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DIGITAL CHALLENGE EXPLAINED

New HP Indigo press with in-line semi-rotary die-cutting challenges flexography on longer runs

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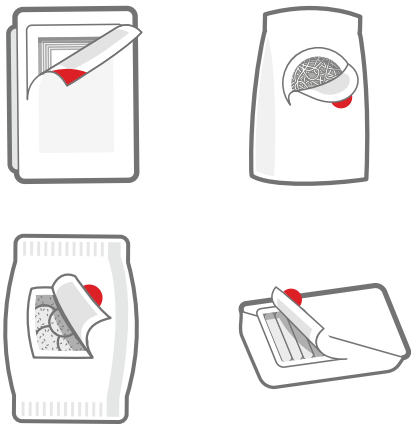

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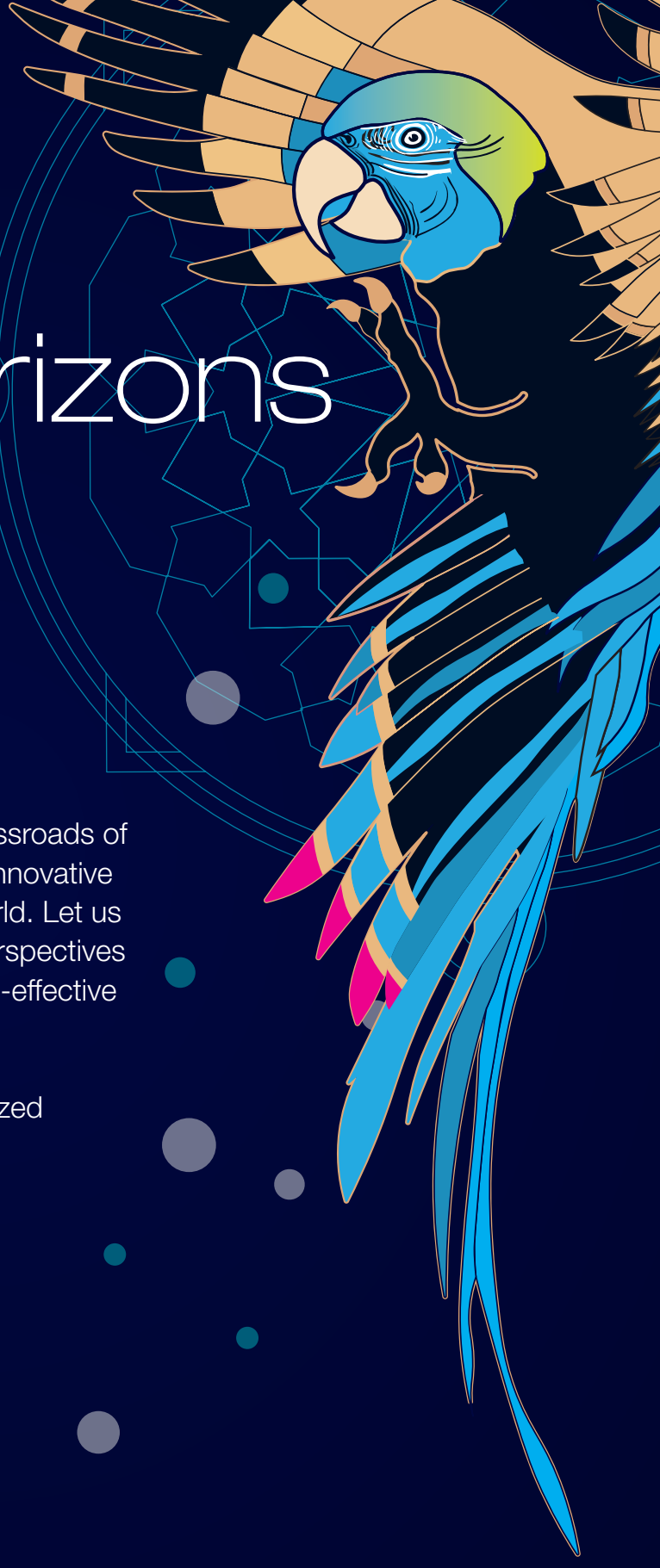

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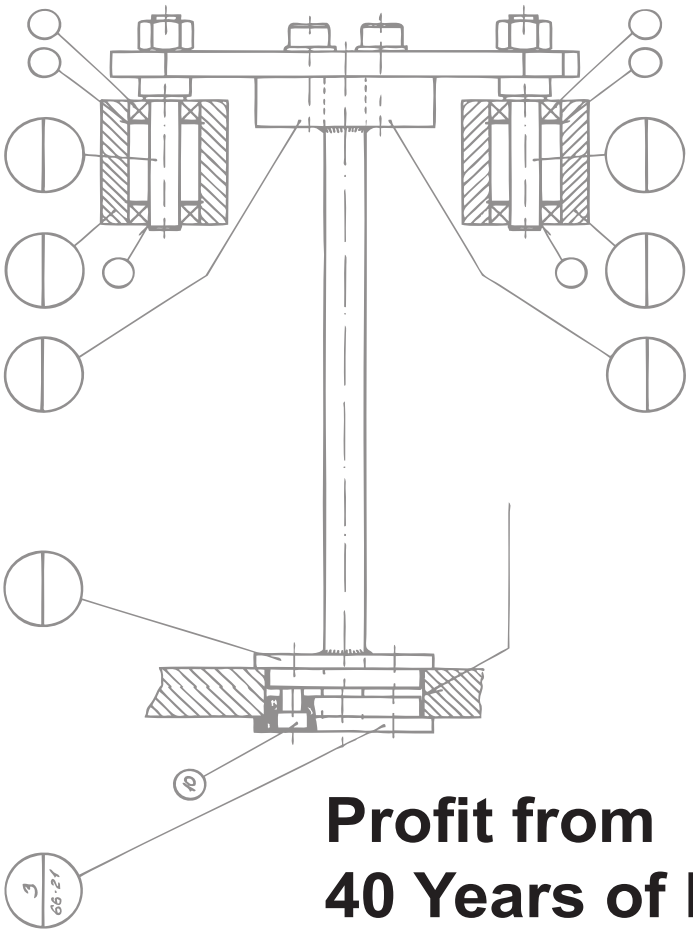

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Group managing editor

Mike Fairley
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Publishing director

James Quirk
Deputy editor & Latin America editor

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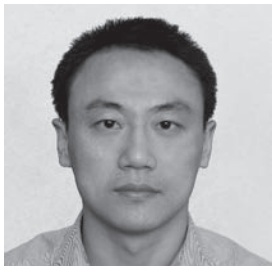

Kevin Liu
China editor

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Editorial Team
Andy Thomas, *Group managing editor*
James Quirk, *Deputy & Latin America editor*
Chelsea McDougall, *North America editor*
David Pittman, *Package print editor*
Kevin Liu, *China editor*
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Nick Coombes, *Editorial consultant*
Bob Cronin, *Columnist*
Henry Mendelson, *Australasia correspondent*
Danielle Jerschefske, *North America consultant*
Carol Houghton, *Editorial & production executive*
T: *+44 (0)20 8846 2835*
E: *editorial@labelsandlabeling.com*

Advertising Team
Tim Gordon, *Publishing director*
Randy Kessler, *Advertising manager*
Joerg Singer, *Advertising executive – Europe*
Richard Quirk, *Account manager – EMEA & online advertising manager*
Jerry Lee, *Account executive – China*
Tina Wang, *Account executive – China*
Pradeep Saroha, *Account executive – India*
T: *+44 (0)20 8846 2818*
E: *sales@Labelsandlabeling.com*

Design
Ben Walton, *Designer*
Adam Evans, *Designer*
Mat Rossetter, *Designer*
T: *+44 (0)20 8846 2841*
E: *design@labelsandlabeling.com*

Production
James Wenman, *Design & production manager*
T: *+44 (0)20 8846 2833*
E: *production@labelsandlabeling.com*

Marketing
Michael Hatton, *Marketing director*
Paul Connelly, *Senior marketing manager*
T: *+44 (0)20 8846 2727*
E: *marketing@labelsandlabeling.com*

Management
Lisa Milburn, *Managing director*
Tim Gordon, *Publishing director*
T: *+44 (0)20 8846 2818*

Publishers
Tarsus Exhibitions and Publishing Ltd, Metro Building, 1 Butterwick, London, W6 8DL, United Kingdom
T: *+44 (0)20 8846 2700* | **F:** *+44 (0)20 8846 2801*

Global Offices
Tarsus Expositions Inc, 175 N Patrick Blvd, Suite 180, Brookfield, WI 53045, United States
T: *+1 262 782 1900* | **F:** *+1 262 782 8474*

Tarsus Exhibitions & Publishing Ltd. Room G, 29th Floor, SIIC, 18 North Caoxi Rd, Xuhui District, Shanghai, 200030, China
T: *+86-21-64686801* | **F:** *+86-21-64279169*

Tarsus Exhibitions & Publishing Ltd. O4U Centre, 649, Office M-03, Phase-5, Udyog Vihar, Gurgaon, Haryana, 122001, India
T: *+911244234434*

Subscriptions
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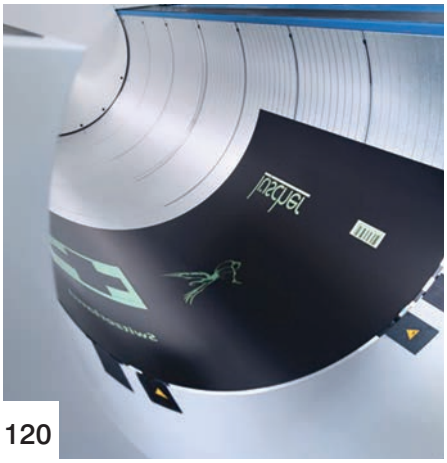

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Technology

Online Contents
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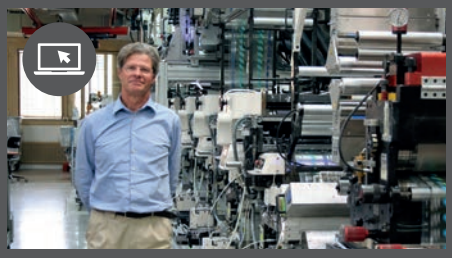
The Labels & Labeling website presents daily news and exclusive content generated by its international editorial team and addressing the most pertinent developments in the label and package printing industry

Springfield's second Screen (video)
Springfield Solutions has installed a second Screen Truepress Jet L350UV digital label press



Lifetime achievement (opinion)
Kurt Walker reviews a life spent at the heart of the label industry

Domino's US expansion (news)
Domino North America has completed the expansion its demonstration and training facilities in Illinois, and released a 'virtual tour' video

Coombes and Teachout talk (video)
L&L's Nick Coombes talks to Nilpeter's Paul Teachout about use of conventional narrow web technology to target flexible packaging market

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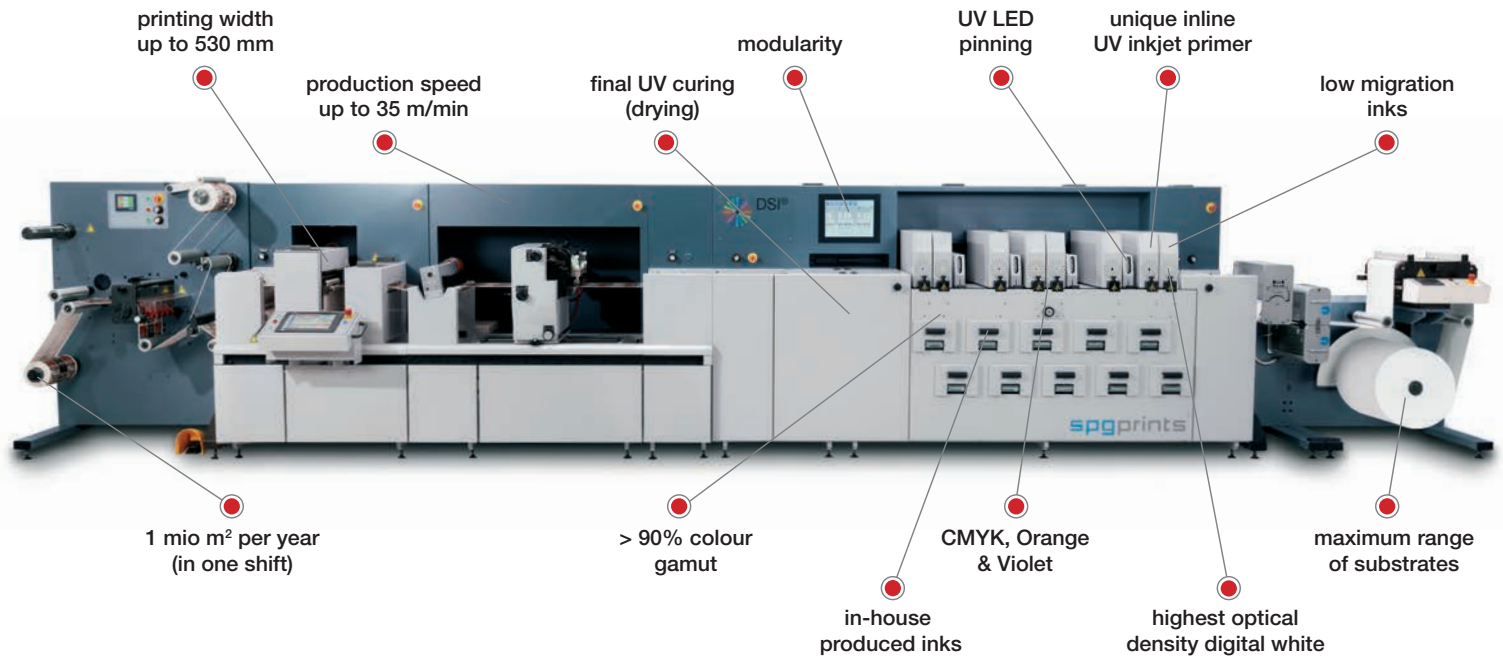

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Ten years ago (L&L issue 2, 2006)


Leader

"But things are changing quickly. The blocks on foreign direct investment, IPOs in the retail sector could soon be removed."


Skanem moves East

As European branded goods manufacturers move Eastwards to take advantage of lower wage and production costs, the pressure is on Western European label converters to follow. Andy Thomas reports from Poznan, Poland


IPEX review

IPEX 2006

At the cutting edge

JDF-enabled workflows, new ink jet technologies and digital flexo platemaking were key developments at Ipex 2006. Barry Hunt reports

"As many label and packaging converters are finding out, much will revolve around the growing influence of industry standards like JDF (Job Description Format) linked with JMF (Job Messaging Format), for moving data between systems"

"Digital has already become an integral part of printing, and will continue to be so, we live in a digital age"


The digital debate

This year, more than 200 digital label presses will be installed, with even more predicted for 2007. Is the conventional press under threat? James Quirk reports from the BPIF debate between HP and Gallus

P. 6 The Tarsus Label Summit in Mumbai took place at a time when the Indian pressure-sensitive label market was growing at 20 percent a year. It was noted that the growth potential of the Indian label market was restrained by a number of factors including high import duties on rotary presses, inks, dies and materials, 'blocks on global retailer groups like Wal-Mart moving into India' and lack of end user investment in applicator automation.

P. 23 Skanem, one of Europe's biggest label converting groups, moved decisively eastwards as it acquired Poland-based Introl SA and its subsidiary Introl Print in Moscow. This move allowed the group to take advantage of lower wage and production costs and to match the move of its end user customers – particularly in the automotive sector – into Eastern Europe. Introl already numbered among its customers L'Oreal, Avon, Unilever and Colgate-Palmolive. Skanem told *L&L*.

P. 47 Barry Hunt reported from Ipex 2006 on a number of inkjet developments, particularly the hybrid system introduced by Agfa. The company's 630mm-wide Dotrix was shown printing PE film in a configuration including corona and chill drums, UV flexo varnish, die-cutting and stripping. Toshiba provided the DOD print heads. Another big buzz was the emergence of the Job Description Format *(JDF)* and Job Messaging Format *(JMF)*.

P. 67 James Quirk reported on a debate between HP Indigo and Gallus at a BPIF seminar on the future of conventional vs digital printing. Supporting the motion that 'the future of the label industry will be digital' was Syd Roberts of HP seconded by Steve Baker of Baker Labels; opposing was Wim Brunsting, MD of Gallus UK, seconded by Peter Mulvenny of Labelgraphics. All agreed on the industry's digital future, saying adoption depended on price and technology improvement.

What you're looking at...

What have visitors to labelsandlabeling.com been looking at recently

News: Interest in label and package printing technology to see at drupa 2016 is increasing as the 11-day print industry trade fair approaches. Bobst will show its new MW 85 F mid web flexo press, which was first mooted at Labelexpo Europe 2015, while Highcon will show a complete portfolio of products and services that extend the company's capabilities beyond its established Euclid platform. Read L&L's comprehensive preview of label and package printing technology to see at drupa on p118-134.

Installations: Investment in printing and converting technology has been high at the start of 2016. From multiple Mark Andy P5 investments, such as at New Jersey-based Custom Labels and India's Excel Graphics, to Tailored Label installing a Graphium and the first Nilpeter Panorama in Denmark going into Ikonprint, interest has been technologically and geographically diverse. The UK's CS Labels has invested in a second Xeikon CX3. Fellow UK printer Bailprint Labels has invested in an HI2 inspection machine from Grafotronic, which will be the first in the UK of the second generation of Grafotronic machines.

Appointments: Key appointments include Avery Dennison's new CEO, South Korea's Dilli moving into Europe and appointing a CEO for its new subsidiary, Phoseon and API strengthening their sales efforts in Europe and promotions of regional staff to global roles at Dscoop.

Flexo and digital
Editor's note

It was interesting to see digital press manufacturers taking stands at the annual FTA conference and exhibition in Fort Worth, Texas. The general feeling around the show was that digital is best seen as a complementary rather than a competitive technology. Two particularly interesting seminar sessions from US converters McCourt Label and Discount Labels demonstrated this in practical terms.

Both companies had taken their shorter run, lower value jobs (1-2 color) off the flexo presses and put them onto digital. This in turn meant the flexo presses could start running prime label jobs and at run lengths better suited to an analog technology. In the case of McCourt, the company actually invested in state of the art flexographic presses and was able to grow a prime label business pretty much from scratch. On the exhibition floor, the conventional press manufacturers were reporting a healthy interest in their hybrid flexo-digital presses, based upon the complementary advantages of each technology in a single press line.

And as L&L went to press, HP Indigo announced a new digital press which doubles the speed of the WS6800 and has in-line semi-rotary die cutting (see p.12). This changes once more the flexo-digital equation.

Andy Thomas
Group Managing Editor

Exclusive

8000 press showing, from right, infeed, primer, master and slave print engines and connection for in-line converting

HP Indigo pushes at flexo boundaries

The new 8000 narrow web digital press from HP Indigo prints at 80m/min with in-line semi-rotary die-cutting and looks set to challenge flexo on longer run lengths. Andy Thomas reports

HP Indigo has launched a narrow web digital label press operating at speeds up to 80m/min (262ft/min) in full color – twice that of the best-selling WS6800 – with a dual mode in-line or off-line semi-rotary die-cutting unit specially developed by ABG.

Introducing the Indigo 8000 press at a Press and Analysts day at HP Indigo's manufacturing base in Israel, Alon Bar-Shany, general manager of the Indigo Division at HP, said it would 'revolutionize' the label industry. 'It will allow brands to say "I can do anything I want now in longer runs".'

The HP Indigo 8000 digital press is constructed from two WS6800 print engines in line, with a common infeed and outfeed. In operation, the web is accelerated into the first engine which prints an entire frame, then leaves a frame blank in a 'chequerboard' pattern which the company calls 'stamp and run'. The second engine, in 'master-slave' mode, prints a perfectly registered frame in the gaps, creating a continuous roll of printed labels.

What makes this configuration possible is the closed loop color management system introduced for the WS6800 at Labelexpo Europe. An in-line spectrophotometer is located on both engines. A color bar at the outfeed of the first print engine is continuously monitored, with the result used to calibrate the output of the second engine. This ensures the Indigo 8000 maintains exact color matching.

