The company is a specialist in blown film extrusion and co-extrusion, including barrier and laminated film ranges for packaging applications. Chairman Thierry Bonnefoy said: 'We sell semi-finished products so are looking for a converting partner to finish the process. We already have similar relationship with converters in France, Spain, Belgium, the Netherlands, Slovakia, Hungary, Austria and Switzerland, so want to replicate that in other markets.'

And while sheet-fed press specialist Bobst was promoting a couple of its finishing machines, namely the ExpertFoil 104 FR and the Masterfold, regional sales manager Craig Moran said one of the company's main pushes was on its service operations.

'We're looking to expand our service operations both in the UK and globally. It's a major area of growth for Bobst and there's plenty of opportunity in the market to grow this side of our business.'



There are many innovations occurring in the field of flexibles



Split-it, from Benson Group, is designed to increase the recyclability of carton packaging

A woman with long dark hair is shown in profile, holding a large orange and black butterfly on her hand. She is in a natural setting with green foliage. The background is slightly blurred, focusing on the woman and the butterfly.

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Chesapeake has its head in the cloud over color



Pantone and X-Rite recently launched the PantoneLive cloud-based service to help brand owners achieve color consistency, reliability and accuracy. Carol Houghton looks at Chesapeake's experience of using the service.



Chesapeake previously stocked as many as 3,000 different inks in its Leicester, UK plant but thanks to PantoneLive now stores only 537

In 2010, one Chesapeake customer, a maker of an over-the-counter drug, had a complaint rate of 10 percent. Within one year of implementing PantoneLive, the customer's rejection rate dropped to zero. 'We reduced the color variation by 84 percent,' says Drennan.



PantoneLive is a cloud-based color service to help achieve color consistency, reliability and accuracy

Counterfeiting is a growing problem for the global supply chain, costing companies billions of dollars and putting consumers' health at risk. The World Health Organization (WHO) currently estimates 10 percent of all pharmaceuticals in the global supply chain are counterfeit – and this figure is rising.

Mike Cheetham, chief executive officer at Chesapeake, a global producer of consumer packaging says: 'With counterfeiting on the rise, it is more important for brands to safeguard product integrity and assure consumer confidence.'

Two-thirds of adults admit they question the quality of a product based on the color of its packaging. In addition, research shows that color is a key tool in helping consumers to distinguish a brand. Therefore, color consistency across a brand's packaging can help protect consumers from purchasing counterfeit products.

Chesapeake has 42 facilities worldwide and its pharmaceutical and healthcare division serves some of the world's leading pharmaceutical companies. It produces a range of packaging components for this sector including folding cartons, leaflets, labels and booklets.

In 2010, the company realized the differences within color when using flexo, litho and gravure on different substrates could be an opportunity for counterfeiters, and that any improvements using its current sheet-

fed litho processes would be beneficial. John Drennan, operations director at Chesapeake's Leicester, UK, facility explains: 'For pharmaceuticals, even the slightest variation in package color could make the product suspect. It is important to recognize the limitations of existing processes and the impact that it could have on consumer brands.'

'Our goal was to create a digital palette of all the ink colors we use in our printing. We wanted to build a set of data that would represent a given color and use that data to recreate the color exactly the same every time, regardless of substrate.'

PantoneLive held the answer, allowing the entire supply chain to manage and maintain color assets through a cloud-based service to communicate colors clearly anywhere in the world. Over the past 18 months, Chesapeake worked with the PantoneLive team to digitize every color Chesapeake uses. The software leverages Sun Chemical SmartColor technology and color data foundation, while color accuracy on proofing was delivered by the Esko Color Engine and FlexProof software. Color Engine spot ink profiling ensured the required accuracy was achieved and support for PantoneLive throughout the Esko software meant the digital color managed workflow was easily implemented.

By digitizing its palette, Chesapeake could produce an exact digital proof to test designs with customers and speed up the overall approval process before

printing. This also means it uses fewer raw materials as customer expectations are aligned before production. 'Digitizing the palette took the subjectivity out of the process. And the resulting color consistency exceeds the brand owners' expectations,' says Drennan. In addition, Chesapeake achieved a faster time to market cost effectively. The improved processes helped Chesapeake increase yield by five percent and reduce print production waste by 18 percent.

The company previously stocked as many as 3,000 different inks in its Leicester, UK plant but thanks to PantoneLive, now stores only 537 – without reducing color choices. In a recent study of its UK and Irish plants, Chesapeake found nearly 20,000 different ink references to color targets in analog format. Once digital targets are created with PantoneLive, it expects the ink inventory at these plants will be reduced by more than 60 percent.

PantoneLive allows accurate measure of the end result against a digital target, meaning the right color is achieved first time, saving time and money throughout the supply chain. The accepted industry standard for color deviation (dE) is around 4, Chesapeake is now achieving a 1.5dE and less than 1dE in some cases. So far, it has only been used on folded carton but Drennan expects it will eventually be used across all aspects of the business.



Safetyfirst

Food safety remains paramount to the inks and coatings market as it continues to evolve and develop new solutions, despite being at the whim of raw material prices. David Pittman reports

In an industry reliant on raw materials, supply and demand can have a big influence on the market. Chemical costs, for instance, have been through a period of flux and saw big names Flint Group and Sun Chemical introduce price increases as a result of rising raw material costs (as reported in PPW issue #1 2012).

Holger Elfes, speaking for Henkel's adhesive technologies business unit, says: 'The inks and coatings market has been strongly impacted owing to its direct dependency on oil prices. Ink and coating manufacturers tried to absorb as much as possible of the increased raw material costs but had to pass on several price increases to the market.'

Mike Impastato, Flint Group's vice president of strategic marketing for packaging and narrow web, says: 'Coming out of the 2008-09 recession we saw increased demand for a number of specialty chemicals used in inks and coatings which created shortages and corresponding price increases which began in late 2009.'

'During 2010 and 2011 we saw severe shortages with some materials being put on allocation. 2011 was marked as a year where some materials saw multiple price increases with little or no notice. Although some materials like titanium dioxide, nitrocellulose and violet pigment saw price increases in the 40-100 percent range, nearly all materials were impacted to some extent. These cost pressures have put a strain on customer relationships as the costs have been pushed through the supply chain at every level.'

Double trouble

'First, the recession dropped volumes across the board,' says Impastato. 'For years most industry experts had said packaging, and particularly food packaging, was nearly recession-proof. The operative word was nearly. Every segment was impacted by the recession, some more than others.'

'While it was true food packaging was impacted least, everyone took a hit on their volume. The result was many

companies scrambling to downsize overheads to match the lower demand and try to preserve what they could of margins. Then raw material cost escalated at an historic rate. The industry first tried to offset the raw material cost increases with other cost decreases but the magnitude of the increases overpowered the ability to offset them with other cost decreases.

'The only alternative left was price increases for inks and coatings. The price increase lagged the cost increases and in most cases did not recapture the full impact of the cost increase.'

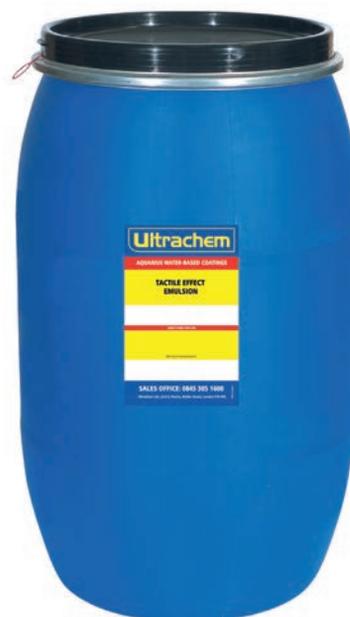
A spokesperson for Sun Chemical says: 'Titanium dioxide, used in the manufacture of white inks, experienced very steep price increases in 2011 and reached a level more than 50 percent higher than in early 2010, with costs continuing to rise. We expect to see continuing supply pressure of titanium dioxide and this will have a very significant impact on all printed flexible packaging.'