Maintaining correct web tension between the two print units is another prerequisite, and multiple i-marks printed on the label boundary are picked up by a sensor to ensure precise register and web tension is maintained.

The 8000 press will ship with HP Indigo's recently announced cloud-based operating system PrintOS (see boxout), which allows multiple presses on one site, or presses across multiple sites, to be color matched, as well as giving access to a host of real time press monitoring applications.

ABG's Fast Track semi-rotary die (patent applied for GB1509471.7) has a repeat range of 250-508mm, and is built into a Digicon Series 3 converting line. Fast Track can be configured either in- or off-line with the 8000 press. In-line it matches the speed of the 8000, and in off-line mode reaches speeds up to 150m/min. Fast Track allows a new cutting plate to be pre-registered then automatically inserted into the die-cutting unit on job change, with automatic ejection of the used die. Slitting knives are set automatically using ABG's AutoSlit system. Inspection is handled with an AVT Helio S percent inspection system.

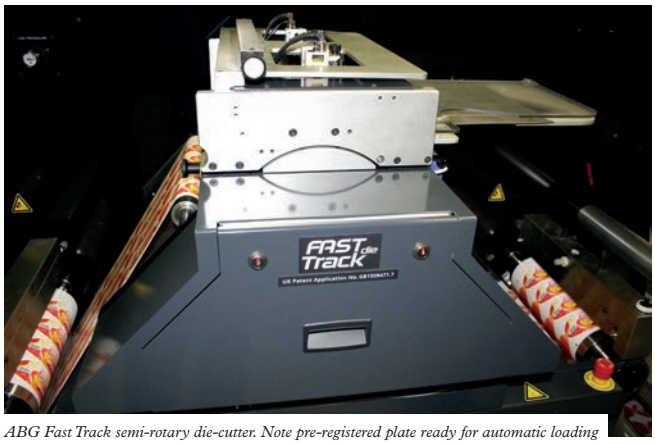
HP Indigo estimates that around 80 percent of current jobs at a typical high-end converter would fit a combination of the 8000 and WS6000 series. Says product manager Yoav Lotan, 'This is now a mainstream production press and we are competitive on the same jobs as analog up to the very long runs. At the same time the press opens up completely new market opportunities. We have analyzed our job baskets over time and we estimate that it is suitable for a significant percentage of our customers.'

The 8000 press will benefit from the commercialization of Premium White, Fade Resistant and Fluorescent Pink inks announced for the WS6800 at Labelexpo Europe.

A single hit of Premium White Electroink gives 59 percent opacity and a double hit 70 percent – equivalent to a gravure or UV inkjet white. Three hits gives 76 percent opacity, equivalent to a UV flexo white, and four hits yields 81 percent – Screen white opacity. 'This means we can migrate longer runs of high value combination UV flexo jobs like cosmetics labels to this press,' says Yoav Lotan. Even taking into account the slower speed of the 8000 press when printing multiple hits of White, press speeds would be broadly comparable to a combination flexo press using a rotary UV screen unit.

Yoav Lotem, 8000 product manager. ABG Digicon operating in-line at 80m/min

"The web is accelerated into the first WS6800 engine which prints an entire frame, then leaves a frame blank in a 'chequerboard' pattern which the company calls 'stamp and run'. The second WS6800 engine, in 'master-slave' mode, prints a perfectly registered frame in the gaps, creating a continuous roll of printed labels"



ABG Fast Track semi-rotary die-cutter. Note pre-registered plate ready for automatic loading

The Fade Resistant inks, meanwhile, will open up new markets in the chemical, agricultural and other industrial labeling segments.

Packaging eco-system

The second major announcement by Alon Bar-Shany was Indigo Pack Ready, which builds on HP Indigo's existing strategy of working with third parties to deliver complete 'eco-systems' around the press, including materials handling and finishing.

The first launch under the Pack Ready banner is a lamination system built to the same format as the 20000 flexible packaging press, for the production of high-performance applications such as retort pouches. To demonstrate the zero cure time capabilities, it was demonstrated feeding into a FFS (form-fill-seal) machine for the in-line production of candy pouches.

Unique to this system is zero curing time lamination. HP Indigo developed a resin which allows a laminating film to form an instant and strong bond with the Indigo-printed substrate using nip pressure and heat.

HP retains the IP in the development of the resin technology and will be working with film partners to bring qualified materials to market with different barrier properties. The lamination unit itself, incorporating multiple coronas and a slitting unit, will be built by Karlville to HP Indigo's specifications.

Mach Machikawa, flexible packaging segment manager, with Pack Ready Zero Cure laminator

'Zero curing time is a big deal in the flexible packaging market,' says Mach Machikawa, flexible packaging segment manager for HP Indigo. 'Typically, laminated films using solvent or solvent-free adhesives may be left to cure for up to 10 days or longer.'

The nip system gives an instant bond of up to 15 newtons/inch. 'For comparison, 2 newtons is a standard measurement for acceptable bond strength for laminates containing dry foods,' says Machikawa.

With an eye to HP Indigo's sustainability objectives, Mach points

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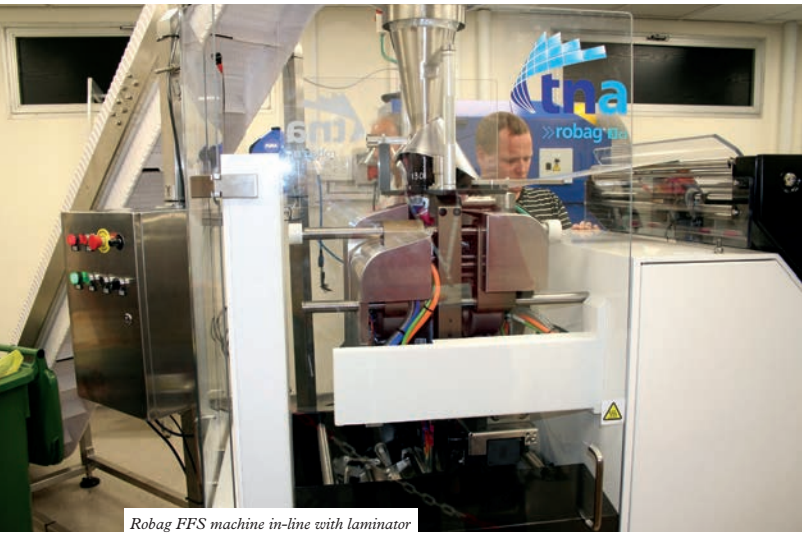
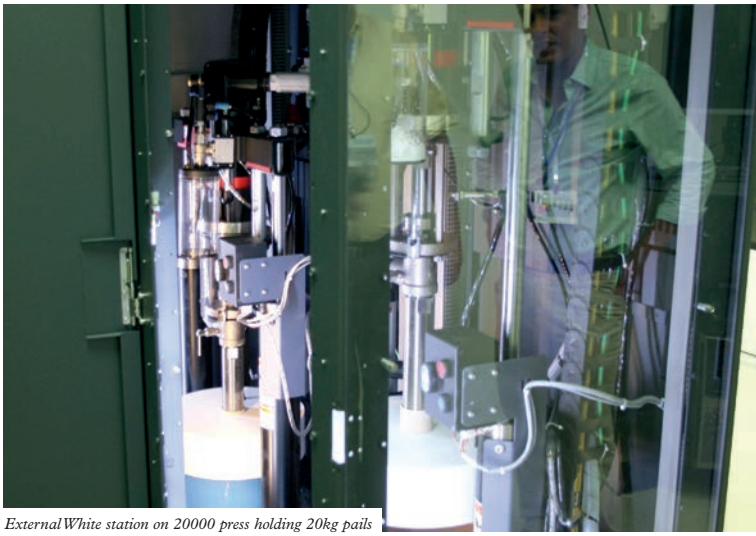


Robag FFS machine in-line with laminator


External White station on 20000 press holding 20kg pails

PrintOS

PrintOS is HP's new Cloud-based operating system which allows a wide range of reporting, authoring and collaboration tools to be used across desktop and mobile devices. Open APIs allow third party developers to add apps offering a wide range of additional functions. Key elements include Print Beat, which analyses production data and delivers a weekly report on performance to five KPIs, and a 'Personal Advisor' which gives advice on how to improve productivity or reduce downtime.

Substrate Manager is a particularly interesting application, a private zone where custom media profiles for individual substrates are held. A material profile from one press, for example could be uploaded to the cloud then applied to other machines either in the plant or across multiple sites to ensure color consistency.

Most label converters with HP Indigo presses already have Esko workflows typically linked to MIS programs from the likes of CERM and LabelTraxx, so will PrintOS be of interest to them?

Simon Lewis, PrintOS business director, Graphics Business Solution at HP, says converters can pick and choose elements of PrintOS and integrate them into their SmartStream front end.

For example, the SiteFlow/Composer application gives even the smallest converter access to Mosaic, which allows the production of infinite variations on a design (as seen for example in the Coca-Cola Israel shrink sleeve campaign).

Lewis said flexible packaging and carton converters new to digital are much more likely to use the complete PrintOS infrastructure.

The Print Box application streamlines the movement of files through the business and includes pre-flighting and file verification. Imposer delivers a range of imposition templates

'Print OS also drives the ability to collaborate with PSPs anywhere the world, both to outsource and to collaborate,' says Lewis.

out that the zero cure system does not use solvents. 'And it is very simple to use, without the expertise required to control solvent-free systems. One of the audiences for this system will therefore be narrow web label printers.'

Looking at how zero cure could disrupt the flexible packaging industry, Alon Bar-Shany said that one HP Indigo converter is already looking to offer just a four-day turnaround on pouches from print to delivery.

Commercialization date has been set for 2017.

Packaging presses

The Analyst and Press day also allowed HP Indigo to unveil significant enhancements to its Indigo 20000 and 30000 package printing presses.

Alon Bar-Shany conceded that HP Indigo is having a hard time changing the mentality of packaging printers who 'do not yet understand what digital is about – which is where the commercial printers were 15 years ago.' For this reason HP Indigo has been working directly with brands 'who see digital as part of their marketing mix and where we can measure the impact on sales and social media.' Typical of these leading edge brands mentioned by Bar-Shany were Coca-Cola and Mondelez/Oreo.

'Packaging printers need to change into service providers to justify a digital packaging press with all the associated services and workflow. They need to help brands transform how they leverage print.'

For the 20000, now with over 50 installations worldwide, HP Indigo showed an external high volume Premium White ElectroInk dispenser which accepts 20 kilogram pails. High pressure valves inject ink directly into the imaging unit on demand without requiring a buffer. Even under conditions of high coverage, HP Indigo expects the pail would only need to be changed twice a shift.

The 20000 press has now been qualified for a wider range of flexible packaging and unsupported film substrates, including PE, stretchable materials, sleeves, laminated tubes and IML, as well as thicker laminated film up to 300 micron. The low COF/high slip White announced at Labelexpo Europe for shrink sleeves is now being used successfully by 20000 press users. Currently, Premium White is not yet available in a high slip variant.

The 20000 press now has access to the Color Package developed for the WS6800 machines consisting of an in-line spectrophotometer with closed loop color management. The press also includes a web tension/registration sensor using printed i-marks and a quality control scanner. The increased use by customers of thin and extensible films has led to development of an optional low tension zone on the rewinder with an extra nip after the inspection station.

The demo seen by L&L run showed different pack sizes ganged across the 20000 web, a feature which allows better use of the print frame.

The HP Indigo 30000 carton press was demonstrated with the latest Tresu i3000 in-line double coating unit capable of mixing UV and Water-based drying, now with a fast sleeve change flexo unit for applying gold and silver inks. The press has now been qualified to work with metalized board, synthetics and dark materials using an integrated in-line corona treater. New software allows printing of micro-text and an AVT 100 percent inspection camera is linked to a sheet ejector on the delivery.

The Indigo 8000 press will be on show at drupa 2016, with the commercial launch following at Labelexpo Americas 2016 (www.labelexpo-americas.com)

News

The facility houses five Domino presses

Domino debuts new US facility

Major expansion completed at North American headquarters in Illinois

Domino has completed a major expansion of the demonstration and training facilities at its North America headquarters.

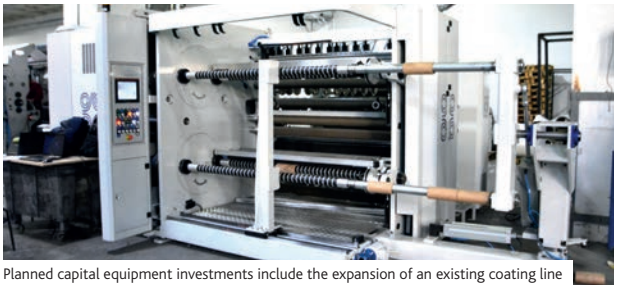
Located in Gurnee, Illinois, and covering nearly 3,500 sq ft, the new Domino demonstration and training facility offers customers and prospects the opportunity to see the latest innovations in its digital printing technology, Domino said.

The expansion includes two Domino N610i digital UV inkjet label presses, one with in-line finishing and the other running roll-to-roll. In addition, there are three Domino K600i monochrome digital UV inkjet printers, with two printing web applications and the other mounted on a sheet transport system.

A team of five are running the newly expanded facility. Three are running samples and demos; two are conducting training. Other Domino experts are brought in as needed, including G7 certified experts.

Domino digital printing marketing manager Bill Myers said: 'We are very excited with our new demonstration and training facility and the opportunities it brings our customers and Domino.'

Domino has released a video introduction to its new facility, which can be viewed on the company's website.



Planned capital equipment investments include the expansion of an existing coating line

Frimpeks expands UK site

Frimpeks is continuing its growth in the UK by expanding its Saxmundham, Suffolk, manufacturing site by a further 25,000 sq ft and creating space for capital equipment investments planned for 2016 and over the next three years.

The planned capital equipment investments include the expansion of an existing coating line to incorporate greater automation and flexibility. A new slitter incorporating fully automated packing lines is to be installed during the second quarter of 2016. Additional warehousing will also be available, increasing storage space tenfold.

Frimpeks launched its UK presence last year, with Dave Casey appointed as managing director.

Atlantic Zeiser has outlined the implication for manufacturers and vendors of pharmaceutical products

Progress for Falsified Medicines Directive in Europe

Will implement safety features to protect EU consumers from falsified medicines

The final release of the delegated act, 2016/161, for the Falsified Medicines Directive in Europe, 2011/62/EU, has been published, moving forward the implementation of new safety features to protect EU consumers from falsified medicines.

The Falsified Medicines Directive (2011/62/EU) was published on July 1, 2011, in the Official Journal of the European Union. This legislation is the outcome of the legal proposal that the European Commission put forward in December 2008. The Falsified Medicines Directive has applied since January 2, 2013.

2016/161 sets out the details of obligatory safety features for medicines which will guarantee medicine authenticity and secure the medicine supply chain.

Atlantic Zeiser has outlined the implication for manufacturers and vendors of pharmaceutical products, who now have three years left to prepare for serialization, with Atlantic Zeiser CEO Manfred Minich stating: 'The ones who have not yet started to intensively get involved into the topic might run into shortness of time.'

Acquisition news

CCL acquires Zephyr Company

CCL has acquired Zephyr Company, headquartered in Singapore, and its two Malaysian subsidiaries in Penang and Johor. Geoffrey T. Martin, president and CEO of CCL, said: 'We are delighted to welcome CS Ko and his deeply experienced people to CCL. Zephyr will immediately change its trading identity to CCL Design and continue to focus on the electronics industry in South East Asia. The new business reports locally to Jim Anzai, vice president and managing director, CCL Asia, and forms an integral part of the global CCL design initiative. These new geographies for CCL are important for the development of our overall business in Asia complementing our strong presence in the electronics industry in China following the acquisition of Worldmark in 2015.'

Coveris acquires Ecuador-based Supraplast

Coveris has acquired Supraplast, a shrink sleeve and adhesive label technologies company based in Guayaquil, Ecuador.

Coveris Holding Corp and Coveris Flexibles US have entered into a management services agreement with Supraplast. This will afford Coveris an opportunity for expansion and growth in the South American region, and is the global packaging and coatings company's first operation located in South America. Gary Masse, Coveris president and CEO, said: 'We look forward to continued growth in Latin and South America.'

Supraplast has a broad product offering that includes shrink sleeves, self-adhesive labels, safety seals, PVC and PET shrink films.

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News

UPM Raflatac achieves Clean Industry certification in Mexico

UPM Raflatac has received Clean Industry certification for its labelstock slitting and distribution operations in Tultitlan, Mexico. It is the first label industry company in the country to be awarded the certification.

To achieve Clean Industry certification, companies must meet the legal requirements for environmental protection established by the Federal Attorney for Environmental Protection (PROFEPA) in Mexico. They must also undergo an evaluation of manufacturing procedures and processes, such as environmental impacts and waste management. Companies must identify any potential risks and implement any preventive and corrective measures.

'We are proud to be the first labelstock supplier in the region to receive this highly-respected honor,' said Jose Garcia, Raflatac sales director and general manager in Mexico, Central America and Caribbean. 'In addition to all of our other certifications, we believe that Clean Industry certification reinforces UPM Raflatac's commitment to protecting the environment and furthers our goal of becoming the number one supplier in Mexico.'

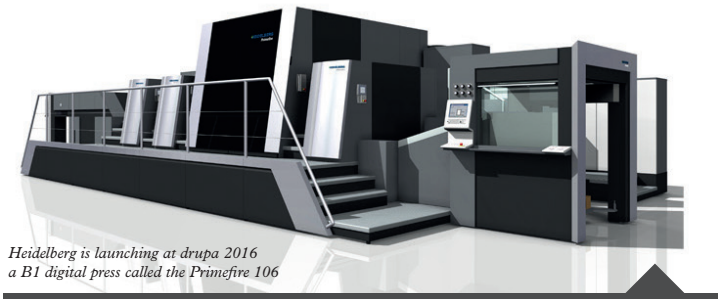
Dilli launched the Neo Mercury at Labelexpo Europe 2013, and presented the larger NM-350 at Labelexpo Europe 2015

Dilli establishes subsidiary in Europe

South Korean digital printing equipment manufacturer Dilli has established an office in Belgium to support its growth in Europe, the Middle East and Africa (EMEA).

Dilli S.A., to be led by Serge Vincart, will focus on the further development of a network of professional distributors to cover these markets, and support installations of the company's products for digital label and packaging printing and finishing. The range is to include printing, die-cutting, laser cutting, varnishing and further embellishment machines. Over 3,000 Dilli installations are already located in the EMEA region, with labels and packaging business described as a 'natural extension' of its established wide format activity.

Dilli launched the Neo Mercury at Labelexpo Europe 2013, and presented the larger NM-350, with high opacity white inks, variable data printing capability and other upgrades, at Labelexpo Europe 2015. The latest Neo Mercury model is capable of printing more than 1,000sqm of any standard self-adhesive, non-top coated labelstock paper or film an hour, at visible flexo like quality while running over 20 different jobs per day, Dilli claims. The company is to exhibit at Labelexpo Americas 2016.



Heidelberg is launching at drupa 2016 a B1 digital press called the Primefire 106

Heidelberg restructures digital portfolio

Heidelberg is launching at drupa 2016 a B1 digital press called the Primefire 106, marrying partner Fujifilm's inkjet technology to Heidelberg's sheet handling and workflow expertise.

At drupa Heidelberg will also announce 'Fire' as the standardized portfolio name for its entire digital printing range. Gallus Labelfire 340 is the new product name for the former Gallus DCS 340, and Heidelberg Versafire CP/CV is the new name for the Linoprint CP/CV digital printing systems. See the drupa preview in this issue of *L&L* for more information.

Grafotronic releases new generation of finishing machines

Grafotronic has introduced a completely redesigned series of modular machines for slitting, inspection, die-cutting and digital finishing, as well as confirming a number of corporate changes such as a new manufacturing facility in Poland. The redesigned machines have been improved and enhanced in terms of, 'virtually every component, function and design,' said Tomasz Skrobik, vice president of operations and production at Grafotronic. 'This is not just a face lift, it is a new generation of Grafotronic modular machines all together. Based on our 10 years of experience and 500 machines supplied worldwide, we have improved and enhanced virtually every part, function and design of our machines starting from a white sheet of paper.'