Gary Seward, managing director at narrow web ink specialist Pulse Roll Label Products, says titanium costs seem to be independent to the rest of the market, which has started to stabilize. 'As a smaller company, we've been hit by the rising costs, and had to react accordingly too. It has been a difficult time but it's starting to ease off and things are stabilizing, which is good for the market. 18 months ago it was torrid times.'

Food safety

Supply and demand pressures can also come from other areas of the market, and food packaging safety is an area of ongoing concern with the need to develop low-migration products key for many.

Impastato says: 'Some previously accepted practices and materials have been questioned after several well publicized contamination situations came to light. We have seen more legislative activity related to food packaging in the last couple of years than we had seen in the previous decade.'



'Governments have now legislated both positive and negative lists. And we are also seeing some global consumer product companies developing their own specific requirements related to acceptability of packaging materials. This is placing more responsibility on the package printer and the ink suppliers; each must be more knowledgeable and sophisticated in understanding and complying with these new requirements. Smaller suppliers with few resources will have a more difficult time in keeping current and providing products which meet the more detailed governmental and CPC requirements.'

The Sun Chemical spokesperson says: 'Food packaging safety remains a key issue in relation to folding cartons and flexible packaging, with interest growing rather than decreasing. We're seeing more companies, throughout the packaging production workflow, turning their attention to this area which is not only being driven by EU legislation, but also by media interest.'

'Sustainability also remains a focus across the industry. Narrow and mid web offset litho is increasingly being used as a viable option for printing flexible packaging, owing to the print quality, efficiency for shorter runs and very clear low migration specifications. To this end Sun Chemical introduced SunBeam ELM, the latest generation of lowest migration electron beam (EB) curable printing inks. SunBeam ELM inks are specially formulated to give low-migration performance when used appropriately for the production of packaging for food, liquid products and sensitive goods. And to support conventional printing, SunPak FSP, a sheet-fed offset ink system, was formulated to provide safety for folding carton food packaging converters. The ingredients are carefully selected and processed in our "white tile plant" [Sun Chemical's cleanroom processing environment in Frankfurt, Germany] for food packaging inks.'

Henkel is also concentrating on low-migration products with environmental credentials, according to Elfes, leading it to develop products such as MiraFoil LM, a liquid coating designed as an environmentally responsible and sustainable alternative to foil board laminating and hot foil stamping. MiraFoil coating is UV curable and can be applied to precise areas, reducing waste, improving quality and shortening lead times, Henkel claims.

Innovation

'Differentiation through innovation in terms of more sustainable products and technologies, and a strong focus on emerging countries/markets will be key to the future,' says Elfes, while the Sun spokesperson proclaims: 'Innovation is key. Providing

customers with innovative and cost effective solutions that help them differentiate and compete will drive success for both printer converters and ink manufacturers.'

Graham Newbury, head of UV at Ultrachem, a UK-based supplier of pre-press and pressroom consumables, says: 'We are receiving a lot more requests from our packaging customers, both in the UK and around the world, for that "special finish" when it comes to coatings, particularly aqueous. With their clients constantly on the look out for new innovations when it comes to packaging, special effect coatings are increasing in popularity.'

'This is especially the case with our customers across the Atlantic particularly in the healthcare and cosmetic packaging sectors. We developed our matt tactile effect coating over two years ago and North America is a very big market for this type of finish; our sales of this product have increased significantly as a result of this. We are now receiving enquiries for this type of product from other areas around the world, particularly India where the newspaper and packaging sectors are growing at an extraordinary rate.'

'Our UV ink range is another area where we have seen significant growth in our sales to the packaging sector around the world. Like coatings, UV inks are an area where our customers and prospects are constantly looking for innovations and support to enable them to offer their clients the products and service they require to compete in today's competitive and demanding packaging market.'

Impastato says: 'There are three essentials for success in the inks and coatings market. The first is long-term financial viability. Second, product performance is essential in our industry. The product must work and work well every time. Inks are a small cost relative to a printer's total costs, but the performance of the ink has a multiplying impact on the printer's total costs. It impacts waste, productivity, press output, and quality. And finally, critical mass is essential if you are going to be anything other than a niche player. To be successful as a large and meaningful supplier in the inks and coatings market you must have the critical mass to be able to source materials globally, have the geographic footprint to service national or global printers, have a broad and dynamic portfolio of products, have the resources in place to support new technological developments, and have the financial wherewithal to absorb fluctuations and changes which the market will face in the future.'

Sun Chemical says the upcoming German Ordinance, due to be implemented this year, is expected to become European Law within a relatively short period. 'This will be a very

significant consideration for all players in the food packaging development chain going forward,' says the company's spokesperson, while Elfes says: 'There will be increased demand from brand owners concerning food safety and carbon reduction because of increased regulatory focus and companies' own sustainability strategy and target setting.'

He adds that consolidation is likely to be a feature of the market in the near-term, a view shared by Impastato, who says: 'There is bound to be more consolidation, particularly in the developed countries. The increasing requirements around food safety legislation, the escalation of raw material costs, the availability of raw materials and the need for global sourcing, the development of new technology, support for sustainability programs, and the financial stability are all issues that make it difficult for smaller manufactures. I believe we will see fewer middle sized ink and coating companies in the future. The industry will have a few large companies which have broad geographic coverage and product portfolios, and many small niche players which cover very small or specialized parts of the industry. It will be very difficult for small suppliers, or start-up suppliers, to service the needs of flexible packaging and folding carton printers.'

As a smaller manufacturer in the market, Seward is bullish on the opportunities for Pulse going forward. 'If you've got a good product you create salesmen by having customers in the market. Clients often have manufacturing facilities around the world, and want to be using the same consumables throughout so they take your product into new markets for you. There's no better salesman as this will create trust in the market for your products, as long as they are consistent and you can deliver them.'

'The growth in short runs and the demand for packaging to be turned around faster means companies are ordering small amounts of ink on an almost daily basis, as opposed to large quantities once a month or at even bigger intervals. This means small manufacturers can compete as they can react to specific needs. Pulse is a smaller company, and we are close to our customers and more reactive for it. We all make inks in the same way, from the biggest to the smallest manufacturer, but being close to our customers means we can have a product being tested on a printer's machines by the time the salesman from one of the larger companies has written up a report.'

Seward says Pulse is slowly migrating from a small operation to a mid-tier supplier, although remaining distant from the scale of the likes of Sun Chemical and Flint Group. It recently upgraded its manufacturing facilities by moving to a 27,000 sq ft facility, five times the size of its former factory, which he says will set it apart from other small manufacturers in the field.

'We've got some great products, but we need to sell more,' Seward says. 'It's why we're increasing our production capabilities and infrastructure. Speed of reaction is important to us and our customer base, as is consistency, as customers don't want it right just once, they want it right over and over again.'

'It's a must to be reactive, innovative and consistent. If you hit all three, you'll do well.'

Impastato sees the future of the inks and coatings market lying away from specialized products, with growth in single formulations that can be used for numerous applications. 'All of these specials create more complexity, as well as administrative and management difficulties. The market, although still complex, wants products with broader operating windows that can be used on a larger number of constructions.'

'The ultimate is one product which could be used for all the applications a printer may have. We may not be quite to that point yet; but a great deal of progress is being made and new products are now available which can replace several older systems. This reduces costs in the reduction of material waste and press time.'



Sun Chemical is using its "white tile plant" to process food packaging inks



Food safety is another pressure bearing down on the inks and coatings market



Raw material price volatility has forced price increases across the inks and coatings market



Flint says product performance is essential to the modern inks industry



Chinese converters are accepting offset technology, particularly where the highest printing quality is required

Offset overhauls flexo in Chinese press sector



Offset is gaining in importance as a packaging print process amongst domestic Chinese press manufacturers. Kevin Liu reports

In the narrow web package printing sector in China, offset is one of the most popular printing processes.

Flexography is still having a difficult time establishing itself, while offset is recognized as offering excellent print quality, with an abundance of properly trained operators, easy access to inks and pressroom chemicals, and a widely installed base of locally manufactured and international sheet-fed offset presses.

While in Europe letterpress transitioned to flexo then UV flexo for narrow and mid web package printing applications, and offset has remained a relatively small part of the market; in China it is possible that offset will be the successor to letterpress and not flexo.

This tendency was demonstrated at the recent Labelexpo Asia exhibition held in Shanghai at the end of last year, when a host of Chinese companies launched new offset presses aimed at the package printing market.

A few years ago, Zhejiang Wei Gang Machinery Co., Ltd started to research a combination press technology that combined the intermittent components of letterpress with offset printing systems in order to produce an intermittent offset machine. Then another batch of companies followed, and gradually an offset printing trend developed. According to Zhou Yue, sales manager of Wei Gang, the company now has an installed base of over 200 machines.

At Labelexpo Asia 2011, Chinese manufacturers such as Zhejiang Wei Gang, Rui'An Zhong Tian, Weifang Donghang and Tangshan Wan Jie, all exhibited offset label machines they had developed and manufactured themselves.

Zhejiang Wei Gang and Rui'An Zhong Tian are established manufacturers of label and package printing machines and thoroughly understand the complexities of web handling and heat control necessary for processing different substrates.

Weifang Dong Hang is a mass-market manufacturer of sheet-fed offset presses. At the same time, the company has developed an expertise in flexo press production, and

believes its future core competitiveness lies in the capability of integrating offset and flexo technologies – although the combination presses now being developed will emphasize offset as the lead process.

So confident is Weifang of its technology, the company has invested in a major new production plant and is currently setting up a European distribution and sales operation under the direction of Richard McGuire, who established the European operation for Kopack in the 1980s.

The Weifang offset press shown at Drupa will be the intermittent DH model, built with Rexroth servo motors and equipped with top of the line BST inspection equipment for high-accuracy print register. This press has been designed to meet the demands of the short to medium run market, with fast make-ready times. It is equipped with a continuous dampening system with an auxiliary rolling bridge to enhance print definition and automatic register control. The press can add a flexo varnish station, cold foiling unit, overlaminating station and sheeting station with belt stacker or conveyor system.

Tangshan Wanjie is another important manufacturer of web offset presses. According to the company's managing director, Japanese experts were brought over during the research and production phase of its latest web offset press to provide the core manufacturing skills. This also explains why this company's offset presses are amongst the most advanced in China.

From conversations with label and package printing enterprises, domestic converters nowadays universally accept offset technology, particularly where the highest printing quality is required. Key application areas include package printing where skin tones or photorealistic images are required.

In order to be able to print and convert film materials, Chinese offset presses are generally adopting UV curing technology.

While digital and flexo continue to grow, offset is delivering particular advantages, which mean it is likely to keep a toehold in the Chinese package printing market for some time to come.

Improving plastic film adhesion with corona

The problem with writing or printing on plastic films is well known; you have a plastic bag and you would like to write on it with a pen but the ink doesn't stick since untreated plastic has a structure that makes it impossible owing to poor adhesion. Corona treatment is the solution, writes Vetaphone sales manager Jan Eisby.



Vetaphone founder Verner Eisby

Whether a liquid wets a material well or poorly depends primarily on the chemical nature of both the liquid and the substrate.

Wetting is defined as the ratio between the surface energies of the liquid and substrate. In general, the following rule is true: a material will be wetted if its surface energy (dyne/cm) is higher than the surface energy of the liquid. If not, there will be an adhesion problem.

Avoiding adhesion problems

The pre-treatment offered by corona is necessary to obtain sufficient wetting and adhesion on plastic films or metallic foils before printing, laminating or coating, with a corona discharge unit the solution to optimize wetting and adhesion. This corona technique has proved to be highly effective, cost-effective and able to take place in-line.

Plastic is a man-made synthetic material, which contains long homogeneous molecular chains that form a strong and uniform product. The chains of molecules are normally joined end-to-end forming even longer chains, leaving only a few open chain ends, thus providing a small amount of bonding points at the surface. The small amount of bonding points cause the undesirable low adhesion and wettability characteristics, which is a problem in converting processes. When Verner Eisby, a Danish engineer and founder of Vetaphone, was asked about a solution to this problem, he came up with the theory that a high-frequency charge would provide both a more efficient and controllable method of increasing the adhesion and wettability of a plastic surface.

During corona discharge treatment, electrons are accelerated into the surface of the plastic causing the long chains to rupture, producing a multiplicity of open ends and free valences to aid adhesion.

The ozone from the electrical discharge creates an oxygenation, which in turn forms new carbonyl groups with a higher surface energy. The result is an improvement of the chemical connection (dyne/cm) between the molecules in the



Corona treatment creates more bonding points allowing plastic films to be wetted and printed more easily



An early corona treater from Danish firm Vetaphone, which celebrated its 60th birthday in 2011

plastic and the applied media/liquid. This surface treatment will not reduce or change the strength. Neither will it change the appearance of the material so not causing . The corona only changes the top molecule chain, which is 0.00001 micron thick.

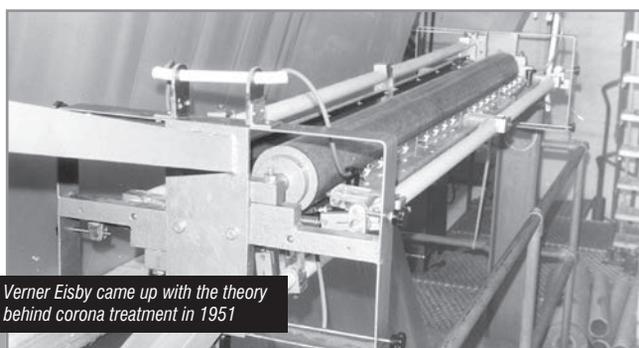
Determining treatment levels

The effectiveness of the corona treatment depends on the specific material being used. Different materials have different characteristics and different amounts of slip and additives, which will determine the effect of the corona treatment. There are no limits with regard to the materials that can be corona treated. However, the required intensity of the treatment (watt/min/m²) may vary significantly. The treatment level can be calculated by using the following formula: $P = T \times S \times W \times M$, where P is the total power (watt) required, T is the number of sides to treat, S is the line speed in m/min, W is the film width in meters and M is the material factor, or required watt per m² per minute.

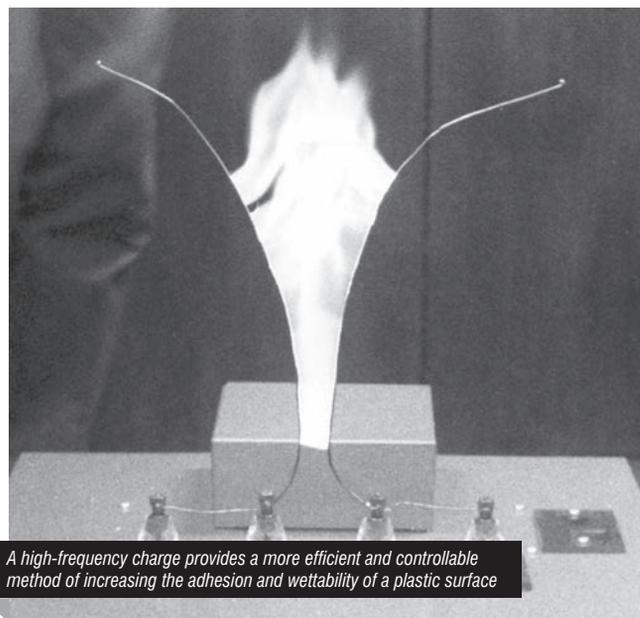
The exact value is best determined by testing a sample of the actual film that is used for a specific application.