Baumer hhs is establishing a subsidiary in Spain to further its support for customers on the Iberian Peninsula

Baumer hhs establishes subsidiary in Spain

Baumer hhs is establishing a subsidiary in Spain to further its support for customers on the Iberian Peninsula.

With effect from March 1, Baumer hhs Sistemas de Aplicación de Adhesivos, S.L. will be based in Constanti, near Tarragona. The new company's general manager will be Vicent Martinez, who will at the same time continue to support Baumer hhs customers in the Levante in his capacity as regional sales manager. Urbano Alvarez will remain the regional sales manager responsible for Western Spain and Portugal.

Under the management of sales and application specialists Vicent Martinez and Urbano Alvarez, Baumer hhs has already been providing its customers on the Iberian Peninsula with direct support on the topics of gluing, quality assurance and camera verification systems since October 2014.

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UPM RAFLATAC

News

The Durst UK headquarters are located in Leatherhead, Surrey

Durst UK adds labels to business portfolio

Durst UK is expanding its business portfolio by taking on the label market previously run from the division's headquarters in Brixen, Italy.

The Durst UK headquarters are located in Leatherhead, Surrey, and its staff covering the UK and Ireland will now have responsibility for labels and specialty packaging. They are backed by Durst UK's own nine-strong team of experienced service engineers strategically placed across the UK and Ireland, and are equipped for 24/7 operations throughout the year.

Acquisition news

Flint Group to purchase Siegwerk web offset business

Flint Group has issued a binding offer to Siegwerk Druckfarben to acquire its web offset business. The offer includes the transfer of all technical expertise and product portfolios relating to Siegwerk's heatset and newsink product lines.

Siegwerk's decision to sell its web offset business is in line with its strategy to focus on its core business in packaging printing, and to further build its market leadership in inks and coatings for labels and flexible packaging where the company sees significant potential.

'To ensure the lasting success of our company, we need to clearly devote our resources to serving the markets of tomorrow,' Siegwerk CEO Herbert Forker said. 'We will do so by focusing on our core packaging printing business. It is here where we see significant growth opportunities particularly within the strongly accelerating Asian markets.'

Flint Group acquires Advanced Color Systems

Flint Group, has acquired Tualatin, Oregon-based Advanced Color Systems. Advanced Color Systems manufactures and distributes water-based inks in North America and also exports to some countries outside of North America. With this acquisition, Flint Group strengthens its position and support to the paper and board markets in North America.

'Flint Group is very pleased with this new partnership and the opportunities it presents to expand in the North American paper and board packaging market,' said Antoine Fady, CEO of Flint Group.

Labelink Products acquires Flexo Labels

Labelink Products, a Canadian printer of flexible packaging, labels and RFID, has acquired Montreal-based Flexo Labels. A manufacturer of labels since 1980, Flexo Labels uses flexo and digital printing in its production process.

Labelink Products president Stephen Bouchard said: 'This fifth acquisition is part of a strategic approach that aims to strengthen our position as an industry leader providing local service in Montreal, Quebec and Toronto.'

Industry leaders plan label roadshow

Five events in US and Canada in April and May

A group of label industry companies will present a series of events called 'Securing a Successful Future' to educate label printers and packaging converters about key developments in North America.

Presented by Flint Group Narrow Web, Label Traxx, Mark Andy, ThermoFlexX and Xeikon, the seminar series will educate label printers and packaging converters about key developments in the North American label market. Five events are scheduled to take place in regional locations throughout the US and Canada starting in April.

These events will include a presentation by LPC, an industry analyst firm, on the results of a study it conducted at the beginning of 2016. The study provides market research on the North American labeling sector, covering topics that include the profit curve, market sizing, trends by vertical market and run-size pain points for converters. In addition, the event will include presentations from converters who will talk about their own experiences, as well as presentations from the five sponsoring companies.

The 'Securing a Successful Future' seminar series begins in Toronto on April 26, and concludes in Southern California on May 10.

The full schedule is:

- April 26: Toronto, Ontario, Canada, Hilton Toronto Airport Hotel & Suites
- April 28: Philadelphia, Pennsylvania, DoubleTree by Hilton Philadelphia-Valley Forge
- May 3: Birmingham, Alabama, Birmingham Marriott
- May 5: Dallas, Texas, DoubleTree by Hilton Dallas (near the Galleria)
- May 10: Orange County, California, Anaheim Marriott Suites

Each event will start with a continental breakfast at 9:30am. The formal program will being at 10am and will conclude at 2:30pm. Breakfast and lunch are provided, and there is no cost to attend.

For more information or to register, visit www.xeikon.com/roadshow/register

US pouch demand to top $10bn

Demand for pouches in the US will grow 4.4 percent a year from 2015 to 2020 to a value of 10.1 billion USD, driven primarily by the introduction of pouch packaging into new markets and the integration of high value features in more mature markets.

According to Pouches, a new study from industry research firm Freedonia Group, the food and beverage markets comprise the vast majority of pouch demand, accounting for nearly 80 percent of the total in 2015.

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Environment News

Invisible markers identify plastics in waste stream

Andy Thomas reports on 'invisible barcodes' which will identify different plastics in the recycling stream

A high-level consortium, which includes CCL Label and Mirage Inks, has won recognition -and funding ¬from the British government innovation agency Innovate UK for its project to identify new luminescent materials which can be applied, invisibly, to labels on plastic packaging.

The project, Plastic Packaging Recycling using Intelligent Separation technologies for Materials (PRISM), has secured 772,000 GBP (1.1 million USD) of funding over two years. As well as Innovate UK, part of the funding is contributed by the Engineering and Physical Sciences Research Council (EPSRC) and by matching funding from the commercial partners. The PRISM project will develop new fluorescent materials from novel metal oxides as well as converting reprocessed powders from recycled fluorescent lamps into suitable fluorescent materials.

The full list of partners is: Nextek (project lead), Brunel University London, Tomra Sorting, CCL Label, Mirage Inks, WRAP, Evolve Polymers, Johnson Matthey and Enlightened Lamp Recycling (ELR). The fluorescent marking technology is one of the most important developments in sorting in decades, according to recycling consultancy and lead partner in the project Nextek.

'This could be the equivalent of an invisible barcode for plastics recycling,' said Prof Edward Kosior, managing director of Nextek. 'It is a significant step forward in the sub-categorization of plastics which are sorted automatically at high speed. It enables new initiatives from brand-owners eager to recover their packaging as part of the circular economy. Of course, it also provides a massive impetus for new businesses in the recycling sector.'

'Excellent' initial results

The technology partners are claiming excellent initial results thanks to research projects led by waste and resources charity WRAP. WRAP worked with Nextek to carry out the first phase that focused on the identification and separation trials, achieving 98 percent yield and 95 percent purity. The second phase is looking at further optimization of the system, including new fluorescent compounds, how they react through the supply chain and if the markers get completely destroyed after reprocessing. The fluorescent label sorting system is designed to be integrated with the current near infra-red (NIR)-based sorting systems used in materials recovery facilities (MRFs). While NIR retains its important role in identifying the different polymers, this system would be triggered by an ultraviolet (UV) light source that is detected in the visible spectrum. This is within the capacity of many modern automatic sorting units. The UV light adds an additional, high-value layer of sorting. PRISM technology captures the unique code created by the normally invisible application-specific luminescent compounds in the label.

This will allow, for instance, food-grade polymers to be distinguished from non-food-grade, black plastics to be identified and full-length shrink-sleeves to be tagged according to the underlying plastic. Brand-owners could even establish closed-loop collection of specific packaging formats.

WRAP packaging program area manager Claire Shrewsbury said: 'The new technology could help boost recycling plant yields, and UK plastics recycling as a whole, with more efficient ways of sorting materials such as polypropylene (PP) packaging, high density polyethylene (HDPE) milk bottles and sleeved polyethylene terephthalate (PET).'

Prof Rafi Ahmad, formerly of Cranfield University but now working with Nextek, first researched fluorescent markers in the 1970s. He said: 'With UK recycling targets for plastics set to rise by 2017, the country needs to do much more to optimize collection and sorting. With the PRISM technology, different combinations of a limited number of fluorescent pigments used on labels, open up cost-effective routes to high-grade sorting.' Because the luminescent pigments are applied to a range of labels and sleeves, they are removed before the downstream recycling process, avoiding any risk of contamination in the next cycle of application.

Among the PRISM project partners are label and sleeve converter CCL and inks specialist Mirage Inks. Johnson Matthey, with its focus on sustainable technologies, is investigating benign, non-rare-earth metal oxides that are safe, plentiful and provide distinctive UV signatures. ELR's niche is the collection and recycling of fluorescent lights and tubes and the treatment of industrial, clinical and electrical mercury wastes and they have begun co-operation with the participants of PRISM in the development of new marker materials.

For the latest updates on this story see www.labelsandlabeling.com/news/latest/invisible-markers-boost-plastics-recycling-quality

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New Products

01

02

03

04

PICTURED

1. Xaar 1002 GS40
2. Rotoflex Security Series
3. Mondi Steabag
4. Innovia Films UltraFoil CXFA

01 1002 GS40
Xaar
Printhead for UV applications, already proven in the ceramic tile decoration industry, makes possible a range of high-build varnish and textured effects for labels, packaging, graphics and wood laminate. This latest addition to the Xaar 1002 family of printheads jets drop volumes from 40-160pL and has grayscale capability. Xaar said it is perfect for printing UV spot varnish and for applications requiring a high laydown at higher print speeds. And, depending on the drop size, the printhead can lay down extra opaque whites with a larger drop size or a finer base of whites with a smaller drop size. Xaar added that for those wishing to print solid white base coats underneath fine halftone images or text, such as companies printing labels or packaging, the Xaar 1002 GS40 can be used in combination with the Xaar 1002 GS6 printhead.

02 Security Series
Rotoflex
Available as a new equipment option or as a retrofit to existing installations, these modules can be fully integrated with Rotoflex's VSI, HSI and VLI product lines to offer the latest advancements in stringent label inspection and finishing. Options available with the Security Series include very high resolution inspection, variable data inspection, braille inspection and barcode reading. Missing labels, remaining matrix, splices, flags, spots, fading and missing color, text defects and registration can all be detected by the Security Series.

03 Steabag
Mondi/Spotless Tea Bag
Invented by Matti Koskinen, who is also the founder of Spotless Tea Bag, Steabag has been designed to provide a clean and environmentally-friendly was to handle and dispose of tea bags after they have been used to brew a cup of tea. Steabag is a paper-based single portion stand-up pouch offering barrier properties against oxygen and moisture. It also has an aroma barrier to keep the product in good condition until it is used. Additionally it is watertight, so tea drinkers can place a used tea bag back in the pouch avoiding mess or use of additional dishes.

04 UltraFoil CXFA and WXFA
Innovia Films
UltraFoil CXFA (clear) and WXFA (white) are high barrier films for labeling applications, and both

New Products

have EU and FDA food contact compliance. Both grades are available in 53 and 61 micron thicknesses and provide high machine direction stiffness for improved conversion and high speed label dispensing, claimed the films specialist.

Multi-Lid
Multi-Plastics
Line contains five different polyester film laminations offering multiple options for peelable seals to a multitude of tray resins. There are microwavable, ovenable, chillable or freezable options available; all of which can be printed. Multi-Lid complements the company's flexible packaging and labeling films that are primarily used in food contact markets.

SW200 Standard Wax
IIMAK
Manufactured in the US, the transfer ribbon offers blackness on rough and smooth coated papers for printing barcodes, alphanumeric text and logos for basic applications found in shipping, warehousing, logistics, work-in-progress tracking and retail. IIMAK's patented Clean Start printhead cleaner is built into SW200 ribbons to protect against premature printhead failure.

'Floatable' shrink sleeve
Fort Dearborn Company
To meet the guidelines outlined by APR, the label has been developed to address the issue of shrink sleeve label's impact on the recycling of PET containers. The label has a lower density (specific gravity of <1.0) than traditional shrink sleeve films, allowing it to float and separate from the container during recycling and not contaminate the quality of the recycled PET products. Recycling-friendly inks and coatings are also used during the printing process, which runs on existing application equipment.

DigiPrime 1600
Michelman
When added to size press treatments at the mill, it acts as a primer, optimizing the paper for use on HP Indigo presses. Michelman said DigiPrime 1600 produces improved HP Indigo ElectroInk adhesion, superior press blanket compatibility and increased uptime.

Version 8
Label Traxx
To be available in the spring, the software update introduces new two-way communication directly with Xeikon presses. Previously the Label Traxx software would send job data and artwork files directly to the press. Now, once the job is finished, toner usage is sent back. This means less data-entry, more up-time on press, and instant, accurate job costing data, according to the MIS specialist.

Proofware 2.0
Global Vision
Proofware 2.0 brings an advanced suite of application tools focused on delivering accuracy and traceability for quality control. It helps reduce artwork rework cycles and cost. New features include: a redesigned user interface with new keyboard shortcuts and multi-monitor support; cropping features with the ability to crop multiple pages of all sizes, resize the crop area, and auto crop to the artwork area; Adobe Illustrator support features; verification features for braille and barcode verification; multi-page and booklet inspections; text comparison in ArtProof; automatic processing of QRD templates; and a new annotation checklist for quick review of changes and call-outs to insure all the right corrections are made.

Procheck
Grafikontrol
Grafikontrol has revamped its offering based on the Total Quality Control 360° (TQC-360°) system, a modular platform developed to provide printers with an overarching option that guarantees quality. A new feature in TQC-360°is Procheck, which allows waste to be pinpointed, and printing and lamination defects to be traced from start to finish during the printing process. According to Grafikontrol, Procheck, which is currently awaiting its patent, is the most advanced and exclusive system for eliminating waste, and rounds out Grafikontrol's system monitoring services, which also include Matrix, Lynex and Chromalab.

PICTURED
5. Multi-Plastics Multi-Lid
6. Michelman DigiPrime 1600

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Installations

⓫ Xeikon CX3
CS Labels, UK
The UK-based company has added a second CX3 to its extensive Xeikon press portfolio at the same time as it is celebrating a 22 percent increase in growth for 2014-2015. This has been aided by an initial strong capture of market share in the heat transfer and flexible stand-up pouch sectors. Managing director Simon Smith said: 'Our existing CX3 has enabled us to work smarter and faster and it has given us the extra capacity. As my team know, I am extremely conscientious when it comes to capital expenditure. At CS Labels we pride ourselves on productivity, combined with satisfying customer needs to a high level. The purchase of the second CX3 was solely driven by customer demand; we've seen a definite transition to digital label printing from flexographic and other traditional methods. Quite simply more and more customers are making the switch for reasons of lead times, quality, multiple SKU ability and personalization.'

⓬ HP Indigo WS6800/6600
Eurostampa, USA/France
A WS6800 at its Cincinnati, Ohio, location and another in Napa, California, plus a new WS6600 at its Touvérac facility in France, will be used to produce wine, champagne, spirits, chocolates and food labels. Eurostampa Group's client roster includes Bacardi, Brown Forman (Jack Daniel's), Antinori (Santa Cristina), Gaja, Lindt, Ferrero (Nutella) and Barilla, among others. The latest HP Indigo WS6800 and WS6600 digital press installations build on the company's existing capabilities, enabling a wider range of label applications and enhanced productivity, to address increased demand for digitally produced labels.

EFI Jetrion 4900
Positive ID Labelling Systems, UK
Positive ID Labelling Systems invested in its first EFI digital press two years ago, an EFI Jetrion 4830. Its new press allows it to deliver high quality, full color labels to customers in a fraction of the time of normal analog flexo print methods, according to company managing director John Mayers. After installing its first EFI Jetrion press, Positive ID Labelling Systems did 250,000 GBP worth of digital business in its first year, up from 50,000 GBP before that. The company's two-story facility incorporates flexo production plus sales, admin, design and pre-press. The new Jetrion line is housed in a purpose-built unit attached to the main building.

⓭ Edale FL-3
MiF, Slovakia
European label printer MiF has installed a 430mm-wide, 8-color Edale FL-3 at its factory in Slovakia that will be used to facilitate planned growth. Edale worked alongside its distributor in Croatia for the sale of the press and this was helped by multiple trials at Edale's purpose built site in Hampshire UK.

⓮ Domino N600i/K600i
Domino North America
Located at the Domino North America headquarters in Gurnee, Illinois, and covering nearly 3,500 sq ft, a new Domino demonstration and training facility includes two Domino N610i digital UV inkjet label presses, one with in-line finishing and the other running roll-to-roll. In addition, there are three Domino K600i monochrome digital UV inkjet printers, with two printing web applications and the other mounted on a sheet transport system. These help provide customers and prospects the opportunity to see

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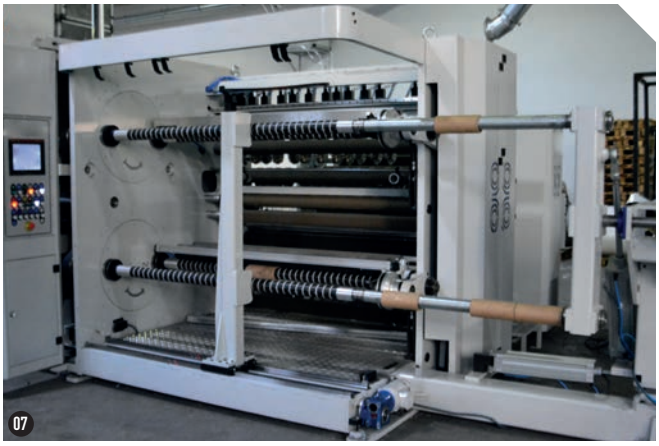
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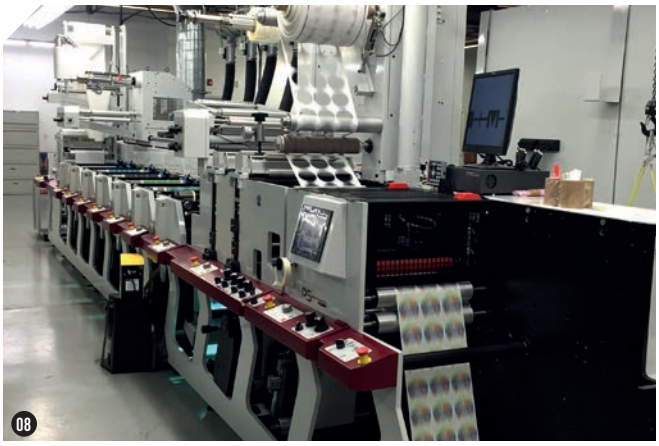
08

the latest innovations in digital printing technology, Domino stated.

05 Kodak Flexcel NX

Veepee Art Studios, India

Veepee Art Studios is seeking to expand its business by working across a variety of print applications, such label printing, corrugation and board printing, with the addition of Flexcel NX. It said the benefit for customers will be an exceptional quality of print using digital flexo technology that is comparable to gravure, without the limitations that come with analog and existing LAMS plates. Veepee Art Studios is combining Flexcel NX with Kodak's Prinergy Workflow. The integration of Prinergy into its operation will help the pre-press business reduce production errors, enhance productivity, achieve outstanding flexibility, accept all popular file formats, and manage proofing devices, digital printing machines and CTP devices directly. The software also ensures that Veepee Art Studios' workflow process is custom-built to handle even the most complicated trapping and color requirements from its customers.

06 Titan SR800

TC Transcontinental Packaging, Canada

TC Transcontinental is Canada's largest printer, with operations in print, flexible packaging, publishing and digital media. In May 2014 it acquired Capri Packaging, a producer of flexible packaging based in two locations in Clinton, Missouri from Schreiber food. As part of an expansion plan to meet increased demand for flexible packaging, the Titan SR800 slitter rewinder was added to the existing fleet of slitter rewinders operating within the TC Transcontinental Packaging division. The SR800 was selected over other brands as the staff at TC Transcontinental Packaging have prior experience with Titan slitter rewinders, in addition to the compatibility of accessories and the ability to consolidate the new machine into the existing Titan maintenance scheduling.

Highcon Euclid

Komori, Japan

The installation follows the two companies forming a strategic partnership that will see Komori selling and supporting Highcon Euclid digital cutting and creasing products in the Japanese market.

07 Slitter

Frimpeks, UK

Frimpeks is continuing its growth in the UK by expanding its Saxmundham, Suffolk manufacturing site by a further 25,000 sq ft and creating space for capital equipment investments planned for 2016 and over the next three years. The planned capital equipment investments include the expansion of an existing coating line to incorporate greater automation and flexibility. A new slitter incorporating fully automated packing lines is to be installed. Additional warehousing will also be available, increasing storage space tenfold.

08 Mark Andy Performance Series P5

Custom Labels, USA

US converter Custom Labels has installed a 13in (330mm), 7-color Mark Andy Performance Series P5 press that forms part of the company's plans to grow into the film label and flexible packaging markets. With 95 percent of its pre-press handled in-house, and the added capacity of a new CTC turret rewinder due to be installed in the first quarter of 2016, Custom Labels is predicting a three-fold growth in business over the next few years.

Go to www.labelsandlabeling.com/news/installations for more installation news

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Appointments

Stefan Hunkeler
Chairman, Hunkeler
He joined the company in 1999 and managed the Hunkeler Group as CEO and delegate of the board of directors until January 2016.

John Winderam
Regional general manager Esko/X-Rite
He will lead the current Esko Southeast Asia and South Asia regions, and the X-Rite commercial and service teams in India, Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam, Australia and New Zealand.

Tapio Kolunsarka
President/CEO Ramirent
He has worked with UPM Group for over a decade, most recently as executive vice president of UPM Raflatac where he played a 'crucial role' in its improved performance over almost three years.

Ton Hendrix
Managing director SPGPrints America
Hendrix took up his new role as of December 1, 2015, and succeeds Edward Scheppink, who has supported Hendrix to ensure a smooth transition.

Serge Vincart
CEO, Dilli S.A.
He has more than 25 years of expertise in digital printing and graphic arts, and has deep knowledge of the various analog and digital printing technologies, substrates and applications, Dilli said in a statement.

Richard Warnick
Sales manager, KBA-Flexotecnica
KBA (UK)
His appointment signals the creation of a unique, UK-based sales and service network with contact to the manufacturing facility in Tavazzano, near Milan, Italy.

Lance Shumaker
Sales VP, North America
AB Graphic
In his new role, Shumaker will focus on promoting AB Graphic's range of inspection cameras and rewinders, and complement its existing sales team in the US.

Maria Gagetti
Managing director Intec Australia
Gagetti has joined the new Intec office in Australia from Onyx Solutions, where she spent more than three years as business development manager.

David Richards
Regional sales manager
Phoseon Technology
His primary responsibility is to manage many of Phoseon Technology's key accounts in the UK, Ireland and Scandinavia.

Dieter Woelfle
Divisional managing director, CCL Design identity
Former Woelco CEO has joined CCL as managing director of the European Industrial & Automotive label business under the CCL Design identity, following his company's acquisition and integration into CCL Label.

Peer Gronkowsky
Chief technology officer Rotocontrol
Executive appointment, and that of Cristof Vogler as chief financial officer, follows the rebranding of LeoMat, and supports the consolidation of the two businesses.

Susan Kuchta
VP and global segment head, label Actega North America
Her promotion is one of a number of appointments to the sales leadership team within the company's labels and packaging divisions.

Olivier Chauval
International field service technician Makro Labelling
He will work on the installation and commissioning of Makro labelers both in the UK and Internationally.

Irene Othmann
Technical sales representative, Sihl
Othmann is now the internal and external contact person for technical application support and sales support, and will primarily focus on the Enduro, Enduro Ice, Picofilm, PressureTac and Face Stock product groups.

Mitchell R. Butier
President and CEO, Avery Dennison
Avery Dennison has named Mitchell R. Butier as president and CEO, effective May 1, succeeding current chairman and CEO Dean Scarborough. Butier is currently president and chief operating officer

Hassan Rmaile
Global VP of research and development, Avery Dennison Materials
He joins Avery Dennison from Minnesota-based H.B. Fuller Company, a global industrial adhesives manufacturer, where he served as vice president, chief technology and innovation officer.

For more industry appointments, go to labelsandlabeling.com/news/appointments

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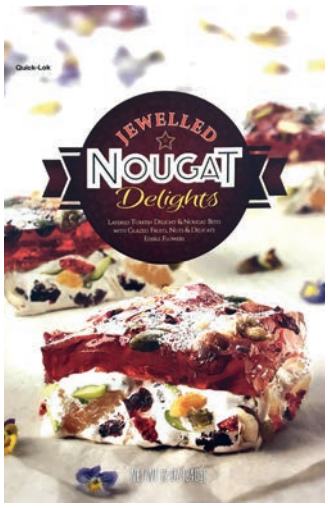
02



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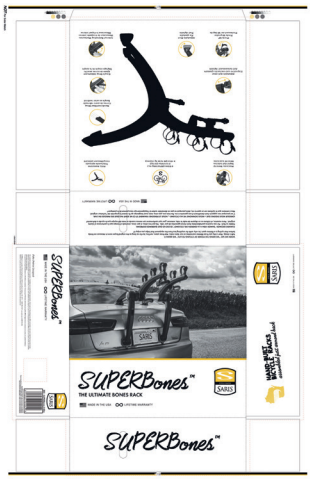

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06

Best in Show FTA Excellence in Flexography awards 2016

01 Sunshine FPC
Extraordinary Fruit Co Roast Figs and Apricots wrapper

02 McDowell Label
Performix Ion Multi-Phase Pre-Workout Dietary Supplement Label

03 Sunshine FPC
Jewelled Nougat Delights wrapper

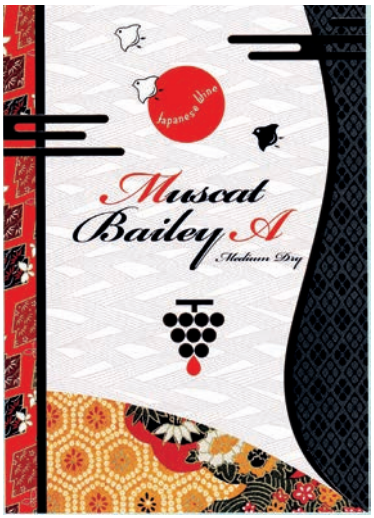
04 WestRock CP
Saris SuperBones Rack Box

05 International Paper
Diamond of California Nut Display Bin

06 Mac Papers Envelope Converters
Domtar Business is Blooming envelope

07

08



09

10

11

12

World Label Awards

07 Flexo Line Screen
Wedderburn, Australia, for Gold Truffle Salami

08 Flexo Wine Spirits
Rapid Labels, New Zealand, for Silver Moki Marlborough Sauvignon Blanc 2014

09 Letterpress Wine Spirits
Sankyo Tac Label for Muscat Bailey A

10 Letterpress Color Process
ZhongBiao Anti-counterfeiting Printing for Security Labels of Qianlongzubancheng

11 Offset Color Process
Fuji Mark for Salted Firefly Squid

12 Screen
Stratus Packaging, France for Nocibé Lotion 200ml

This regular feature is dedicated to the best designed printed packaging from around the world. If you would like your product featured here, email labelexposure@labelsandlabeling.com. We require a high resolution photograph and supporting text.

Opinion

Buy? Sell? Partner?

With M&A activity up and down the label and package printing supply chain showing no sign of abating, L&L asks those in the know for their thoughts

In 2015 packaging M&A looks to have hit a new record of 35 billion USD in the year, surpassing even the 32 billion USD set in 2007. A number of factors have driven this. The performance of packaging companies throughout the recession was particularly good, reflecting the defensive nature of the industry. Hence packaging share prices out performed comparable stock market indices, and a strong share prices mean it is easier to raise equity to make acquisitions. Companies also finance M&A with debt and at the moment interest rates continue to be around record lows. 2016 got off to a shaky start in the financial markets. However, for packaging the long term fundamentals make it an attractive industry to invest in and with such a large proportion of the industry in private ownership, including private equity, M&A is inevitable. Deals have been happening at high multiples so it continues to look like a seller's market.

Nicholas Mockett, head of packaging M&A, Moorgate Capital

'What has changed in recent years are the key reasons for going through an acquisition or merger, and in the nature of the groups that are growing through acquisition, merger and new investment. Today, there are around 25 label printing groups that between them have in the region of 10 percent of the world label market. That is quite a substantial change in a relatively short period of time. These groups look to follow their major customers – the big global brands – into new emerging global markets in China, India, Latin America, Eastern Europe or Africa, consequently looking to acquire local label printers or establishing new start-up operations. The same challenges are facing the leading label industry suppliers of labelstock, inks, presses, dies and ancillary technology. It is probably easier to see patterns of acquisition or merger growth appearing today than it has ever been. It's more focused, is being undertaken by even bigger groups, and is almost certainly starting to create a two level industry – large groups and consortiums serving the global brands, and smaller niche, specialty and more localized companies serving the remainder. Almost certainly, acquisitions and mergers will continue apace in the coming years, with the nature and structure of the label industry continuing to change.

Mike Fairley, strategic development director, L&L

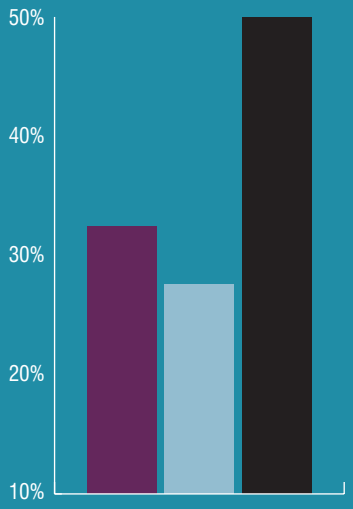
The last 30 years in print has seen major changes including major technology disruption. It has never been a stable sector and most who have survived have gone through periods of ups and downs and that inevitably colors the view of buyers. There is never a one size fits all answer as to what is the right multiple. Fundamentally it comes down to willing buyer and willing seller which is in itself based on a host of issues, including: synergies for the buyer; customer base demographic, business cycle and quality and sustainability of earnings; whether a volume driven or niche business; innovation; strength of remaining management team; and the desire of the vendor to exit and timescales for doing so. We are seeing a complete spectrum of earnings multiples from 2x to 10x-plus dependent on circumstances and the specifics of the business.

Peter Alcock, corporate finance partner, Wilson Henry Corporate Finance

L&L.com poll results

What plans do you have for your company in 2016?

- Looking to sell – **28%**
- Looking to acquire – **22%**
- Looking for merger/partnerships – **50%**



Read more thoughts from Mike Fairley on M&A activity in the label and package printing industry at http://tinyurl.com/zby9x2c

See also Bob Cronin's regular M&A column on p.43 of this issue

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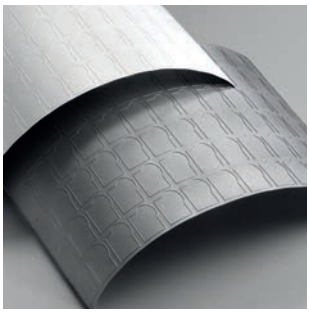

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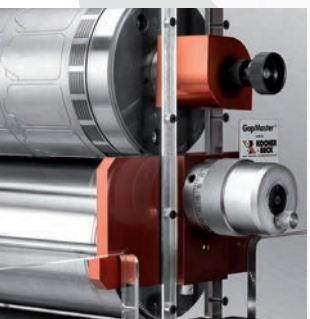

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Q&A

Prakolar Rótulos Autoadesivos, founded in Sao Paulo in 1967 by Gregoiry Chatziefstratiou, who arrived in Brazil from Greece in the early 1950s, has grown into one of Brazil's leading label converters. CEO Alexandre Chatziefstratiou continues to work alongside brother Cees, while their eldest brother, Jean, also worked at the company until recently. Prakolar was acquired in November 2015 by Sato Group. Interview with Alexandre Chatziefstratiou by James Quirk

L&L: What were the reasons behind Prakolar wanting to be acquired by a global converting group such as Sato?
AC: The Brazilian label market is facing challenges: the country is suffering a recession, and one must continue to grow despite strong competition from other label technologies, such as shrink sleeves and in-mold. Our acquisition by Sato Group helps to safeguard the future and transform this context into opportunities, and this is one of the reasons we were happy to sell. My brother Jean was leaving the company, and we three brothers [Jean, Cees and Alexandre] had already decided that our children would not work in the business. So the Sato acquisition was welcome.

We had been courted by various international converting groups over the last ten years. Our strength in compliance – not common in Brazil – was a key aspect of this interest, as we are known as a serious, reliable company focused on quality and service.

L&L: What advantages will the acquisition bring to Prakolar?
AC: Being a part of a strong converting group such as Sato allows us to take advantage of synergies with our sister companies around the world. We can share customers and open doors for each other. We can serve a big, global end user with high quality labels in multiple markets, which is something that multinational clients are increasingly looking for. At Prakolar, we have particular expertise in pharmaceutical label printing, for example, and we can share this knowledge with other Sato Group companies. Sato Group is the second biggest consumer of PS label materials in the world, which also brings advantages when it comes to bulk purchasing.

> "We had been courted by various international converting groups over the last ten years. Our strength in compliance – not common in Brazil – was a key aspect of this interest, as we are known as a serious, reliable company focused on quality and service"

L&L: What challenges are involved when a company is acquired by a foreign group? Are there differences in culture or in operation methods?
AC: We found the transition to be smooth. There are some small differences in methods, but nothing that has caused an issue. For example Sato requires very fast reporting of results, whereas we, as a family company before the acquisition, were slower in this area. But we are working on it. Otherwise, there are no big issues. We are now working to more specific budgets, which is also a difference. But even as a family company, we have always been very focused on compliance, which has been an advantage. It's one of our strengths.

L&L: To what extent will technology, standards and processes be standardized with Sato's other printing operations?
AC: There is no need to standardize technology, but there are benchmarks set by Sato which we all have to follow. Each operation has different strengths and areas of expertise, so we can complement each other. Prakolar is traditionally more focused on quality, for example, than on productivity.

One of Prakolar's three Mark Andy Performance Series P7 presses

L&L: What do you consider to be Prakolar's main strengths?
AC: I think we have five main strengths: 1) We have a strong brand in Brazil and are known for our compliance and reliability. 2) The quality of our printing, and our color management expertise. 3) Our quality management processes are highly developed. 4) There are never problems with the performance of our labels: there are no breaks, no missing labels; we use top quality materials and adhesives. 5) We offer quick turnaround: inks and dies can be used interchangeably on all our flexo presses, so this flexibility helps us to achieve good lead times.

L&L: What equipment and technology does Prakolar employ?
AC: We have eight production lines: five Mark Andy presses – two 4150s and three Performance Series P7s, the latest of which was installed last year; two Nilpeter machines – an FB 3300 S flexo press and MO offset press; and an HP Indigo WS6000 digital press. Digital finishing takes place on an AB Graphic Digicon Series 2, while eight Rotoflex machines – equipped with Nikka inspections systems – handle conventional finishing. We use Esko for pre-press and do our own in-house color management, but platemaking is outsourced.

L&L: As a long-time Mark Andy press user, what do you see as the particular benefits of those machines?
AC: Mark Andy presses are very reliable and resilient. They're durable. They focus on quick set-up times and low waste. We installed our first Performance Series P7 in 2012, after running trials on Mark Andy, Gallus and Nilpeter presses. With regards to low waste and low set-up times, at that time the P7 came out on top. Here in Brazil we receive great support from John Cavey [Mark Andy's Latin America sales manager, who was brought up in Brazil] and Miguel Troccoli [general manager of PTC Graphic Systems, Mark Andy's agent in the country].

L&L: What motivated you to install digital printing equipment?
AC: We wanted to be able to supply customers with short runs and variable data work. Our clients often have different run lengths, so it helps us to be able to handle all their work. Average run lengths are reducing each year. But the Mark Andy P7 can also handle short run work effectively, with a low break-even point thanks to its quick set-up and low waste.

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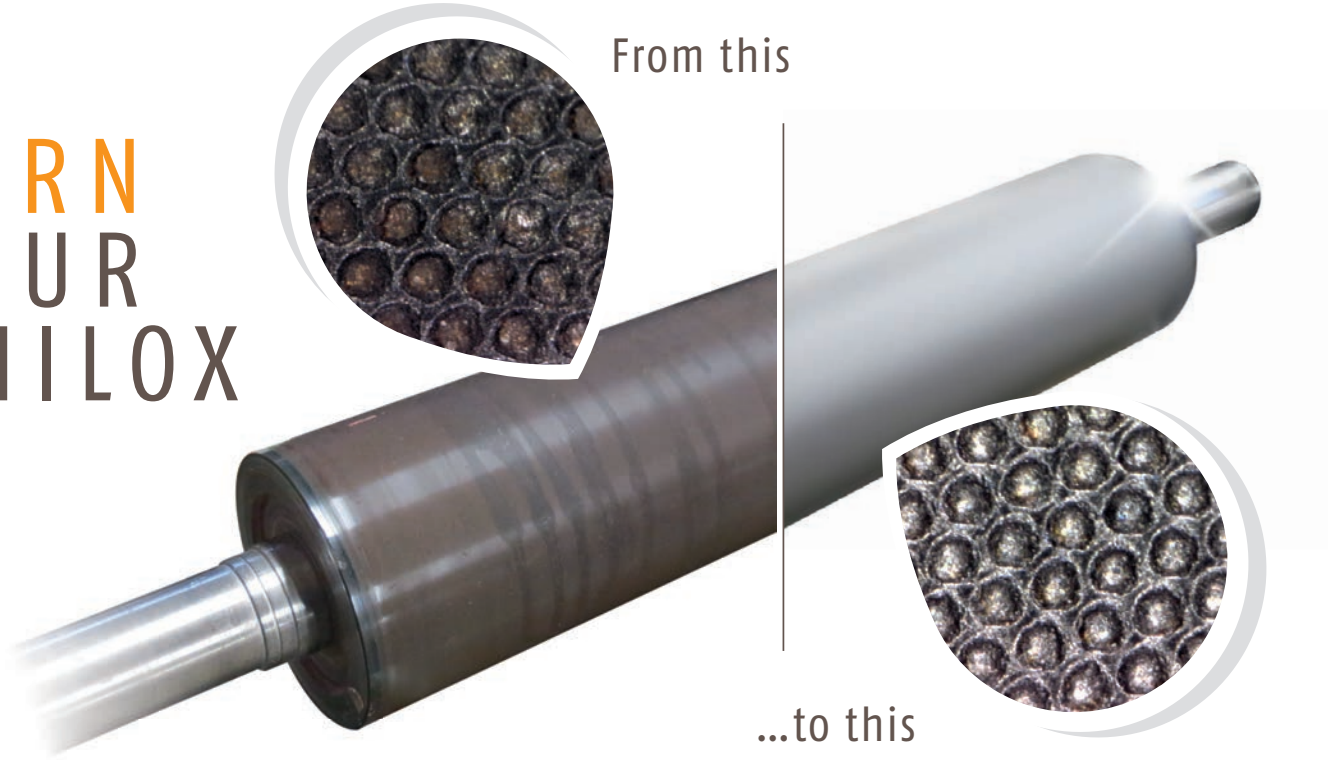

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Finishing and inspection at Prakolar's factory in Sao Paulo

Sato in South America

Sato Group's acquisition of Prakolar in November 2015 added the Brazilian company to a regional network which includes Sato Auto-ID Do Brasil, Sato Argentina and Achernar.

L&L: Away from machinery, what technology used by Prakolar do you consider particularly important to your business?

AC: I would mention two, both of which are crucial to our business: the ALIS 100 percent inspection systems from Nikka, which we use on every rewinder and also on the latest Mark Andy P7, helping us to avoid waste in the first place. And the Automation Engine workflow from Esko – it's an amazing software which can automatically program all the steps which would previously have been done manually.

L&L: What are Prakolar's principle end user markets? Which of these is seeing most growth?

AC: Cosmetics takes 36 percent of production; pharma 31 percent; and automotive (labels for car batteries, tires, lubricants etc) 24 percent. The rest goes to beverage, food and household goods. Despite the recession in Brazil, the automotive industry is showing good growth: people might not be buying so many new cars, but they still need new tires and other after-sale items. The cosmetics and pharma markets are also still strong.

"Being a part of a strong converting group such as Sato allows us to take advantage of synergies with our sister companies around the world. We can share customers and open doors for each other"

L&L: How important is sustainability to Prakolar, and what initiatives have you put in place to reduce the company's environmental impact?