Automatic power regulation

Power regulation is required to ensure even treatment of all the material, regardless of the speed or width of the film to be treated. For example, Vetaphone’s own Corona-Plus treaters are equipped with an automatic power regulation system that, when the required treatment level (watt/min/m²) has been determined, will automatically regulate the power needed so



Verner Eisby came up with the theory behind corona treatment in 1951



A high-frequency charge provides a more efficient and controllable method of increasing the adhesion and wettability of a plastic surface

the film is influenced by the same energy regardless of the speed or the width of the film.

Durability

Over time the obtained dyne level will decrease and it can be necessary to corona treat the material again just before use. When a material contains slip, the dyne level will fall faster, as it will for thicker and older film stocks which are more difficult to treat as slip agents may have migrated to the surface. Also, storage conditions and temperatures can affect the decay of the corona treatment.

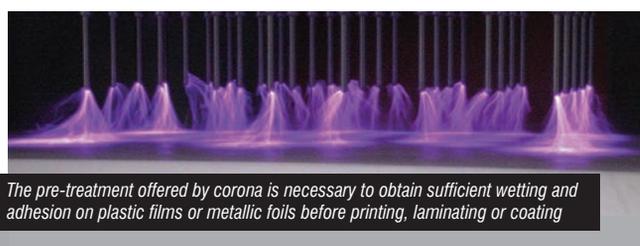
Generally speaking, the more difficult a material is to treat the quicker it is likely to decay. It has been established that films with very high slip additives (over 1,200 parts per million) can be totally resistant to printing just 24 hours after treatment, and it may be necessary to process the film immediately following treatment, or place the treatment in-line with the printer.

Material which has not been treated under extrusion can be difficult to treat afterwards. Therefore it is recommended to treat film just after extrusion, and then use a refresh treatment just before the liquid/media is applied to the surface.

Maintenance

It is important that corona systems are maintained properly in order to preserve the same effect of the treatment, and thereby obtain the desired dyne level. The maintenance will create down time in production, but there are solutions available to minimize this.

Vetaphone offers the quick change (QC) cartridge system, which will minimize set-up time of electrodes and maintenance. The complete corona electrode is mounted in a specially designed pull-out/push-in cartridge.



The pre-treatment offered by corona is necessary to obtain sufficient wetting and adhesion on plastic films or metallic foils before printing, laminating or coating



Sherwood invests in sustainable production



When Nottingham-based Sherwood Press, traditionally known as a greetings card manufacturer, invested heavily in new technology for sustainable package printing, Nick Coombes met up with CEO Jeremy Bacon to find out why.

For Nottingham-based Sherwood Press, the packaging market will provide the company with long-term growth opportunities.

The company has traditionally been a supplier into more commercial printing markets, such as greeting cards, but, as says chief executive officer Jeremy Bacon, was looking for new areas to expand into.

'We have always been a diverse supplier, and with the greetings card market now mature and largely stagnant, we recognize printed packaging as a sector that offers us growth and long term development,' he says.

'But we were determined not to be a "me too" supplier, and decided to be pro-active in our approach to the environment and sustainable production techniques.'

With almost 40 percent of its business now in printed packaging, Sherwood Press decided to focus on key areas, which it identified as food and cosmetics. Says Bacon: 'We singled out these two markets because, especially in food packaging, we see a move away from UV varnished products for environmental reasons. At the same time, we identified a clear divide developing between high added-value cartons and the more basic products.'

Environmental approach

For a long time, Sherwood has believed in delivering a highly environmental service to all of its customers, with recycling and biodegradable products at the top of the agenda. 'We are so committed to this now that, unless instructed otherwise by our customers, we automatically produce all our work on material from sustainable sources, and we are finding this especially important in the market for printed packaging,' he says.

In expanding the company's packaging division, Sherwood

is concentrating on the high-value, quality end of the market – food-to-go, cosmetics and high-end garment markets. These can variously utilize intricate die-cuts, metallic boards and foil – all of which the company is equipped to deliver, because of its long-established greetings card operation. 'We were recently awarded the BRC/IOP Global Standard for Litho Printed Packaging and Packaging Materials, and we already hold FSC and PEFC accreditation,' Bacon adds proudly.

Sherwood Press has its own creative arm, Eden Design and Creation, and its managing director, Neil Walker, is clear about the role his company needs to play in Sherwood's environmental strategy: 'All divisions of The Sherwood Press Group engage in a highly pro-active approach to environmental savings. We have developed our own customer focused 7-Waste Master class, which encompasses recommendations for material savings through innovative 2D- and 3D-print product designs, researched and created by our in-house design department – that's an aspect which our clients truly appreciate.'

As a member of the Sherwood team, Walker emphasizes the importance of waste reduction on the factory floor, stating that the company constantly reviews its environmental responses, and these include analyzing the less obvious aspects and making focused investments wherever an opportunity presents itself. 'For example,' he says, 'we found that by installing a Technotrans centralized ink system, we have not only been able to improve production efficiency, but also reduce ink container plastic waste by over 80 percent.'

The company is also proud of its initiative in best practice for low-migration printing of food packaging, which includes using only food grade certified boards, vegetable-based inks and low-migration chemicals, and an alcohol-free printing process.



Sherwood is concentrating on high-value, quality packaging for the food-to-go, cosmetics and high-end garment markets



Sherwood Press has installed a Komori Lithrone S640 press with coater for the packaging production

‘Since we installed our automated paper reclamation system, we have reduced materials going to landfill by 80 percent too,’ says Walker. Couple this with the strategic plan Sherwood has developed with its transport partner, which has optimized routes and reduced road miles by 62,500 (100,000km) and fuel consumption by 3,946 gallons (17,000 liters) in its first year, and you can appreciate the company’s commitment to environmental care.

New technology

With “green” productivity in mind, Sherwood has recently installed a new sheet-fed offset press. The choice of a Komori Lithrone S640 with coater, which is dedicated to environmental packaging production, was, according to Jeremy Bacon, made on the back of experience with an existing Lithrone S40. ‘The on-press efficiencies of the Komori reduce waste. First, through its KHS-AI fast start up system, and second through its automation, which also saves time and labor. It also has the ability to print alcohol-free, which the Komorimatic damping system allows us to do on all jobs.’

Highly rated for its consistent production of quality cartons printed with conventional low-migration soya-based inks, Walker says: ‘The increase in overall flexibility of the new Komori means we are able to capitalize on the strengths of our design team and the capacities of our other recent investments.’ These include a Kodak Magnus 800 CtP system, a Heidelberg Diana folder gluer, and the Iberica J105 Varioplan die cutter.

Although Sherwood could be described as a Komori house, with other Komori presses being the mainstay of its greetings card production line in the UK, it conducted a thorough investigation of all leading press manufacturers’ technology before choosing the latest Lithrone. Sherwood’s managing director Graham Garrod says: ‘The latest Lithrone offers value-for-money technology – some aimed at stepping up production flexibility, and others, such as KHS-AI, at

increasing operational ease, saving time and reducing waste.’

In the months since installation, Sherwood’s new Lithrone has lived up to Komori’s claims for the benefits of the AI interface. The new press has already reduced downtime by almost 30 percent, and the long-term objective is to take this to 50 percent. To date, the company claims the new press has increased productivity by 35 percent.