AC: Environmental sustainability is an important subject for us. We employ a system to capture rain water in a huge tank and we use it for cleaning in the factory. Residual chemical waste is collected and disposed of by government-approved specialist companies. We have a partner for liner recycling: Prakolar customers can send their liner waste to this partner for recycling. We use LED lightbulbs throughout the offices and they are about to be installed in the factory too. We use no solvents in production and all cleaning materials we use are environmentally friendly.

L&L: What are your main interests outside of work?

AC: At home with my wife and two teenaged daughters, I love to cook: particularly barbecue, which is very traditional in Brazil. I am a huge fan of blues rock: I saw the Rolling Stones live in Sao Paulo just last weekend. But the best gig I ever went to was last year, when I saw Eric Clapton play in Madison Square Gardens. A poster from the concert takes pride of place on the wall of my office.

Prakolar timeline:

1967: Prakolar founded in Santo Amaro, Sao Paulo Moves to new factory in Belenzinho neighborhood

1983: First Brazilian self-adhesive label converter to employ UV curing

1993: Alexandre and Cees Chatziefstratiou join their brother Jean at the company

1995: Installs first flexo press from Mark Andy; moves into prime label production

1997: Company grows by 253 percent over a four-year period

2008: Becomes a PLC; installs Nilpeter MO offset press

2009: Installs Nilpeter FB 3300 S flexo press and HP Indigo WS6000 digital press

2012: Installs two Mark Andy Performance Series P7 presses. Begins shrink sleeve production

2015: Wins, for third time, customer-voted Sindusfarma award for excellence in pharma label printing. Acquired by Sato Group

www.prakolar.com.br
www.satoworldwide.com/sato-group/sato-group.aspx

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The state of the label industry

Bob Cronin of The Open Approach outlines seven key drivers behind today's M&A transactions

The label business is at intriguing juncture. As we come off 2015's 'Year of the Deal' 4.3 trillion* M&A transaction volume – and labels' and packaging's role in it – it's important to stop and see where we're at, where we're going, and what issues we need to address. Times have changed from five, and even three, years ago. We need to regroup and decide how to tap into today's dynamics to ensure our future. While the overall industry remains opportune, not every label segment, market, or entity is positioned to thrive.

Over the last few years, the label industry has undergone remarkable change. We have witnessed manufacturing breakthroughs, security and anti-tampering revelations, new substrate introductions, and digital capabilities that are changing the way we do business. With it all, we saw increasing global competition and accelerating M&A activity, primarily from strategics – a sure sign that our industry is consolidating.

When you look at the ongoing consolidation of the label business, you may be asking yourself why this is happening, whether it can continue, and what it means to the industry as a whole.

> "Labels and packaging – and print in general – will always be a relationship business"

In working with both providers and customers, I see seven key drivers behind these transactions:

7. Fragmentation

If ongoing label M&A shows us anything, it's that our industry remains extremely fragmented, with thousands of small, many mid-sized, and a few relatively large players.

Consolidation here is logical because of the potential value creation of joining multiple smaller operations into a larger base. Acquisitions will be driven further by the need for greater capabilities, as label buyers continue to demand more from single suppliers.

Small companies that remain agile and maintain unique strengths will have options (and even be able to stay on their own if they choose). For those that do not, they will be usurped in a quick deal or left to falter. Either way, over the next few years, we are looking at a label business with a lot fewer players.

6. Geographic expansion

The global business environment and the Internet have created the expectation that any supplier can service any customer, and provide anything, anywhere. Yet, most companies still support only local and regional markets at best. Capturing multiple capabilities that extend across multiple geographies is at the heart of M&A. It's not just about achieving scale; it's about gaining

meaningful scope and expansion.

Many smaller players are supporting niche territories or handling areas of the market that majors do not pursue. These companies, thus, are attractive acquisition targets since they provide growth for the acquirer and, in many cases, exciting new capabilities for the acquired's existing clients. In most M&A cases, such increased geography is a win-win for both parties.

5. Governmental regulation

No matter where you operate, every country's government continues to call for sweeping changes to labels. This could be the addition of new reporting of health warnings, calories, nutritional content, presence of gluten/GMOs, hazardous material content (such as gluten/GMOs), and more – all driven by what is deemed important at the time. Not only have we seen the need for labels to discuss elements nobody heard of five years ago, but each element's rank and size on the label seem to be moving targets. (The FDA's currently proposed Nutrition Facts Update could overhaul this again, not to mention alarm consumers who, faced with larger type, can no longer claim ignorance to the fat and calorie content of their daily Frappucinos.)

Ongoing government involvement and regulation mean an explosion of changes and versions across all end product categories. While such changes bring continued cash flow and profits to the label provider, they are a headache to your customers. Label providers need to have ready solutions to not only respond to government mandates that affect their customers, but proactively address potential changes as they are being discussed. These pressing issues mean ongoing growth in our business, supporting the label market's continued opportunity for buyers and investors.

> "What you see on the shelf today will look different tomorrow. The only thing we can be sure of for the future is that this change and evolution will continue"

4. The end customer

Perhaps the greatest influence in the label business is the end customer. While governmental regulations address their informational needs, creative labels and packages answer their other desires. Indeed, huge manufacturing opportunities are being created by the wavering fancies of Joe and Jane Consumer. Consider how many new products have rolled out based on the modern-day, over-scheduled lifestyle. Think single-serve packaging, convenience pouches, and on-the-go packs for everything from snacks, to cheese, to milk, to pre-cooked chicken. We're even seeing combinations of different food groups and collaborations in new 'power fuel' and 'meal solutions' packages, along with plenty of converging brand extensions.

The end customer is driving new change, and this is important to our industry. Those agile enough to rapidly respond have the opportunity for outstanding profitability and lucrative acquisition. Plus, when what you do for your customers has extreme importance for their needs, you have a business relationship that lasts years and debunks the 'price only' mentality.

3. Message and marketing

Labels carry the brand image, the sales message, and the goal of the products they represent. Today, for just about any product, there are more than a dozen options that claim to do the same thing. Confronted

by the myriad choices, consumers will make their decision on the label or packaging.

Does the label answer the questions I need to know? Are the benefits immediately clear and understood? Does the label or packaging indicate the product is high-value, trustworthy, modern, exciting, unique, or sexy? Or does it just elicit a yawn as the same-old, same-old?

Being able to provide for all the 'bells and whistles' not only helps answer all your customers' arising needs, but also those of your prospects. Any new program you are doing now should be leveraged in your sales tactics. Moreover, extended capabilities will boost your visibility with the large strategics (who need to buy you or compete against you) and other investors.

2. Relationships

Labels and packaging – and print in general – will always be a relationship business. Online-only providers will capture a share of the low-paying deal hunters, but the meat and potatoes of the industry (and the profits) will come from customers who depend on you to build their business. People buy from people they trust. Labels are a product that represents the image of a company, on a shelf, off a website, or at point-of-purchase.

The label industry has always been, and always will be, about answering the needs of the customer. That said, the digital age has created the expectation for immediate gratification. Customers need their materials now, not tomorrow or next week. And thus, they align themselves with partners who can respond quickly.

In today's market, you need to have fast-response digital capabilities, in-house creative expertise, robust fulfillment and mailing solutions, and 'local' presence – with either your client or their end customer. These can become realities with thoughtful strategic expansion. Years of effort to open a series of key relationships can sometimes signal the need for an acquisition.

1. Evolution

Finally, and perhaps most important, is the reality of ongoing change. Longtime businesses such as labels (and print in general) can get used to a certain comfort level. Entrepreneurs grow to think that while markets have rebalanced, there will always be a need for pressure-sensitive and other old standbys, and that clients who have been ordering the same product from you for the past decade will always be there. But beware. In this business, things can change quickly.

The technological breakthroughs we've seen – across manufacturing, ordering, new product concepts, trackability and RFID tools, anti-tampering devices, and in areas such as films and foils – are incredible. And they are industry-changing. What you see on the shelf today will look different tomorrow. The only thing we can be sure of for the future is that this change and evolution will continue.

Indeed, the label and packaging industry is dynamic, exciting, and rife with opportunity. It is also complex, challenging, and competitive. It is these characteristics that give it the substance that brings investors and buyers to our space.

The seven drivers presented in this article reflect today's need to continually develop, invest, and adjust. These considerations may be completely different in the next three years. Your ability and willingness to change, grow, and adapt will be the greatest factor influencing your ability to be a seller, buyer, and solo entrepreneur long into any investment time frame.

** Dealogic data, as published in the Wall Street Journal, December 4, 2015*

Bob Cronin is managing partner of The Open Approach, an M&A firm focused exclusively on the world of print. In addition to spearheading several large label and packaging industry transactions, the firm regularly handles value-enhancement initiatives and organizational workouts/turnarounds. To learn more, visit www.theopenapproach.net, email Bob Cronin at bobrcronin@aol.com, or call (+1) 630 323 9700

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Young Managers

Amar Chhajed, Webtech Labels

Packaging is the first handshake between the consumer and a brand. And a label is the single largest contributor in conveying the identity and positioning of the branded product in the marketplace. Being so important means that labels are subject to intense scrutiny for their quality, performance and aesthetic appeal.

Founded in 1998, Webtech Labels is among the largest manufacturers of PS labels in the Indian sub-continent. We have invested very early in path-breaking technologies and processes to stay ahead and lead the industry. Adopting 100 percent defect detection systems and in-house solvent free platemaking more than a decade ago enabled us to build an unmatched reputation for consistently high quality. Aiming for zero defect in an era where quality consistency was the biggest challenge proved to be the recipe to our growth and success. I have always believed that any technology or machine can only manufacture a product, but cannot build a business. A successful business is built on the back of a highly committed team with the knowledge and resources to achieve the set goals.

The global label industry is highly evolved and has a unique standing in the sphere of packaging. When I started the label business in the late 1990s, a PS label was considered a premium means of product decoration. Today it is one of the most commonly used and efficient ways to decorate a package. Traditional offset and letterpress have long given way to flexo printing as the mainstay technology to produce labels.

The industry today is in a dilemma, raising fundamental questions for printers. On one hand there are several developments in conventional equipment, like combination presses, hybrid presses and other highly automated flexo machines.

And on the other hand is digital, which has single-handedly challenged the established world of conventional print. Having said that, I do not believe that the highly productive and cost-effective conventional methods of printing can be written off. We are witnessing aggressive innovation from conventional technologies. These are bridging the gap with digital offerings. Some examples are REVO digital Flexo, and on-the-fly plate roll and die changeovers.

Webtech's culture of early adoption ensured we moved into digital seven years ago. Though it has not been an entirely smooth ride, it has prepared us with the knowledge and experience to ride the digital wave to our benefit. The biggest reason impeding the wider acceptance of digital is its prohibitive cost. The right balance between volume production and cost of inks is yet to be achieved. I believe it is a matter of time before the print cost of digital takes a nosedive and that would be a defining moment for the industry.

The industry is no longer restricted to a particular type of label: the line between PS labels, shrink sleeves, IML and wraparound has blurred. Printers are expected to offer complete solutions and equipment is expected to produce the entire range of possibilities. This has not only made the business more complex but also opened up new growth opportunities.

I think there is still a great degree of possibility for innovation in the industry. We have not really looked at fundamental changes in the way we produce a label or its materials. Technologies such as linerless or bio-degradable labels have shown that disruptive ideas can make a lot of sense. At Webtech, we constantly look for new technologies and partnerships to develop ideas that could be the solutions for tomorrow.

Amar Chhajed started Webtech at the age of 24 and built the label business from scratch to a leadership position in the Indian sub-continent in less than ten years. It operates today as a joint venture with the Huhtamaki group in India










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Expanded gamut printing 101

With press manufacturers actively promoting 7-color ink systems for flexo converters, Chris Baldwin at Nilpeter USA looks at the requirements, challenges and advantages of Expanded Gamut Printing

So what is Expanded Gamut Printing? Basically, it's seven color process printing: Cyan, Magenta, Yellow, Black with the addition of Orange, Green and Violet. It's also referred to as Extended Gamut, Hi-Fi Printing and Fixed Pallet Ink Set. For this article we'll use Expanded Gamut or EG Printing. The scope of this article will try to answer a few of the common questions that are asked by companies considering whether or not they should be doing EG printing. A few of the questions are: Why do it? What's needed to do it? How to do it?

It's been said that EG seems to point to the quality aspects of the process while Fixed Pallet Ink Set points to the economic aspects.

Why do it?

There are several reasons for considering EG Printing, but most of them fall into two categories: financial and quality. How to be more profitable and how to print higher quality labels and packaging. Since the main reason companies are in business is to make money, we'll start with this one.As most business owners know, there never seems to be the time and the margins they were used to when selling their labels in the 'good old days'.

With the rising costs of substrates, inks, plates etc and buyers from the companies you sell to demanding lower prices and shorter lead times, it's becoming harder and harder to make a profit or, worse, stay in business. Since external factors such as the cost of substrate, petroleum prices etc are out of your control then the factors that you do have control over are the internal ones. This is where we'll focus: how to become more efficient and profitable with the help of EG printing. Since efficiency and cost savings go hand in hand, how can EG help?

- **Ink savings –** The average printing shop has numerous liters of ink on their shelves that are half used or used for certain jobs with special colors. Sometimes there can be hundreds of liters of ink in inventory that aren't making you any money. With EG you only need seven colors.

- **Fewer anilox rollers –** With EG, since you are only running seven colors you can reduce the number of anilox rollers needed. While you'll still need a few extra rollers for coatings, opaque whites and line colors that are outside of the gamut range, your anilox inventory can be significantly reduced.

- **Reduced wash-ups –** Since you are mainly running the same seven colors you will no longer have wash-ups between job changes. Not only will this reduce your set-up times for the next job, it will also allow you to run more jobs and increase capacity. Essentially you will only have plate changes.

- **Ganging jobs –** In most cases ganging jobs together has always been dependent on items running the same spot colors. With EG you are no longer limited. You will have the ability to run many shades of different colors at the same time, which in turn will give you more through-put each day.

- **Material savings –** With EG once you have standardized your process you will no longer have to use your press as a very expensive ink proofer. Matching colors on press is one of the biggest culprits of wasted time and wasted substrate. If you consider just the material savings alone this is more than enough reason to seriously consider Expanded Gamut Printing.

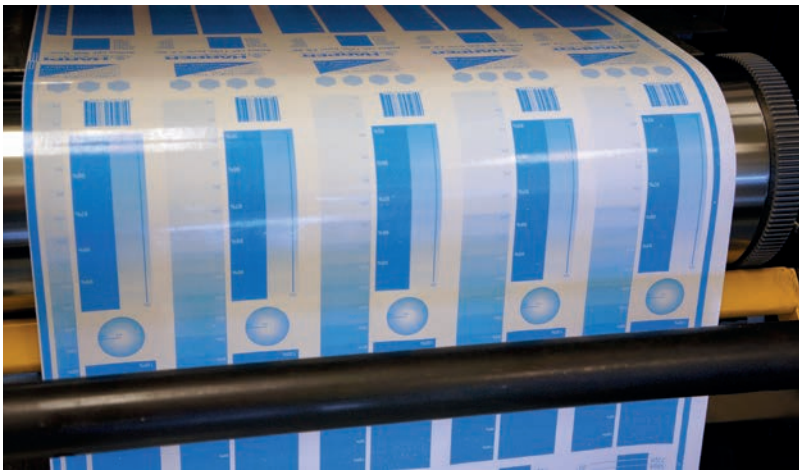
As you can see from the five examples listed there is a great opportunity to improve on the internal factors that are in your control and increase your company's efficiencies – and more importantly, profitability!

Higher quality

Now we will focus on how EG printing can help you produce higher quality labels.

With EG printing you are able to print a greater range of colors due to the ability of hitting a larger color gamut (Expanded Gamut). With four color process, flexographic presses can match approximately 50 percent of the Pantone book, while EG Printing can

Key parameters to control include registration, impression and drying/curing



Banded anilox roll test

match 75 percent or more.

A common question that's asked is: 'Is it worth adding three more colors for only 25 percent more?'

That's a good question and in short the answer, in my opinion, is yes. In G7-ISO color standard specifications you need to be at a Delta-E of five or less on color matches. Obviously some CPG companies with larger brands require tighter colorimetric tolerances, but other companies' standards may not be as strict.

Although with the additional three colors you can only achieve around 25 percent more Pantone colors than standard four color process, the colors that are outside of the gamut range are much closer with seven colors than four. As an example, let's say there are a thousand spot colors in a color book. With four color process you can match 500 of those and with EG you can match 750. That's 250 more colors that are achievable with the addition of only three more colors to the process. This is not including any special match colors.

With EG, jobs that have a lot of orange, green, violet or purple shades are more vibrant than standard four color process. The additional colors will enhance any labels and packaging that have photographic images and give them more 'pop'.

But from a practical standpoint, a lot of jobs are vector images or line copy. This is where Expanded Gamut really shines. Being able to print 75 percent or more of Pantone spot colors from only seven colors is the real advantage. As a note, the majority of the spot colors are only made from two or three colors, which in turn helps with registration.

Hopefully now you've been given enough reasons to help answer the question of 'Why do it'?

What's needed to do it?

Now that you are considering EG printing you will need to determine if your existing equipment is up to the challenge. Here are several things you need to verify before you get too far into the journey.

- **Registration –** Depending on the line screen that you intend on running you will need to determine what register tolerances your press is capable of holding. Since you are building spot colors with half-tone dots you need to hold tighter register to prevent shifts in color. Ideally you should be able to hold .002 (.05 mm) register for tighter Delta-E control.

- **Color management –** You will need to determine how well your press can maintain density at running speeds and throughout speed changes. To be able to maintain tighter and more consistent color matches, verify with a densitometer that your density stays within a few points.

- **Impression settings –** Verify that you can print with even impression on both sides of the web. With a densitometer you want to be at 3 percent or less from one side of the web to the other. Also check that you maintain impression at different press speeds, and that your impression comes back consistently during starts and stops.

- **Drying/curing –** Typically wide web presses use solvent-based inks on a central impression drum but narrow web, inline presses use UV inks. UV inks are more consistent and are easier to maintain and are recommended for EG printing. Verify that your lamps are curing properly at production speeds.

Once you have determined if your existing equipment is capable of EG printing, or you need to invest in a new press, then the next question is:

How to do it?

Before going to press with the EG process, a thorough evaluation of several things needs to be performed to achieve an acceptable end result. The first step in the evaluation process is:

Optimization

During optimization you will need to identify:

- Substrate(s)
- Plate DPI/LPCM
- Ink system
- Plate material
- Mounting tape
- Anilox rollers

Once you have chosen these components you will be ready to proceed.

- **Banded anilox test –** One of the best methods for selecting anilox rollers is a banded anilox test. A banded anilox roll has multiple engraving bands across the roll that consist of different line screen counts and volumes. Typically there are five engraving bands on a narrow web test. Once you have worked with your anilox supplier and determined the cell count/volumes that you want to test, and the banded roll has been made, then you will do a print test. The print test consists of a photopolymer plate that has tints, solid targets, etc. that has been designed to match the engraved bands of the anilox roll. Please refer to image above

- **Ink set –** The inks that are chosen for the EG process are not typical process inks. The CMYK colors have to hit a Delta-E value of 5 or less to be compliant within the G7-ISO L*a*b* ink color standards. The OGV inks need to be mono pigmented and need to fall within the proper hue angles of Flexographic Image Reproduction Specifications & Tolerances (FTA-FIRST), while achieving the most chroma.

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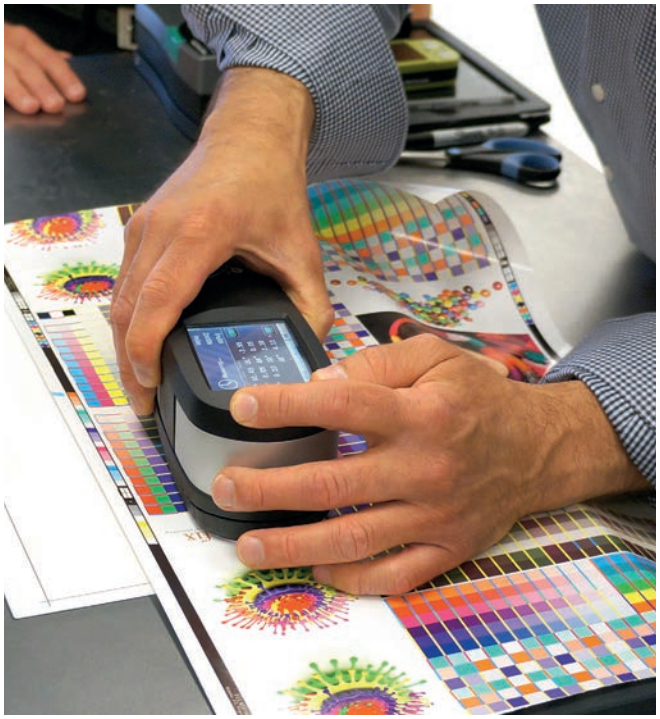

Performing a fingerprint test using a spectrophotometer to measure color and densities

Profile test using a set of plates with the curve applied from the fingerprint

- **Plate package –** To achieve the highest level of print quality the durometer of the plate in combination with the best compressibility of mounting tape (plate package) needs to deliver the smallest highlight dot while achieving the optimum Solid Ink Density (SID).

Note that for best results all of your testing needs to be done at production press speeds. You will also need to repeat the tests on each substrate you will use.

The next step in the process is:
Fingerprint test – After optimization is complete a fingerprint test will be performed to help determine the print characteristics of the press. The purpose of the fingerprint is to:

- Linearize the press to an industry standard such as GRACoL/G7
- Neutralize press for gray imbalance
- Produce neutral print curves

To be able to achieve repeatable results during production runs, the fingerprint must be run under normal conditions, at production speeds, using virgin ink along with clean anilox rollers.

Note that if the tests are not done in normal press room conditions it will be extremely difficult for the press operator to repeat the same results on production jobs.

During the fingerprint a spectrophotometer will be used to measure color and densities as well as check for even plate impression, which needs to be three percent or less from operator side to gear side of press. (Example: using the dot area function on your device measure a fifty percent patch and keep impression deviation at three percent or less). Close attention needs to be payed to ensure there are no skips or dirt on the data targets or the test results will be inaccurate. See image above.

After the fingerprint data is collected and extrapolated, a near-neutral curve will be applied to the seven colors and added to the profile target.

The next step in the process is:
Profile test – After the fingerprint test is complete, the next step in the EG calibration process is profiling. The profile test will use a set of plates with the curve applied from the fingerprint. Note that the profile test must be printed under the same conditions as the fingerprint trial.

The profile target used is an IT8.7/4 consisting of 1,638 patches of different CMYK color combinations for overprints. Images are added to the test form as well to help validate the proof. First run the target plates in the CMYK stations to create a traditional CMYK profile. Next place the cyan plate into the orange station and run the target with mykO. Put the cyan plate back into the cyan station and place the magenta plate into the green station and run the target with cGyk. Put the magenta plate back into the magenta station and place the yellow plate into the violet station and run the target with cmVk.

Once the four data set combinations have been run and the information is extrapolated, the EG profile is ready to be validated. After validation of the data is complete, conversion of screen builds into spot colors can be accomplished through prepress software. Once the EG separation is complete you will be ready to go to production. See image above.

Working with a trade shop experienced in Expanded Gamut printing will be invaluable and vital to your success.

The EG process, like any other, is a journey; it will take a commitment of team leaders to make it happen. This process, along with the sophisticated and automated inline presses of today, make this a very achievable and realistic advantage to the narrow web packaging market.

That being said, I wish you success in your Expanded Gamut journey.

Chris Baldwin has been in the packaging industry for more than 28 years. Starting as a printer in a label shop before moving over to flexo press manufacturing, Baldwin has held numerous key positions, including R&D manager, print trainer and capital equipment sales. Baldwin is currently technology center manager for Nilpeter North America. He is a First Certified Implementation Specialist through the FTA and an acting FTA awards judge

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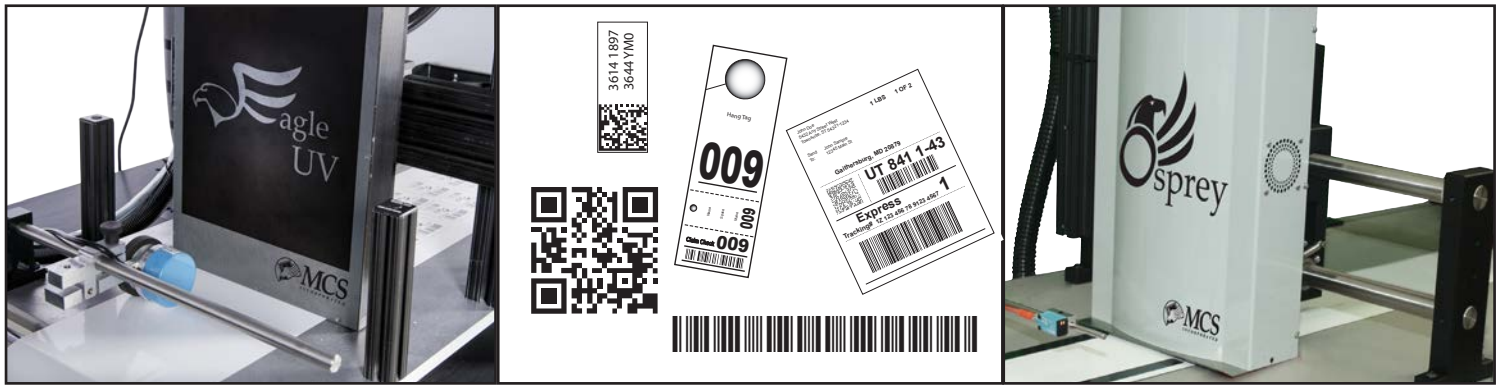

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'The rapid rate of adoption and interest will soon see RFID become the new norm in retail' – SML Group CTO Dean Frew

SML already works with a dozen and more brands and retailers, and is present in hundreds of stores

SML puts focus on technology for apparel retailers

Global branding and apparel labeling specialist SML Group is putting RFID technology at the heart of its future growth, as David Pittman reports

SML is an apparel, branding and packaging specialist which partners with some of the world's most prominent brands and retailers through a combination of its global presence and a diversified, technology focused product offering, from woven labels and printed multilayer fabric labels, to electronic article surveillance (EAS) and RFID.

RFID is of growing importance to SML, which began life in the mid-1980s as Hong Kong-based Dong Ying Computer Label Development. Since then the business has opened an office in Singapore, moved into the US and India and made a series of mergers and acquisitions including RFID software specialist Xterprise in 2013 as part of the group's development and move into technology focused retail and logistics markets. Xterprise was renamed in 2015 as SML Intelligent Inventory Solutions (SML IIS).

Market transition driving RFID adoption

Dean Frew, former president and CEO at Xterprise and now chief technology officer and senior vice president of RFID Solutions at SML Group, describes the company's transition as 'a pretty courageous thing' which needs to be matched by the wider retail sector.

'Retailers are having to change and manage their inventories differently, and are targeting a much higher level of accuracy. This is seeing technology being pushed right into the label and allowing item-level inventory management to become ever-more real.

'It is a huge transition for the industry. Retailers need better inventory management to facilitate omnichannel retailing, which they will struggle to do with existing, legacy technology. The last major technology change was the introduction of barcodes more than three decades ago, and up until now the conversation has mostly revolved around how we can use barcodes differently.'

SML has offered RFID through strategic partnerships since the second half of the last decade, although there had been earlier uses of the technology, and Frew only sees demand heading in one direction with, 'momentum doubling year-on-year.

'Retailers want to get faster and be more efficient, but they are hampered by inventory accuracy of 75-80 percent owing to relying on old technology. Integrating RFID into stores can get them to 98 percent accuracy, which allows them to operate more efficiently and serve customers better across a multichannel platform.'

Similar to the adoption of digital printing technology in the manufacture of labels and packaging, this necessitates investment in the whole ecosystem – from the POS equipment and other hardware, to the software and labels themselves. SML Group prides itself on offering the full ecosystem, as Steven Davidson, SML Group chief commercial officer, details.

'We are putting together an extended and compelling proposition embracing RFID. We own all of the value chain, from the labels through to the software, with wholly owned operations in 30 countries. This provides us with a globally integrated fulfilment model, and a solid bedrock for expansion. As RFID adoption increases, only a few will be able execute delivery of the technology and systems as comprehensively as SML.'

Massive growth

Frew estimates that just six percent of the retail market currently uses RFID, but this will grow to 35 billion RFID-enabled tags a year in Europe and the US.

'This year we will manufacture one billion RFID tags. And last year we handled over three billon RFID transactions across our Clarity software in retailers stores, which will grow to 300 billion in a few years.

'We are already working with a dozen and more brands and retailers across hundreds of stores, so there are real-world examples capturing the attention of other retailers and brands, who are then asking "how do we do that?". This rapid rate of adoption and interest will soon see RFID become the new norm in retail.'

For further information, see the anti-counterfeiting technology feature on p107

Label Summit Latin America will take place in Cartagena, Colombia, on April 26-27

Label Summit to bring together industry leaders in Cartagena

James Quirk previews Label Summit Latin America, which takes place in Cartagena, Colombia, on April 26-27

Label Summit Latin America 2016, which takes place at the Hotel Las Américas in Cartagena, Colombia, on April 26-27, has lined up the industry's leading suppliers for the table-top exhibition and an array of expert speakers for the conference program.

Speakers include Georges Gravanis, president of Avery Dennison's Materials Group, who will deliver a keynote presentation on the Latin American label market and the wider global industry. Thomas Hagmaier, president of European label association Finat, Dan Muenzer, chairman of North American association TLMI, and María Gruesso, executive president of Colombian graphic arts association Andigraf, will each provide an overview of the trends and challenges dominating their respective regions.

Carolina Alzate, co-founder and creative director of Colombian design studio ImasD, will present on branding and packaging design. ImasD, founded 10 years ago, has won nine international awards including three Pentawards (the 'Oscar' for packaging design) in Paris 2012, Toyko 2014 and London 2015. Alzate's expertise encompasses a number of different sectors, including food and beverage, cosmetics, medicines, spirits, home care and personal care.

Challenges

A panel session looking at the challenges of setting up a plant in a foreign country – whether from scratch or through acquisition – will bring together label converters from Argentina, Colombia, Ecuador and Mexico. María Olcese of Argentine converter Achernar, which was acquired by Sato Group in 2012, is now in charge of the group's South American operations, which was recently added to by the acquisition of Brazilian converter Prakolar. Carlos Rodriguez is president of Mexican converter Graphic Image, which also operates a plant across the border in the USA. Sismode's general director Francisco Arias founded Coditeq in 1993 to expand the Ecuadorian company's coding equipment business into neighboring Colombia. Coditeq is now run by his brother, Jorge Arias; both will share their perspectives on the panel. Iban Cid, president of Spanish converter Germark and a former president of Finat, will give a presentation on the benefits of implementing RFID and augmented reality which includes a case-study from sport and fashion footwear retailer Munich.

In an interactive workshop on the afternoon of day two, visitors can sample local beer and hear how it is brewed, with a designer, label converter and material manufacturer on hand to answer questions. Participating companies include Club Colombia – Bavaria, ImasD, UPM Raflatac and Colombian converter Etipress. Delegates will be able to keep abreast of the latest technology developments in sessions covering digital, flexo and hybrid printing, in-mold labeling, shrink sleeve labeling, film labeling, color management, inspection and more.

The program will also focus on subjects including environmental sustainability; incorporating neuroscience and eye tracking into packaging design; and moving into new markets such as flexible packaging.

It will be the second Label Summit held in Colombia, following the successful 2014 event in Medellín.

For more information, go to www.labelsummit.com/colombia

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HP Indigo highlights key South American installations

HP Indigo has revealed a list of key installations across a number of South American countries during 2015. James Quirk reports

Mendoza-based Palero Impresores bought two WS6800 machines, taking its total of HP Indigo presses to four

HP Indigo has revealed a list of key installations across a number of South American countries during 2015, reporting Argentina and Chile as the press manufacturer's strongest markets in the region last year.

Chile saw the highest number of installations, with four companies – EADEC, Guerra, Multigráfica and Scott – buying WS6800 digital presses, and one – Munizaga – installing a ws4500.

According to Alexander Mercon, HP Indigo Label & Packaging sales manager for Latin America, Chile is one of the strongest markets for the supplier worldwide. 'If we're talking about per capita installations in countries around the world, Chile undoubtedly comes in the top three,' he says. 'It's a market that has truly recognized and taken advantage of the benefits of HP Indigo's digital technology, particularly in the wine label market, where the products require high resolution, the look and feel of offset, and quicker time to market.'

Argentina was the second most important South American market for the company in 2015. Mendoza-based Palero Impresores bought two WS6800 machines, taking its total of HP Indigo presses to four. Cartoon, located in the north of the country, and Rosario-based Borsellino also installed WS6800s. Borsellino now runs three HP Indigo presses.

Elsewhere in the region, Grupo Ravi (Bolivia), Servibarras (Colombia), Don Bosco (Ecuador) and Imprimex (Uruguay) all installed WS6800s, with Servibarras and Imprimex welcoming their second HP Indigo digital presses.

Digital in the Caribbean

HP Indigo also highlighted installations at Trinidad and Tobago-based converters Label House and Hyline, which both installed WS6800s as their second presses from the press manufacturer. 'There are clients who have backed digital technology and are convincing their clients to choose innovative labels that make the most of the possibilities offered by HP Indigo's digital presses,' says Alejandro Ortiz.

HP Indigo appoints Argentina-based channel manager

HP Indigo has appointed Sebastián Agustín as channel manager MCA South, covering Argentina, Paraguay, Peru and Uruguay. Based in Buenos Aires, Argentine national Agustín has more than 15 years' experience in the graphic arts industry. He joins HP Indigo from Eastman Kodak Company, where he was most recently regional sales manager covering Bolivia, Chile and Peru, based in Lima. He has also worked for Xerox and commercial printer Arcángel Maggio.

The move marks a shift in strategy for the digital press manufacturer, with a channel manager now based in Argentina for the first time. 'Thanks to Sebastián's experience in the Latin American market and especially the Southern Cone, we felt it was better for him to be located in Buenos Aires and to cover from there the neighboring countries and Peru,' explains Alejandro Ortiz.

'We believe it will be very beneficial for both the Southern Cone markets and for HP Indigo to have someone with easier access to the different countries and clients.

'In Argentina, there are different cities undergoing important economic development and the potential we see there has lead us to make this geographical change in order to give better coverage to the Southern Cone markets.'

This cross section of 2015 installations – combined with other converter clients covered by this magazine in recent years, which range from small family run businesses to large multinational operations – demonstrates the widespread penetration of HP Indigo's technology in the region. Markets and companies both large and small have embraced digital printing with equal enthusiasm.

'We know that 2016 is a year that will bring challenges as a result of the macroeconomic situation of many of the region's countries. The devaluation of some local currencies will affect all suppliers in the industry,' says Alejandro Ortiz, MCA Indigo business manager.

'But there are also opportunities. Companies are keeping lower inventories and have more need for on-demand orders and fast delivery, while quality requirements remain the same. These needs can be met by the versatility of applications brought by HP Indigo's technology.'

'In 2016, we expect to see Argentina and Ecuador continuing to consolidate,' says Alexander Mercon. 'Chilean converters continue to upgrade their equipment; the Colombian market also carries on strengthening. Central America and the Caribbean are markets that are opening up and developing.

'The HP Indigo 20000 is also attracting a lot of interest from the region's flexible packaging converters, while we see the HP Indigo 30000 in B2 format receiving solid interest from companies looking to diversify their product lines.'

Go to the L&L.com archive for in-depth features from recent years on EADEC, Multigráfica, Scott, Palero Impresores, Grupo Ravi and Servibarras

Constantia brings 'game-changing' smart technology to market

Constantia Flexibles and Thinfilm are bringing NFC-based smart tags to the high level wine and spirits market, as Chelsea McDougall reports

When the world's biggest combined flexible packaging and label converter enters a unique technology collaboration, the industry takes note.

Constantia Flexibles recently announced a partnership with Thinfilm Electronics to collaborate to deliver pressure-sensitive labels equipped with NFC technology. Constantia placed a 'six figure' unit order for Thinfilm's NFC OpenSense technology.

NFC OpenSense tags are thin, flexible labels that can detect both a product's 'factory sealed' and 'opened' states and wirelessly communicate contextual content to consumers with the tap of an NFC-enabled smartphone.

Each tag is uniquely identifiable and, when combined with a custom app and cloud-based software, enables item-level communication to a 'market of one'.

In addition, the tags remain active even after a product's factory seal has been broken, empowering brands to engage in consumer dialogue that extends beyond the point-of-sale and continues throughout the product's lifetime, including the opportunity to repurchase.

'This, in my opinion, is the ultimate tool to allow interaction with the consumer that's really specific,' says Dan Muenzer, Constantia's vice president of marketing. 'It pushes the interaction with the consumer to a level that's never been achieved before.'

Thinfilm and beverage brand Diageo first unveiled the 'smart bottle' concept at the Mobile World Conference in early 2015. The technology first was showcased on 500 Johnnie Walker Blue bottles available in Thailand. The two companies now aim to bring the technology before a wider audience.

'We look forward to leveraging Constantia Flexibles' expertise in order to optimize processes for the integration of NFC OpenSense into packaging and make this powerful technology accessible to their clients,' said Norway-based Thinfilm CEO Davor Sutija.

The partners will work closely to incorporate NFC OpenSense technology into wine, spirit and beverage labels as well as flexible packaging for consumer packaged goods.

High-end

It could take time for the concept to become mainstream. Right now, these labels are cumbersome and expensive to make. Constantia has developed a secondary process to incorporate the NFC chips to labels. This drives up the cost, so in the meantime they're being marketed to high-end food and beverage products.

Explains Muenzer: 'These chips are not cheap initially. It's going to cater itself to a higher price point. We're not going to see mainstream beer with NFC right away, you just won't. The price point is just not there.'

Constantia Flexibles' Label Division is managing the label-focused initiatives. These collaborative efforts aim to position Constantia Flexibles as a leading Thinfilm preferred converter partner moving forward.

'We have been collaborating with Thinfilm for over a year and are convinced our companies share an innovative DNA that will lead to real market differentiation,' said Mike Henry, executive vice president of Constantia's label division.

Along with the Constantia announcement, Thinfilm has sealed a partnership with Arc, Leo Burnett's shopper marketing and activation agency. The companies will collaborate across a variety of product categories to make the technology more accessible to brands.

'Technology affords people the opportunity to plan, shop, and buy on their own terms anytime and anywhere, resulting in highly sophisticated shoppers and a highly competitive marketplace,' said Nick Jones, executive vice president of innovation and growth at Arc/Leo Burnett, 'Thinfilm's NFC OpenSense technology is a game changer. It allows brands to connect with shoppers beyond the point-of-sale, delivering multiple messages throughout a product's lifetime.'

Meanwhile, Barbadillo, a leading Spanish winemaker, has unveiled an exclusive release of a rare sherry in 'smart bottles' protected by Thinfilm's OpenSense technology. The tags incorporated into each bottle are designed to thwart counterfeiters, prevent unauthorized refills and facilitate product authentication.

Thinfilm Electronics and beverage brand Diageo first unveiled the 'smart bottle' concept in 2015. Thinfilm and Constantia Flexibles are partnering to deliver pressure-sensitive labels equipped with NFC technology

For more information on anti-counterfeit technology, see feature on pages 107-110 of this issue

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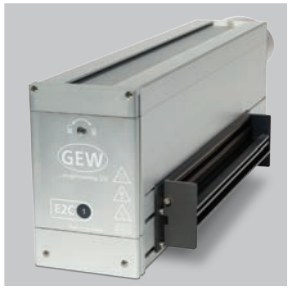

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Delegates for Working Without Waste

The seminar was held at Avery Dennison's European HQ

Working Without Waste

A roadshow featuring a group of leading industry suppliers has provided practical insights into how label converters can cut waste and increase profitability. Andy Thomas reports

The narrow web label industry faces major challenges, including increased competition, declining profitability and customer demands for shorter runs delivered just-in-time, product traceability and legislative compliance – all at a reduced cost.