Identifying the reasons for this improvement, Garrod says: ‘Our operators are comfortable with the new PDC-SII closed loop color control, which is noticeably quick and user-friendly, the ability to run most stocks easily means we are seeing 30 to 50 percent faster running speeds, even with difficult solids.’

Environmental branding

Sherwood’s commitment to packaging is underlined by its pro-active marketing in this sector. It recently ran the first of its own series of packaging seminars, and with the emphasis on environmental products, the company has developed and registered eco-brands, Sustain and Pura with the UK’s Intellectual Property Office.

Sustain is Sherwood’s overriding environmental brand, covering all its sustainable print solutions. Pura, a sub-brand of Sustain, is focused on the packaging industry and combines a patented aqueous barrier coating technology with innovative constructional design to minimize waste and optimize material usage. Pura’s moisture-resistant properties make it an eco-friendly alternative to PE coated board, and ideal for food-to-go products such as sandwich boxes. Currently, the company is working closely with the Soil Association on a plan to make Pura biodegrade in eight weeks.

Innovation is a by-word at Sherwood, where the drive for optimization and minimalization are the “holy grail”. Bacon says: ‘We fully recognize the differences between the greetings card market and the packaging market – where the carton

augments rather than intrinsically sells the product, but in production terms, we have the necessary experience and equipment for this.

‘With the new Komori press and our own environmentally focused brands, along with the sales and manufacturing thrust from our operations in Sri Lanka, Turkey and now in China, we anticipate continued strong year-on-year growth in the carton field for the foreseeable future.’

New ventures

The Hong Kong operation specializes in gift packaging and has just moved into manufacturing from print management. To date it has specialized in natural fiber products, but is now addressing the growing market demand for plastics and tin products. Bacon’s belief is to look at the overall carbon footprint question. ‘Why not produce the packaging where the goods are manufactured – if you work with trusted suppliers this makes so much sense and everyone benefits, including the planet.’

The move from greetings card to packaging production has given Sherwood an excellent opportunity to establish its green credentials.



Sherwood carton stacks awaiting die cutting

Peru sees packaging growth



Peru has enjoyed South America's highest GDP growth in recent years, and the country's packaging sector has been reaping the benefits. James Quirk speaks to Juan Pablo Patiño, manroland Latina's general manager, about the local market.

Peru has been one of Latin America's recent success stories, seeing rapid GDP growth over the past few years thanks to a booming export market and free trade agreements within South America and, more recently, with the US

According to data from The World Bank, the country's GDP growth peaked at 9.8 percent for 2008, while the figures for 2010 (8.78 percent) and 2011 (6.92 percent) were also impressive. 2012 is forecast to see 5.5 percent growth.

Peru's rapid export market growth has been facilitated by free trade agreements between regional trade blocs CAN (which brings together the Andean countries of Bolivia, Colombia, Ecuador and Peru) and Mercosur (made up of the Southern Cone nations of Argentina, Brazil, Paraguay and Uruguay) in 2004; and between Peru and the US in 2009.

Unsurprisingly, Peru's packaging and labeling markets are reaping the benefits of the increasing quantities of products being packaged locally and then exported. The country has seen a surge in installations of high-quality printing and converting machinery.

One such manufacturer that has witnessed this recent shift in the Peruvian market is manroland Latina, which set up an operation in Lima, the country's capital, three years ago following the break-up of its distribution relationship

with Ferrostaal. Since 2010, manroland Latina has also represented Danish label press manufacturer Nilpeter in Peru, and as such has been well positioned to take advantage of the growth in the local packaging and labeling markets. Further representation deals are in place for the country with Lamina System, a Sweden-based manufacturer of sheet-to-sheet laminating, folding and gluing equipment, and Brausse, a supplier of die cutting and creasing machinery headquartered in Canada.

According to Juan Pablo Patiño, manroland Latina's general manager, the company has installed three manroland sheet-fed machines for packaging in the last six months, and aims to complete four installations of Nilpeter label presses by the end of the first quarter of 2012.

Patiño sees a shift in the profile of the clients and in the technical specifications of the machines being installed, reflective of the market's increasing capacity and quality requirements and of the number of companies moving into the sector for the first time.

'In Peru, many printing companies working in the commercial or editorial sectors are moving into the labeling and packaging market – be it flexible or rigid – where nowadays there is much more potential for growth,' he says.

One of the recent installations is at

Indupack, which last year installed its second manroland machine, a Roland 204 sheet-fed offset press with a 52 x 74cm sheet size, dedicated to carton printing. The addition of the new machine has helped the company to double its production – which is dedicated to mass-consumption products headed for export such as tea and alcoholic beverage Pisco – and forced a move to larger premises.

When the partnership with Nilpeter was signed in 2010, there were two of the Danish press manufacturer's machines in Peru. Over the next few months that figure will rise to six, with four installations currently underway.

'Rotary offset for form printing and flexo for label production are very different technologies, but the continuous forms industry is losing ground and the company was attracted by the growth in the labeling and packaging sector,' says Patiño.

Peru is seeing two major trends in the packaging and labeling sector, according to Patiño – the increasing desire for value-added products using features such as varnishing and foiling; and a move towards shorter runs with ever more product variation.

'Between manroland and Nilpeter, we have ranges of machines that can cater to both these trends,' says Patiño. 'For example, even commodity products are increasingly looking for added value. And while gravure technology was widely used for long runs of these types of products, now flexo can offer this added value and allows for a gravure unit to be added as well.'

The insolvency of manroland's European headquarters towards the end of last year has had 'little effect' on Patiño's Peruvian customer base. 'We had more time to prepare,' he says, 'as the knock-on effect took a while to reach us. In the end, the splitting of the divisions [into manroland sheetfed and manroland web systems in early 2012] has allowed an increased focus on specific product lines, so this could be a positive move.'



manroland is seeing an increase in installations of its sheet-fed offset packaging presses in Peru

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The secret of matching flexo to offset



Nick Coombes questions Sonia Arcos, sales director at UK-based Cheshire Anilox Technology, on the development of laser engraved ceramic anilox rolls, and the part they have played in changing the long-held perception that flexo is not a quality print process.

NICK COOMBES (NC): What are the problems facing flexo converters and how can the latest anilox technology help them?

SONIA ARCOS (SA): I believe there are four key challenges facing package printers today: a highly competitive consumer environment; an increasing requirement for creativity in package design; high petroleum costs that are forcing converters to focus on alternative material sources; and the impact this has on the resolution and image quality achievable by the flexo process. If they want to match the print quality of offset, then a laser engraved ceramic anilox roll is the tool they need to lead the way.

Only a few years ago, no one would have even considered the possibility of flexo presses running anilox rolls with 1,200lpi, but today it is very common. A new generation of improvements is on the horizon for flexo printers, with no boundaries on the technical advancements. Understanding these new developments in anilox technology will allow today's designers to improve the quality of their products and create more innovative packaging.

NC: What part does the anilox play in the new high-definition flexo printing?

SA: Innovations in all press components continue to raise the bar in flexo printing, allowing converters to match or exceed the print quality of offset. For example, HD plates are used with high pigment, fast-drying inks, and high-release ultra fine anilox rollers. HD flexo needs very fine plates to be used in conjunction with extremely fine anilox rollers to avoid dot bridging.

New advancements in coating technology are helping with this, along with the new generation of lasers that make it possible to manufacture such ultra-fine engravings consistently, where porosity is reduced to less than one percent.

At high line-counts the volumetric capacity of the anilox is considerably reduced, making it more difficult to achieve the desired color density. To deliver the required amount of ink, and eliminate the chance of dot dipping when using dot sizes of 8-10 microns, we need to produce a fine cell structure that offers a greater ink release than the standard 60-degree

configuration.