At a time when pressure-sensitive growth rates in developed markets are little more than 1.5-2 percent, how can converters restore profit margins and meet these demanding market requirements?

The most obvious way is to reduce the astonishing amount of waste generated by the pressure-sensitive label industry, and this is the focus of the Working Without Waste (WWW) series of seminars now making their way across Europe.

This writer recently chaired a WWW seminar event at Avery Dennison's new headquarters in Leiden, Holland, a week after Mike Fairley chaired a successful seminar targeted at UK converters.

Target time not cost

The seminar kicked off with a fascinating keynote presentation from Dr Vincent Wiegel, an industry consultant and lecturer on Lean manufacturing at the University of Arnhem and Eindhoven. Dr Wiegel introduced the idea that time wasting is the biggest enemy of efficient working.

Converters should focus first on identifying dead time between operations, said Dr Wiegel. As an example of the dramatic impact this can have, he cited the case of National OilWell Vargo Corporation, which reduced its time to market from 75 to four days, with 99 percent defect-free production of custom engineered parts and costs reduced by 30 percent – all by focusing on eliminating wasted time.

Too many converters are stuck in a spiral of ever-increasing lead times, said Dr Wiegel. 'Planning variability means we build in a safety margin, which means lead times spiral because planned jobs get deleted by "hot" jobs. This leads to keeping more inventory "just in case" we get a hot job, which leads to extra handling, and to building in more safety margins and it all quickly gets out of control.'

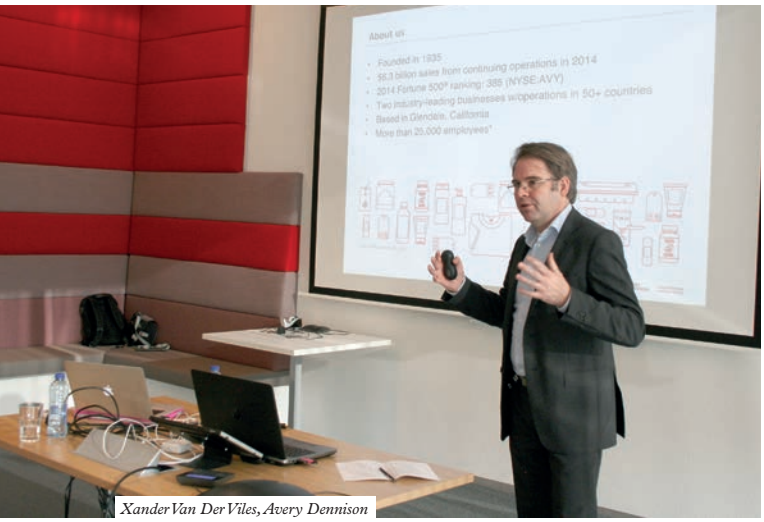
Dr Wiegel identified two different types of variability: strategic and dysfunctional. 'We want to get rid of rush orders replacing planned jobs, of materials shortages and wrong specifications. But we want to keep and exploit strategic variability, which allows us to make fast adaptions to changing conditions.'

Dr Vincent Wiegel

"UV is not used to its full potential. We can now monitor UV systems remotely and in one case saw a UV system on standby for 12 hours, with all that wasted energy and productivity"

This is where Quick Response Management (QRM) comes in. QRM is best seen as an extension of Lean manufacturing, and is designed for companies that not are mass producers, but where tailored customer products dominate – a perfect description of an average label converting business.

Dr Wiegel advised converters to 'ignore cost' and look at time. 'Examine your traditional process: order entry, design production, order processing, assembly and shipping, and you will see that the time a machine is running is a small part of the overall process. For



Xander Van Der Viles, Avery Dennison

most industries machine utilization is at most 10 percent – and often way less – of total lead time. Traditional improvement methods look at the cost and not time. I want you to focus on getting rid of the time when machinery is not productive and ignore cost.'

For each operation, converters should define a critical manufacturing path along a timeline.

'Look at where the job is waiting and the machines not working and this will tell you where to improve first – where your critical path is. Waiting time does not add value and simply adds cost. Waiting requires extra handling and dealing with enquiries from customers about "where is my order". And this actually interferes with expediting the "hot" jobs.'

To achieve reductions in lead time operators should be organized into multi-functional cells which process jobs from start to finish. Management must shift from top down to team ownership at cell level. 'The cell manages itself with a mindset that focuses on time and not cost or efficiency. Focus on time, then quality improvements and cost reduction will follow.'

"Van Der Viles issued a call for action to label converters, pointing out that 60 percent of the laminate roll becomes waste before it reaches the consumer"

Converters should make a start by focusing on just one type of problem: jobs with long lead times and high inventory levels; jobs where you have problems with quality or delivery (frequent rush jobs); and where jobs which have complex routes through many functional departments. This is where the greatest time savings will happen.

Avery Dennison – sustainable sourcing

The issue of working without waste has multiple aspects – both within the converting plant, and in the wider end user industry and municipal recycling systems.

Xander Van Der Viles, Avery Dennison's sustainability director, emphasized both aspects. Avery Dennison CEO Dean Scarborough stressed as early as Labelexpo Europe 2013 that the company would pursue responsible sourcing policies based around FSC-certified paper facestock and liners, as well as developing bio-based films. Today the company is offering a growing range of FSC products at the same price as standard grades, and as the performance is the same there seems no reason for end users and converters not to specify them.

At the same time, Avery Dennison has worked hard on developing adhesives which aid in the recovery of clean glass and PET container streams. These adhesives 'release' from the container surface under

the typical conditions found in glass and PET flotation recovery systems.

A key problem identified by Van Der Viles is that brands often don't realize these solutions exist. 'Although we have liner recycling programs, many end users don't realize that siliconized film and paper liners can be recycled.'

Avery has also been focusing on waste reduction at the converter. 'The Finat Environmental impact assessment presented at Labelexpo showed that the biggest impact on waste is during printing and die-cutting,' said Van Der Viles.

And the figures are extraordinary. During processing and application more than half of the original laminate roll becomes waste. Over 20 percent of that is due to start-up waste (including printing the wrong product) and matrix waste at the converter. One percent of waste is caused by label obsolescence, and 38 percent is liner waste after dispensing.

'That leaves 40 percent of the original roll for the final label, which is bad for the environment and our industry reputation,' said Van Der Viles. 'Brands are now focusing on reducing waste along whole value chain.'

Using its Greenprint Life Cycle Analysis, Avery Dennison has demonstrated that using thinner materials reduces both cost and waste. The company calculates that replacing PE85 with Global MDO leads to an annual 80 ton reduction in solid waste at an average label converter, while more labels on a roll impacts transportation waste, gives less adhesive bleed and less matrix and edge trim waste, as well as less liner waste for end users.

Even where PS waste is being collected, it is too often going to landfill or incineration – 'if you're lucky with energy recovery,' said Van Der Viles. 'But incineration produces flying ash with dioxins and heavy metals and CO2 and N2O are emitted. The ash residue is then landfilled.'

Recycling, not incineration, has to be the industry's goal, he said. 'Recycling has financial benefits, contributes to the circular economy, conveys a greener image of our industry and anticipates packaging waste regulation.'

Marcus Greenbrook, GEW

At Labelexpo Europe Avery Dennison announced the ambitious target of eliminating 70 percent of matrix and liner waste from the value chain in the next ten years, through a range of strategies including linerless technologies, further reducing material gauge and promoting recycling programs across Europe.

Van Der Viles looked at current success stories across Avery's recycling partner network – Preston Plastics in the UK which can recycle film waste; PET UK Ltd which can make new raw materials from siliconized PET liner, including thermoformed trays; and Smurfit Kappa, producing new board from PS recyclate.

Van Der Viles issued a call for action to label converters: 'Sixty percent of the laminate roll becomes waste before it reaches the consumer. What can you do? Separate matrix waste and make it

Maarten Hummeln, GSE


Bernd Schopferer, Martin Automatic

feasible for recycling. And promote to your customers that all labels and liners can be recycled.'

GEW – maximizing UV efficiency

The original motivation for launching the Working Without Waste roadshows was a meeting between the L&L team and GEW managing director Malcolm Rae, in which Rae said that many converters do not know how best to use the ancillary equipment on their presses to improve efficiency and reduce waste.

The company's international sales manager Marcus Greenbrook was on hand to explain both the sources of waste in UV curing technology and easily available solutions.

Greenbrook pointed out that UV curing can represent over half the energy cost of running a press.

'Even so, UV is not used to its full potential. We can now monitor UV systems remotely and in one case saw a UV system on standby for 12 hours, with all that wasted energy and productivity.'

Greenbrook identified obsolete UV systems as a key problem. 'Compared to modern systems they have high energy consumption, slow curing and frequent downtime.' Modern dichroic reflector technology, for example, allows far more of the UV energy to be focused on the substrate. 'This means we can cure at lower lamp power, which generates less head. Where 5-7 years ago we needed 200w/cm to guarantee a cure, now we have a greater UV output at 140 w/cm.'

Aging power supplies are often ignored, but are vastly less efficient compared to modern systems. 'Transformer-based systems are not balanced which means you need to run multiples of three lamps and at the same power level. Where one phase is running higher than the other two you are charged for that. With today's balanced power supplies it does not matter how many lamps you run or at what power levels. Also, older systems use sine waves which actually switch off briefly, while with square waves in today's power suppliers there is a constant electrical supply.'

Greenbrook estimated the efficiency level of modern electronic power supplies at 96 percent against just 70 percent for transformers.

As well as greater energy efficiency, systems like GEW's Rhino are more robust in aggressive environments of ink mist, dust, heat and electrical noise which are major issues for legacy UV systems. 'We can now protect against wrong voltage, spikes, dips, dropped phases and lighting strikes. You simply reset and restart.'

The ability to remote monitor lamps can dramatically reduce downtime by allowing GEW to predict when a component is failing. 'We are constantly and automatically measuring lamp heat, current, voltage and power levels. We can monitor shutter times – so for example if the shutter on a lamp is slow to close we can contact the printer to replace or clean it.'

Taking all these factors into account, Greenbrook said converters are seeing reductions of 50 percent in energy costs after replacing their older transformer systems, 'plus the wasted time trying to maintain older systems.'

Turning his attention to the energy saving potential of LED-UV, Greenbrook said, 'There are big operational advantages with LED – you don't need reflectors and shutters and we have measured LED array life of 20,000 hours against 3,000 for an arc lamp. Also, arc lamp output decays even while the press is on standby.'

But these advantages need to be set against the higher cost of specialist inks curing at a narrow wavelength, along with potential light stability issues and the requirement to water cool the back side of the LED arrays (GEW is working on an air-cooled system).

In conclusion, Greenbrook said that although the transition to LED has begun, there is a place for both technologies. 'Our arcLED lamp housing allows both arc and LED to be used on the same print unit using the same power supply, so you can move to LED when you ready. Or you might choose a hybrid configuration, using LED only on the base white, which is cured twice as fast with LED's longer wavelength, while process colors are cured with arc lamps.' Low migration LED inks are now under development.

GSE – Lean ink logistics

Maarten Hummeln, marketing director of GSE, described the waste involved in manual ink mixing and color matching on press. 'Lean ink logistics allows converters to eliminate multiple kinds of waste: overproduction, waiting time (as you have color first time right at the press), transportation costs, over-processing (you can recycle your ink inventory); reducing defects (first time right); and wasted human talent performing tedious jobs like rekeying orders and manual ink mixing.'

Hummeln described a Lean ink system as a base varnish and technical medium to which colors are added to achieve a target. 'Modular ink recipes are more efficient to transport, as you are not always transporting the medium, and you can dispense just what you need. The ink management software allows you to reuse and recycle leftover inks while incorporating the same base ingredients.'

Above all, automated ink mixing systems replace the frustrating and costly business of trying to match colors manually. 'If you do a color correction on press, manually, it is not documented. You cannot retrieve the information or recycle the old inks, whereas an automated mixing system will store the correction data, giving you full traceability and repeatability,' said Hummeln.

Using X-rite's target measurement systems, GSE's software compensates for different press conditions before the job goes anywhere near the press. Proofing should be a parallel process, said Hummeln. 'You should do your color corrections offline, on the proofer.' GSE distributes the Perfect Proofer, which uses the same tape, plate, inks and substrate as the final job and simulates dot gain

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Alain Marion, AVT

Dennis de Raaij, ABG

"Around half of all PS label material gets lost somewhere between buying and selling. 'One of our customers reduced that to 20 percent and on a 15 percent margin they saved 150,000 euros – which is the same as adding 1m euros in sales a year!'"

on the target press. 'So if the colors are right here, they will be so on the press. Our customers are using this as customer approval tool.'

A further advantage of automated ink management concerns chain of custody, as pharma and food brands demand full traceability of label components.

Hummeln finished by explaining the advantages of integrating Lean ink logistics with the Cerm management information system. 'For example we can send a new recipe automatically to the quality control and production managers, so they can go straight to press with confidence. We think this is the way forward.'

Hummeln concluded that GSE customers are saving up to 30 percent in total ink costs with a combination of buying base components, traceability, recycling return inks and minimizing stocks.

'Up to half of makeready press time has to do with color correction. So we have a lot to do in the label industry where just 50-60 percent press downtime is standard.'

Martin Automatic – roll automation for narrow web

Martin Automatic's Bernd Schopferer agreed with the estimates of other speakers that around half of all PS label material gets lost somewhere between buying and selling. 'One of our customers reduced that to 20 percent and on a 15 percent margin they saved 150,000 euros – which is the same as adding 1m euros in sales a year!'

Schopferer presented a detailed financial model which showed the waste-saving benefits of automated roll change on a narrow web press. His figures were based on a 430mm/17in press running at 45m/min over two shifts with 16 roll changes a day using a mix of 2,000 and 4,000m rolls and 35m web length in the press. Assuming an hourly rate 240¢, six minutes to manually change a roll and average stripped waste of 11m per roll, total waste on a manual roll changing system amounts to 90m.

'If it's taking six minutes to change a roll, that's 25 work days a year just changing rolls,' said Schopferer. 'And because you cannot use the leftover (butt) rolls, average press waste amounts to 70 rolls, which is 20 tonnes of landfill waste a year.'

Auto-splicing allows these otherwise waste rolls to be reused on a spare shaft, said Schopferer, who presented a case study from German converter GEWA which showed how installing non-stop automation on two presses reduced energy consumption by 23 percent. 'These figures were documented because they were applying for a government grant. The main driving factor for GEWA was the energy consumed by UV lamps on standby when the machine was not running. This simply disappears when the press is running continuously.'

AVT – counting good labels

Alain Marion, director of sales and marketing, France and Benelux, at AVT, said the big trend in inspection is to move the camera – and thus quality control – from the rewinder to the press.

'Waste, sadly, is part of the DNA of the label industry, but you are all owners and this is about money,' said Marion.

Moving the quality control inspection system to the press has a number of key advantages, said Marion: to verify the correct job has been printed; to detect defects before waste is produced; and to ensure exactly the right number of labels are manufactured.

'Label printers regularly overproduce by 3-5 percent – for short runs this figure is even higher as a percentage of production. We advocate to control your meter count live. When you have produced enough good labels, you stop printing.'

According to the Finat sustainability survey mentioned earlier, putting the wrong job on press happens surprisingly often, wasting valuable time and materials. Marion looked at job verification tools including off-line soft proofing – useful for checking plates made by outside contractors – and off- or in-line hard proofing, where the image on the plate is compared with the PDF. 'The kind of errors we pick up include even brand names, a quantity amount or foreign characters. We display the differences, then flag up the severity of the problem. Once the press is running we can flag up potential defects which the operator can define as out of tolerance and mark for removal on the rewinder.'

The AVT quality control system can be integrated with the Cerm MIS, which sends set-up information to the press camera.

'When you start the job Cerm sends to our inspection system the correct label size and quantity, and then our system reports back to Cerm the number of good and bad labels printed. So now you can stop printing when you reach your target. It is the same with barcode verification – we get the values we need to check from the MIS and then report back to the MIS.'

It is one thing to gather all this data, and another to make

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Average press utilization from Cerm data


Geert Van Damme, Cerm

productive use of it. 'Not enough printers use the information they have to improve their processes,' observes Marion. 'By analyzing this data the printer can monitor and improve waste control, equipment performance and operator performance – for example we can identify where a printer has training needs. Information we can provide includes actual production time, set-up roll length, and we can dive down into each defect to identify why it happened and how to stop it happening again. The aim is to reduce makeready time and waste, improve operator competence and average production speeds, and eliminate "gut feelings" on the shop floor.'

Marion said 90 percent of AVT's narrow web customers have moved to on-press inspection, achieving both higher productivity and quality.

AB Graphic International – automated finishing

ABG's Dennis de Raaij briefed delegates on the latest developments in automated setting of slitting and back scoring knives and the use of turret rewinders to 'finish without waste'.

The company's Autoslit system automates the setting of scissor slit knives on ABG's Digicon finishing units. Setting the knives manually takes around 12 minutes, compared to just 55 seconds using auto-slit.

ABG is now working with Cerm on two-way communication between auto-slit and job data held on the MIS. The Cerm database uploads information on lane width and material dimensions to auto-slit, eliminating manual re-keying of the data on the Digicon.

de Raaij also looked at the efficiencies gained from in-line turret rewinding of small rolls.

Cerm – tying it all together

Geert Van Damme managing director of management information systems specialist Cerm, has been at the forefront of efforts to integrate production processes into company-wide MIS systems.

'The obvious stuff first: every second spent retyping or searching for a specification document is a waste of time, so our core mission is to connect people and provide them with correct and useful information,' said Van Damme. 'Web4Labels allows customers to participate and enter their own first-hand information, for example when approving a job. All related information is on the screen and not on separate documents.'

Cerm has been working hard to connect customer service to pre-press and production departments, synchronizing production status and automating step and repeat. An interface to GSE's ink dispenser will calculate the surface printed area, then send a list of colors with grammages to the GSE system which translates the information into an ink recipe. 'This has a direct production benefit, but also means customers trust you more to get their colors right first time without expensive rework and the need for press color passes.'

"Around half of all PS label material gets lost somewhere between buying and selling. 'One of our customers reduced that to 20 percent and on a 15 percent margin they saved 150,000 euros – which is the same as adding 1m euros in sales a year!'"

Van Damme also described Cerm's links to the ABG automatic slitter knife positioning system. 'We send the information which places the knives on the same lines and gaps as defined in the pre-press file. We are also working on sending laser die-cutting information.'

Cerm also has a connection with the AVT Zero Set automatic inspection system. 'We make the connection using a barcode printed in the borders of the label which links to the 1-up PDF to define the inspection parameters. This is primarily for digital presses, but even for conventional presses we can still link the inspection camera to the 1=up PDF, which tells the AVT system about the size of the label and what needs to be checked.'

Cerm also has tools to help converters measure their waste. 'We can provide counters that measure running meters. Operators scan the EPSMA barcode of each new roll of paper upon paper change, and they indicate job changes and operation status using a Shop Floor Data Collection module. Just installing the sensors has been shown to reduce materials waste by up to 2 percent, simply because the printers know they are being measured!'

Analyzing this data, converters can compare estimated with real consumption, 'which answers the question which jobs and machines have more or less waste. After you have measured the waste you can feed that information back into estimating.'

Van Damme's main takeaway was that an MIS should be much more than an administration system. 'We can send electronic

Mike Fairley chairs the UK leg of the Working Without Waste roadshow

instructions to production devices which reduces common errors leading to setup waste and increased lead times. You can measure where your waste is occurring and develop a plan to eliminate it.'

Panel session

The Working Without Waste seminar was rounded off by a panel session, which yielded some interesting perspectives:

- Cerm's Vandamme was asked about connecting an MIS directly to narrow web presses to load and receive job information. He revealed that the only links Cerm has are to a Gallus press, where the Cerm systems sends only very basic information including paper type, so the press knows the material thickness and tension required. The operator can save the setup of a job onto the folder in the network but no more. The central problem is that press manufacturers' control systems are 'closed' without the hooks required for JDF/JMF integration.

- Avery Dennison-Fasson has an established program (Exact) which delivers the correct roll width for each press, but is now experimenting with delivering the exact length required as well.