At Cheshire, we have developed a new engraving called Proflo specifically for ultra-fine screen specifications. It has an improved cell profile that provides a more consistent ink lay-down, and eliminates the risk of uncontrolled dot gain. This high-release cell offers as much as 15 percent additional ink, compared with conventional engravings, enabling an anilox manufacturer to produce finer rolls that will deliver the required color densities at extremely fine line counts.

This unique cell profile now allows printers to work with the expanded tonal range of offset and gravure printing techniques to produce vibrant colors and high contrast images for greater shelf impact.

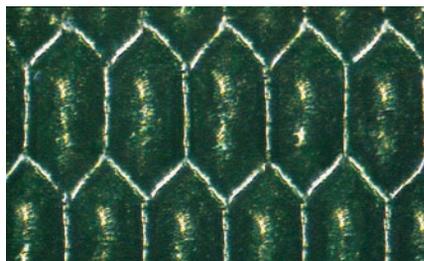
NC: So, what are the main advantages of the new type of anilox rolls – what can they do that a conventional anilox cannot?

SA: For many years, the industry standard cell configuration has been 60 degrees, but new developments in laser technology allow today's anilox manufacturers to produce improved cell shapes that offer more efficient ink-to-plate transfer.

The standard 60-degree engraving pattern has a honeycombed structure that offers good uniformity, but, owing to its conical profile, releases only 60 percent of its total volume. Problems occur when the unused ink congeals or dries, causing plugging in the anilox cells. To combat this, we have developed a cell structure that lends itself to better ink release. We call it Maxflo.

By stretching the cell shape, the laser no longer focuses at its base creating a conical effect. Now, we have a boat-like cell with a wider bottom that retains only 10 percent of its volume. This means we have 20-30 percent more coat weight, which allows us to deliver the color density of a conventional anilox, but using one with a much higher line count and that, in turn, increases print resolution.

But what makes this engraving so special is its ability to print solids and screen with one single anilox. This fine, high-release engraving, offers better ink distribution to the plate by delivering the correct amount of ink to each area, and achieving denser



and richer solids, and clean vignettes. With Maxflo, it's no longer necessary to use two or more stations to print solids, halftones and line work. This means you need fewer anilox rolls to print a wider variety of jobs, which reduces your make-ready and maintenance downtime, and lowers ink consumption.

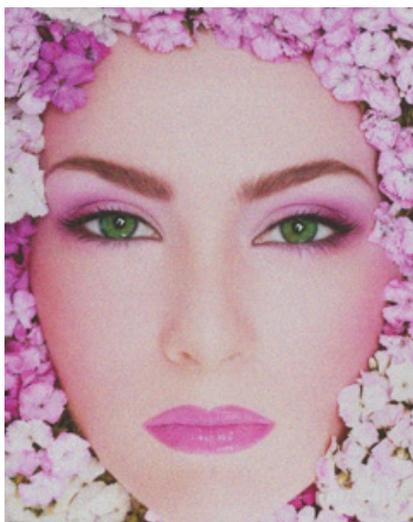
The cleaning characteristics of Maxflo are also superior to conventional engravings as there are no deep or narrow cell bottoms to trap ink or coatings, which makes cleaning easier and faster, and extends the lifespan of the anilox.

NC: What other useful techniques do these new anilox rolls offer?

SA: Printing a high opaque white is a common challenge facing today's flexo converters. But recent developments in narrow web ink, plate and anilox technology allow flexo to achieve the opacity of rotary screen whites.

Easyflo HD is designed to mimic the opacity of screen whites on film in one single pass. To achieve opacity levels above 80 percent, you need a high volume of ink, and this is what unique engraving technology offers – improved ink flow. Because it distributes high volumes of ink efficiently, you get an outstanding uniformity of coverage, which increases the opacity, and eliminates mottling and pin holing.

If you combine this with low viscous, fast curing, highly pigmented inks, and hard capped plates, Easyflo HD can hit



Standard Flexo

opacity levels of 85 percent in one single pass at speeds of 50-60m/min.

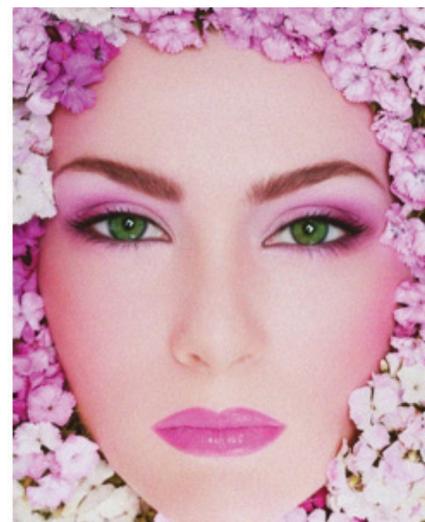
NC: UV spitting is a problem frequently faced by narrow web printers – how does your new type of anilox cope with this?

SA: UV inks transfer differently on the press because they have a higher viscosity of around five to seven times that of water- and solvent-based inks. Because UV ink is thicker, it creates a build up of pressure behind the doctor blade, and with conventional 60-degree screens the only way to release this pressure is an involuntary lift of the blade, which results in spitting.

Easyflo is a channeled 30-degree engraving, which improves the ink flow by allowing it to move from cell to cell as the roller is spinning. This reduces the pressure build-up and eliminates the spitting. We have been using this screen to eliminate UV spitting for more than 12 years and it works really well.

NC: Where do you see anilox technology going from here?

SA: Wear and tear is an issue that needs



HD Flexo

to be addressed. Further technical developments in laser technology will allow us to make use of highly durable carbide coatings. These will offer extreme ink release properties and lasting color consistency.

New developments in construction design will allow us to adjust the coat weight or ink transferability of the anilox, without changing screen parameters, and this will reduce downtimes considerably. Ultra-fine line count aniloxes of, say, 2,000lpi or more, with outstanding ink release properties will keep pushing the boundaries of flexo printing. New chemicals that instantly remove dried ink from cells and prevent its formation will allow for quick maintenance and longer print runs.

There are so many things that will move the game on. Our technicians are constantly working to develop unique engravings that will help our customers expand their businesses by creating innovative and striking packaging solutions. It's an ongoing process.

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Package printing today a snapshot of trends and opportunities

Mike Fairley summarizes some of the key findings of the recent Package Print Worldwide Survey and highlights key trends and opportunities identified by global package printers.

Look at all the package printing related articles appearing in the media today, or read the multitude of press and news releases being sent out to magazines, websites and companies, or even visit some of the key printing and packaging shows, and it soon becomes apparent that the world of package printing is undergoing some quite significant changes. The forthcoming Drupa print show in Dusseldorf will undoubtedly bring even more new launches and solutions.

Press technology is undoubtedly changing as run lengths of folding cartons or flexible packaging come down. Quick changeover presses, shorter web path machines, digital printing, combinations of printing processes, cold foiling, LED-curing, etc. are all coming to the fore as buyers are looking to different, quick response, just-in-time sourcing.

The environment, sustainability and waste reduction are also high on the buyers agenda as they look to reduce packaging, use more sustainable materials, compare the carbon footprint of different types of printed packaging, reduce and eventually eliminate waste to landfill and generally be seen to be 'Greener' in their whole manufacturing and supply operations.

Improved color management and brand color control have become paramount. The use of ever-more sophisticated Management Information Systems (MIS) and workflow processes are increasingly seen to be essential management tools. Virtual imaging of packs on shelves and in comparison with competitive products are also starting to make an impact, while developments are taking place in software to instantly compare carbon footprints.

Certainly there can be few in the packaging printing supply chain that are not aware of the many changes now taking place. Whether it is the printing of folding cartons, flexible packaging, sleeves, sachets, pouches, or other high quality, short- to medium-run, consumer printed packaging, then the materials,

technology, products and applications are in the process of going through some evolutionary changes.

But how much does the industry really know about the changes taking place? How are they reacting to the changes? How are package printing business adapting to new buyer requirements and demands?
It was to try

and establish a more accurate picture of all these trends and developments that Package Print Worldwide set out to undertake a comprehensive survey of its readership, sending out during February a detailed electronic questionnaire through the global www.packprintworld.com database. A summary of some of the key findings from this survey are set out below.

Types of package printing produced

To obtain a more accurate picture of what types of printed packaging readers of PPW produce they were asked to identify and tick all the relevant products they produced. Folding cartons and flexible packaging were the two dominant applications, but with products such as pouches, tubes, sachets and sleeves also well represented. This can be seen in the following chart. Some companies produce more than one type of printed packaging.

A number of the companies surveyed also produced other types of printed products, including commercial printing, tickets or tags, wrap-around labels, glue-applied labels or self-adhesive labels.

Printing processes used

A wide range of printing processes, or combinations of processes, are used in the package printing industry. Pretty well every printing process was represented in the companies surveyed, with flexo and UV flexo showing up as the dominant processes. Foiling appears to be a well-used process for adding value to printed packaging, while there is still a fairly considerable usage of letterpress printing. However, digital printing is already beginning to have a significant presence.

The analysis results of the survey responses in terms of processes used can be seen below. Note, again, that many companies tend to use more than one printing process in their operations.

Figure 1 Types of package printing produced

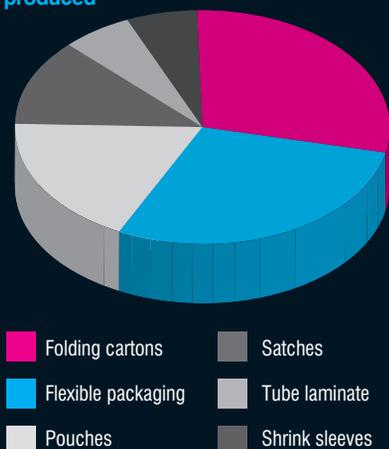
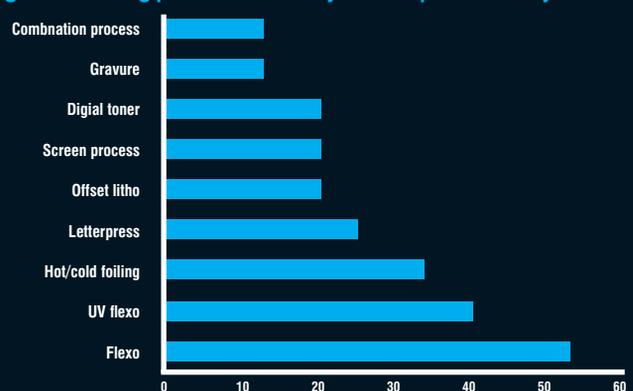


Figure 2. Printing processes used by the companies surveyed



In terms of the printing presses used these were found to be a mix of sheet-fed and web-fed, with the most common web-fed

machines being web widths above 800mm/32 inches, or below 500mm/20 inches. Only a small percentage of machines were mid-web presses.

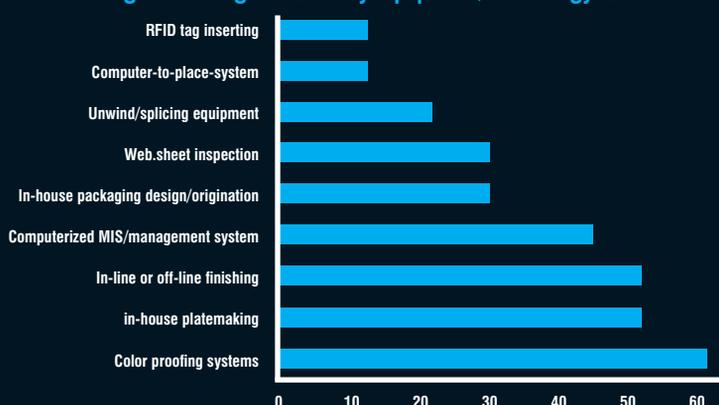
Use of ancillary equipment/technology

Package printing today is much more than just about investing in the latest printing presses. It's just as much to do with being in control of origination, platemaking, MIS, proofing, inspection and finishing – having all the elements in-house to maximise performance, quality, consistency, color and production and delivery schedules. It was therefore not undurprising to find companies in the survey having a wide range of equipment, technology and systems in house, or in-group.

Over 60 per cent of those surveyed claimed to have color proofing in house; over 50 per cent with their own in-hiuse platemaking; a similar number with their own finishing; close to 50 per cent with some form of computerized management/MIS system. The complexities of a modern folding carton or flexible packaging plant are growing all the time.

The chart below shows how those surveyed were using the latest production and technology aids. Most companies have more than one, so numbers will not be seen to add up to 100 per cent

Figure 3. Usage of ancillary equipment/technology and solutions



End-use markets that printed packaging is produced for

High quality, short-to-medium-run, consumer printed packaging is found in a wide and diverse range of applications, with both branded and 'Own Label' products being produced. The dominant end-use application for those surveyed was in the food/supermarket sector. With the major global supermarkets such as Walmart, Aldi, Tesco, Royal Ahold and Metro now being some of the largest global buyers of printed packaging it is perhaps not surprising that food/supermarket products should be the largest sector served.

Next in the survey came healthcare/pharmaceutical printed packaging, with over 70 per cent of respondents producing for this specialist market. Consumer products, industrial products, cosmetics/toiletries, drinks/beverages, confectionary and electrical/electronics goods were also well served.

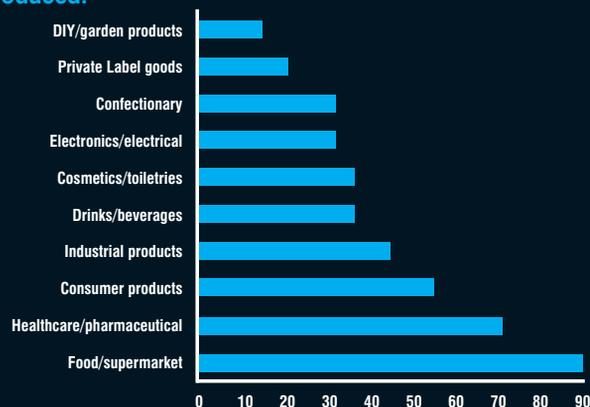
The detailed response to the question on end-user sectors served can be seen in Figure 4.

Barriers to growth

One of the key questions asked in the survey of those producing printed packaging was for them to indicate what they saw as the main barriers to the future growth of their company. Two particular areas stood out in the responses: downward pressure on prices, and completion from other package printers/converters. It would seem likely that there is a good correlation between these two. If you face competition from competitors then you may be tempted to cut prices.

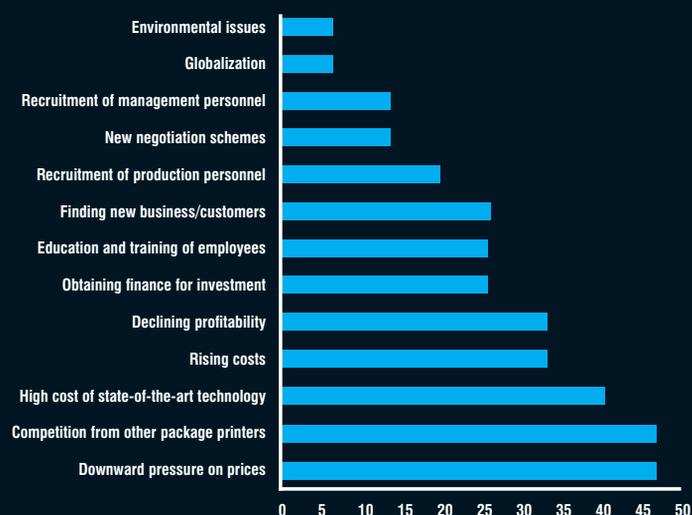
The high costs involved in purchasing the latest state-of-the-art technology were also highlighted. Rising costs, declining profitability, obtaining finance for investment, the education and training of employees and finding new business/

Figure 4. Main end-user sectors for which printed packaging is produced.



customers were also listed. Only a relatively few indicated that environmental issues were a barrier to growth. The full list is shown in the table below. Respondees were able to tick up to 4 of the barrier items listed.

Figure 5. Main barriers to future growth



Main opportunities for product line diversification and growth

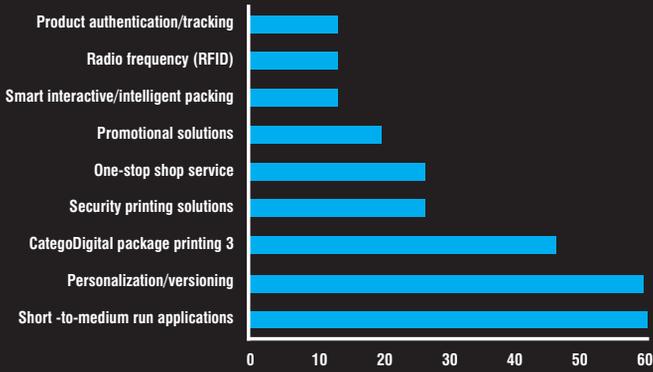
Deciding where and how to grow a package printing business, where there are new opportunities for growth and where to invest, are some of the key challenges faced by today's managers. Perhaps key advice is to follow the demands and requirements of the major brand owners and retail groups. They largely drive demand today and highlight where the opportunities and requirements are to be found.

The two main opportunities for growth highlighted in the survey are to target short-to-medium run applications and to look for applications where personalization, customization, variations and versions are needed. Such possibilities also tend to point in the direction of moving towards or investing in greater use of digital package printing.

While there has been much talk in the recent past about smart, smart active and smart intelligent packaging, such developments do not yet seem to be seen as a major opportunity for diversification, growth or investment.

Brand protection, security printing, promotional solutions and the development of a one-stop shop service for not only printed packaging but also labels, pack leaflets, tags, etc, were also mentioned in the responses. These can be seen in the following table. Respondents were given the opportunity to tick all appropriate headings.

Figure 6. Main opportunities for product line diversification and growth



Future investment plans

With the world’s largest print show soon to take place in Dusseldorf the PPW Survey set out to gain a better understanding of where and how package printing companies might be looking to invest in new presses over the next one-to-two years.

As can be seen in the charts below, 60 per cent are looking to invest in the current year, and a massive near 85 per cent within the next 12 to 24 months. On that basis, Drupa could prove to be a very successful show for many exhibitors.

When asked to indicate what type of press the company will be looking to invest in when it makes its next investment decision more than 60 per cent said that would be looking at a digital rather than a conventional analogue press. This is shown in the chart below.

What does the package printing industry need to stimulate future growth?

While a near 85% of package printing companies indicated that they will be looking to invest in a new press or other capital equipment within the next two years, they still feel that it is a difficult time for them to grow their businesses. To find out what they felt would help to stimulate future industry growth the PPW Survey asked them to indicate what the industry needed or what they would like to see happen.

Better end-user market information and information on global package printing industry developments were seen as the two main areas which would aid future growth and investment, but there were a wide range of other areas that it was felt would be of value. A detailed list of the key areas highlighted is shown in the table to the right.

Survey participants

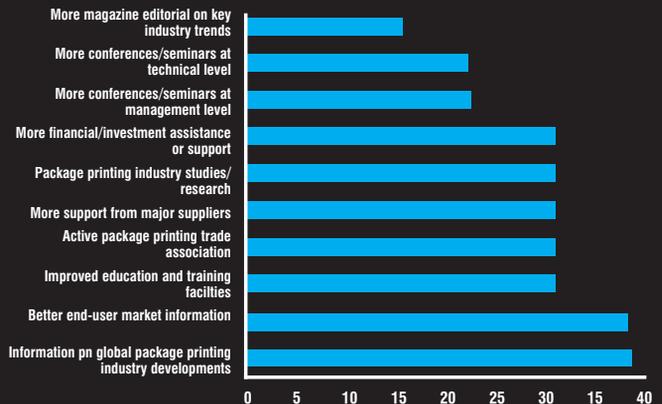
To understand more about who completed the Survey questionnaire responses, the respondents were asked to

indicate their job title. Two thirds of those completing the Survey said they were either the President/Managing Director or Owner. The remainder were a mix of sales, production, marketing or financial management personnel.

In terms of age, 42 per cent were in the 41 to 50 age bracket; 33 per cent between 51 and 60; 17 per cent were over 60 and 8 per cent were under the age of 40.

Between them, respondents were from some 20 countries and are believed to represent a fair global representation. Companies participating represented all sizes of business. One quarter had between 25 and 50 employees; 21 per cent had between 101 and 250; a similar number had more than 250 employees; 18 per cent had between 10 and 25 employees. The remainder were less than 10 employees.

More than one-third of the companies surveyed reported their percentage sales growth last year as between 5 and 10 per cent; 23 per cent between 10 and 15 per cent growth; a similar number were under 5 per cent growth. Interestingly, some 11 per cent achieved growth of between 15 and 20 per cent. 8 per cent achieved over 20 per cent growth.

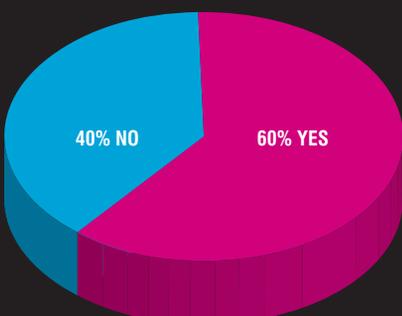


Conclusions

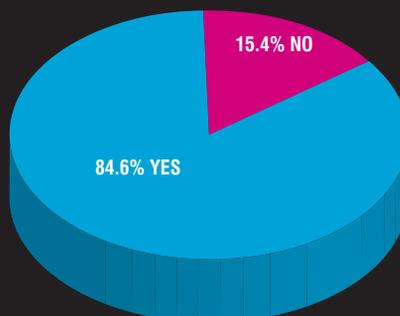
Although the package printing industry would like to see more being done to help with future growth and investment the PPW Survey indicates that most are achieving reasonable growth, are looking to invest in a new press or other capital equipment in the coming years, are looking to diversify their business – and see digital printing as a key area for future investment.

More results from the Survey will appear in other articles in this and subsequent issues of the magazine. In particular a more detailed look at digital printing – today and tomorrow – as well as the findings from the Survey questions relating to what package printers are doing in terms of the environment and sustainability.

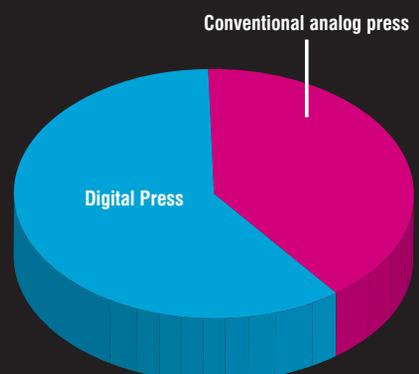
Intention to invest in new press or other capital equipment in the next 12 months



Intention to invest in new press or other capital equipment in the next 12-24 months



Digital or conventional – which technology will the market look to invest in?



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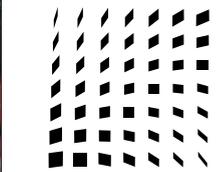


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