- Asked about automated production scheduling, Van Damme said Cerm has virtually no live installations. 'They have failed because each sales rep wants to win!'

- AVT's Alain Marion was asked about the usefulness of in-line color measurement, and was dubious about the benefits for flexo printers: 'Color data is more to reassure the brand owner! It is sometimes useful during makeready to check a color is right, but in flexo there's not much you can do to affect the variables. This product came from our acquisition of GMI, and so from the offset world.'

- Interest was expressed in a possible integration between Cerm and GEW, whereby the ideal lamp power requirements for a particular job would be automatically downloaded to the GEW control system, with lamp measurement data fed back to the MIS for reporting and troubleshooting.

UK roadshow a success

Mike Fairley chaired the UK leg of the Working Without Waste roadshow. He writes:

The UK Working Without Waste roadshow held at Staverton Park, Northamptonshire, on February 10 provided attendees with a wide ran ging overview of trends and developments in the war on waste in the label industry, creating some interesting discussions on the way.

What seems clear from the day is that at almost every stage in label production there is scope for reducing, or sometimes eliminating, wastage. That has to be welcomed, not just as part of the environmental and sustainability challenges faced by label converters – but simply as a means of enhancing both productivity and bottom-line profitability, and what converter doesn't wish for that?

Being more sustainable, environmentally conscious, and striving for waste reduction should undoubtedly be part of every label company's business plan. It starts with looking at the materials used, whether substrates or inks, carries on into the print production operations, through inspection and into the finishing stages and final waste handling and management.

Linking all these stages together in more sophisticated Management Information Systems (MIS) and automated workflows procedures will obviously also pay dividends. Just a few percent reduction in waste at each step and stage can soon add up to a quite substantial saving in time, costs and lower wastage.

An excellent panel of speakers set out their individual perspectives on label substrate handling, storage, sourcing and recycling (Avery Dennison), on ink management (Flint Group) and lean ink logistics (GSE), on energy efficient UV curing systems (GEW), on automating finishing (AB Graphic International) and on profitable sustainability (Martin Automatic).

The Working Without Waste Road show offered a welcome insight in to what can be achieved in a label plant by analyzing where waste occurs, instituting (often quite simple) changes in production procedures and systems, investing sensibly in technology that will providing a fairly rapid return on expenditure, providing better education or training of employees, and working closely with industry suppliers. Certainly well worthwhile attending.

The Working Without Waste roadshow goes next to Spain on April 1. See www.workingwithoutwaste.com

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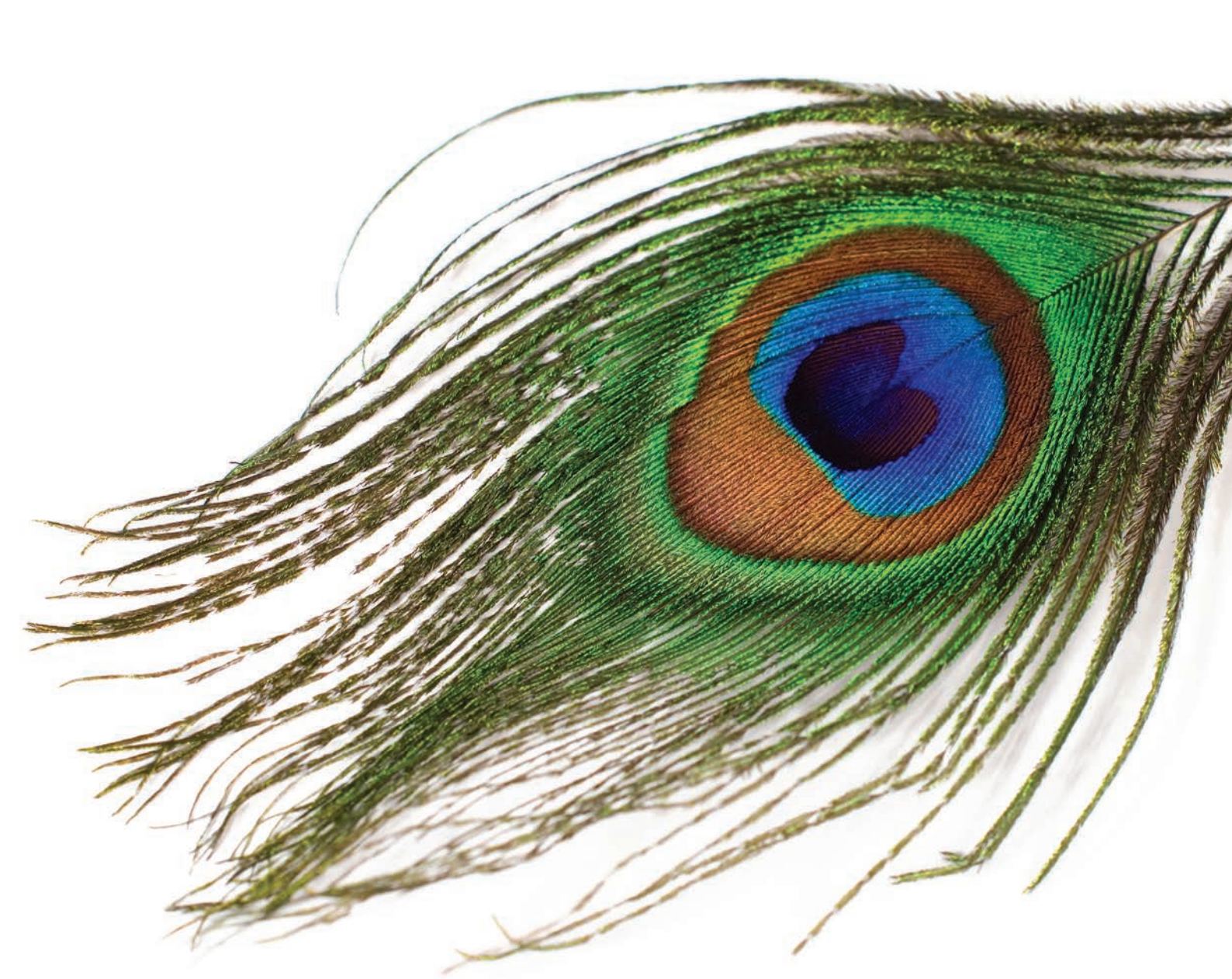

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Label Impressions president and CEO Jeff Salisbury

Label Impressions grows with green initiatives

The progressive California-based label and flexible packaging converter has added 15,000-square feet to its existing headquarters and installed two new presses, while maintaining its commitment to sustainability. Chelsea McDougall reports

In the label business, time is money. At California label and flexible packaging converter Label Impressions, so is energy.

When President and CEO Jeff Salisbury expanded his headquarters and simultaneously installed two new flexo presses, energy consumption was on the sustainability-conscious CEO's mind.

As the company expanded into an adjoining 15,000-square-foot site in January – effectively doubling its manufacturing space – Salisbury had another project underway: an energy-saving battery system to accommodate the additional energy consumption of the new presses.

In short, the system runs on 79 batteries – similar to a car battery – that are connected to a microprocessor. When the computer detects spikes in energy consumption from the traditional power grid, power is then shifted to the batteries. The back-up batteries can produce enough energy to run the presses for two hours. It is designed to take Label Impressions off the grid during peak consumption times and recharge during times of lower demand, thus saving energy and lowering energy costs. It's a process called 'peak shaving.'

'Tesla is working on a peak shaving system for the home. In five years peak shaving will be a household term,' Salisbury says, adding that he's the first label converter to make the six-figure investment in this technology.

> **"We do it because we think it's good business. It's that extra service that sets us apart from our competition"**

Energy consumption is not the only area where Salisbury eyes environmental initiatives. Label Impressions is also part of a liner-recycling program; the company is carbon neutral and FSC certified; and Salisbury sits on a TLMI environmental committee.

Many of his green endeavors are customer-driven, he says, while noting that often these efforts are stymied by a customer's bottom line.

'To be honest, it's a business tool,' he says. 'We do it because we think it's good business. It's that extra service that sets us apart from our competition.'

Since Salisbury took over as president of the family business in 2004, sales have grown from a modest print shop to 9 million USD in sales last year. He's projecting sales to be at least 16 million USD

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A new 10-color, 16-inch full UV Nilpeter press was installed earlier this year at Label Impressions in California

"Flexible packaging is a growth area. When we buy our equipment, we buy it with flexible packaging in mind"

in 2016, and the company now employs 55 people.

His customers are those in the personal care, health and beauty and food and beverage industries. His work is label heavy, but flexible packaging makes up 30 percent of the business.

'Flexible packaging is a growth area,' he says. 'When we buy our equipment, we buy it with flexible packaging in mind.'

Label Impressions recently purchased two Nilpeter flexo presses, which brings its fleet to five – all Nilpeter, ranging from 10 inch to 17 inch web widths. There are no digital presses in-house, but Salisbury has a partnership with a nearby converter with digital capabilities for jobs that are suited for it.

'Digital is indeed on our radar and a part of our capital expenditure plans,' he says. 'The only reason we haven't invested yet is because we don't see a healthy enough ROI to justify it. The digital landscape keeps changing. We need that to level out a bit.'

Vision

Label Impressions began in 1988 with Salisbury's father, Ted, who after a long career in labels wanted to be his own boss. After business school, the younger Salisbury in 1994 began working for his father. On his first day of work, Jeff came dressed to impress.

'I came in wearing a dress shirt and slacks and asked dad where my office was,' Salisbury says, laughing. 'He pointed to a rewinder.'

Salisbury changed his clothes that day, but not his vision. 'I wanted to be a 40 million USD company one day,' he said.

He started as a rewinder, then was a press operator. He taught himself pre-press operations, and eventually landed sales. It's in his father's California print shop where Salisbury learned the business from the ground up.

'As frustrating and difficult as it was at the time, if I could do it over, I'd do it the same way,' he says. 'I learned not just how to do a job, but respect for the people doing it.'

The elder Salisbury worked his son hard. But in the end, Jeff says, it paid off.

'My dad taught me about integrity, he taught me about work ethic, and he taught me about efficiency, about keeping the presses running.'

Today, he includes those principles – along with ownership, teamwork and staying positive – into company-wide 'core values,' to which he applies to every business decision, from hiring and firing, to what jobs he will go after. And Salisbury expects the same from Label Impressions' employees. He makes them sign a core value contract upon employment.

In a way, a lot of the principles came from his father. Back in the early 2000's, the Salisbury men were clashing. Ted Salisbury's conservative and frugal approach to running things didn't match Jeff's aggressive and ambitious ideas for growing the business.

'He never wanted to be big, he wanted to be a small shop and that's what made him happy,' Jeff says.

Later he adds: 'I wanted to progress, he wanted to stay the same, and it was a fight. In the early days I usually lost. But as time went on I dug in harder and eventually won the important battles.'

Then, in 2004, the younger Salisbury took over and by 2008 he and sister Carolyn Deyoe had purchased the company from their father. Deyoe also owns a stake in the company, but Jeff is responsible for the day-to-day decision-making.

An energy-saving backup battery system is one environmentally friendly initiative that Label Impressions has made a priority

Decision-making that includes a lofty new goal.

'Our goal from the beginning was to reach 40 million USD in revenue,' he says. 'But as we get closer to that goal, discussions have turned to raising that benchmark to 100 million USD. It's just getting fun.'

Jeff and his wife, Andrea, have a 9-year-old daughter Shayna. They live in Long Beach, California.

Go to www.labelimpressions.com for more information about the company

Leading the Label Academy

Lindsey Muchka has taken – and passed – more Label Academy exams than anyone globally. She's a regional sales application engineer at Tailored Label Products in Wisconsin, USA. Chelsea McDougall reports

With five modules conquered and another in the works, Lindsey Muchka, a regional application engineer at a Wisconsin-based label converter, is a Label Academy standout worthy of recognition: she has passed more Label Academy exams than anyone globally.

'[Label Academy has] helped to make sure I understand the market, and to come equipped with an arsenal of tools so I'm as knowledgeable as I can be in the face of consumers,' said Muchka, who works in sales at Tailored Label Products, a custom label printer with conventional, digital and hybrid presses, headquartered in Menomonee Falls, Wisconsin. 'It's a good training tool and there wasn't anything else like it out there.'

"[Label Academy has] helped to make sure I understand the market, and to come equipped with an arsenal of tools so I'm as knowledgeable as I can be in the face of consumers. It's a good training tool and there wasn't anything else like it out there"

In her transition from a product manager to sales, her boss told 32-year-old Muchka to make Label Academy a top priority. Tailored Label Products is considering using the label industry education tool as part of company-wide training.

Label Academy is a global training and certification program for the label and package printing industry. It consists of a series of self-study modules, and once a student has completed a module, they take a timed, 50-question online test. Those who pass earn a Label Academy certificate. It is expected that a Label Academy qualification will become a standard in the industry, and has been supported by label associations including TLMI, Finat and LMAI.

In August 2015, Muchka started, naturally, by studying the book on conventional label printing processes, and later passed the exam. She's since passed the digital label and package printing module and the module on label design and origination. In January, she passed the label dispensing and application technology module, and by March she aced the module on codes and coding.

Muchka is currently studying the module on sustainable labeling. Though it doesn't intersect with her daily job duties, she is determined to complete all the Label Academy offerings. 'For the sake of finishing it,' she says, laughing.

More offerings

But Muchka could be at it for a while. Label Academy publishers recently announced intentions to introduce more offerings over the next 18 months, with the goal of 20 books covering topics relating to the narrow web industry. There currently are seven modules, and the aim of the academy is to educate students, such as Muchka, to be better trained and highly-skilled.

She started at Tailored Label Products in in 2010 in the marketing department. Her father is retired CEO Mike Erwin, but he wouldn't hire her until she was certain labels were her future. She worked in marketing for a different Wisconsin company and at a nonprofit organization in Savannah, Georgia, before a position in TLP's marketing department became available. She has since transitioned to product manager and now sales, where the Label Academy training has helped her navigate the often complex and technical industry.

'I have a better understanding of the market and of the technology that's available and how TLP can differentiate ourselves with our technology,' she says. 'To be able to have a broad understanding of each module helps me understand the process of getting a label printed and what it takes.'

Muchka and her husband, John have a one-and-a-half-year-old son, Noah. They live in Oconomowoc, Wisconsin. She has a bachelor's degree in marketing and a master's degree in business.

Lindsey Muchka, regional sales application engineer at Tailored Label Products

For more information on Label Academy, visit www.label-academy.com

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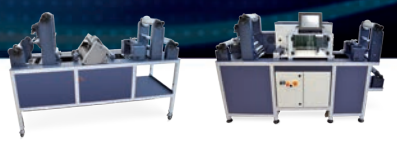

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Water-wash platemaking guidelines

Jessica Harkins Harrell, technologies manager for Anderson & Vreeland, outlines the processing parameters required to get the best out of today's water-wash plates

In the early 1990s, Anderson & Vreeland introduced Cosmolight, the world's first water-wash photopolymer flexo printing plate, manufactured by Toyobo. Today, flexo printers have a choice of these environmentally friendly plates, which are capable of delivering excellent print quality if processed properly.

Processing water-wash plates effectively requires more than simply hooking up a plate processor to a water and power supply. Checkpoints should be established to ensure consistent performance, plate after plate. In this article we will review some basic guidelines to maximize production.

Before installation: Certain aspects of the facility need to be inspected prior to installing water-wash equipment, and then monitored after installation. Common sense variables like electrical requirements and logistics like sufficient door widths to accommodate equipment installation must be factored. Review equipment 'pre-installation guidelines' for full specifications or contact the plate equipment supplier. Anderson & Vreeland's engineering team can also address many questions.

Washout water chemistry: The facility's water chemistry plays a key role in processing water-wash plates. If the water has a high mineral content with too much calcium and magnesium, it is considered hard water. Sites with hard water may require a water softener, and in extreme cases, a reverse osmosis system. Analyze a sample of the tap water to determine hardness with a water hardness meter that provides a digital readout in total dissolved solids (TDS). These digital meters are available at a relatively low cost. If a meter is unavailable, the plate manufacturer should be able to analyze the sample and report back with recommendations. Usually this only requires a small (4oz) sample of the tap water.

The water's acidity level is another factor to be considered. The proper pH level for washing Cosmolight plates is above 9.8. If the pH drops below 9.8, soap must be added. No matter which plate material is being used, make sure the soap type and concentration is approved by the plate supplier. As polymer is washed away from the plates and is dissolved into the water, the pH of the water will drop. It is important to check the pH after approximately every four plates and add soap as necessary to return the pH to the optimal range. The pH meter should be rinsed with water after each use and should be calibrated weekly using pH buffer solutions with known pH values of 4, 7, & 10.

> **"Processing water-wash plates effectively requires more than simply hooking up a plate processor to a water and power supply. Checkpoints should be established to ensure consistent performance, plate after plate"**

The temperature of water used to process plates also plays a role in both the pH of the water and how well the polymer will dissolve into the bath.

The right washout temperature may vary by plate manufacturer. The recommended temperature range for processing Cosmolight is 105-110 deg F. Be sure to let the water heat up completely prior to washing any plates, and check the water temperature using a digital thermometer each time the pH is checked.

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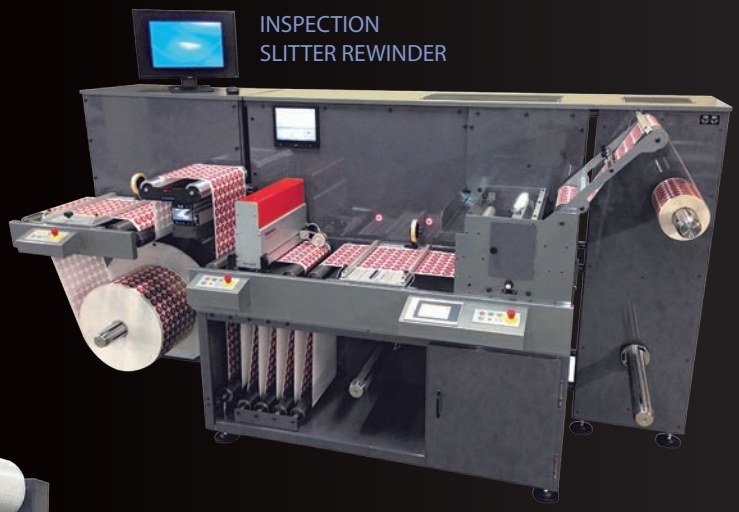

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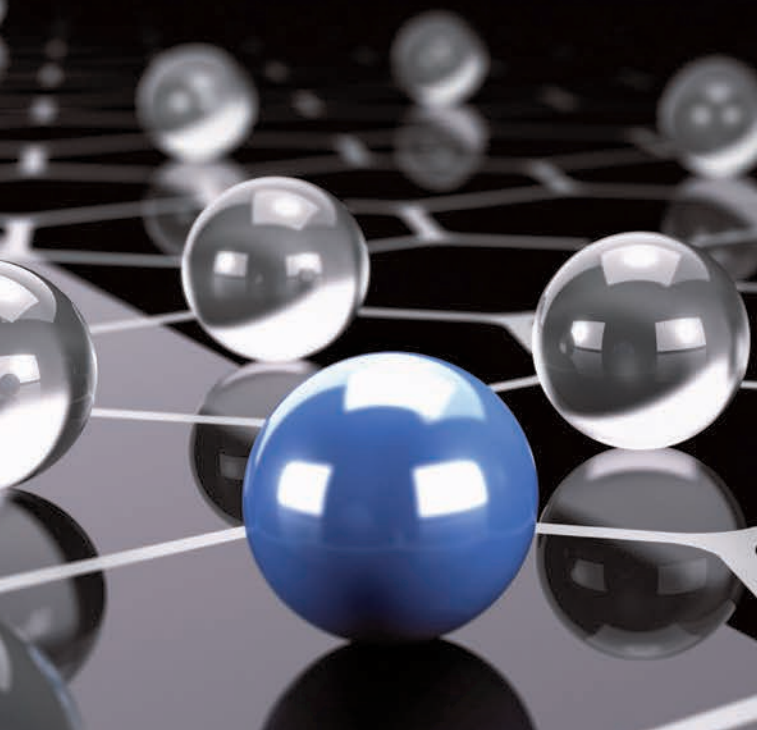

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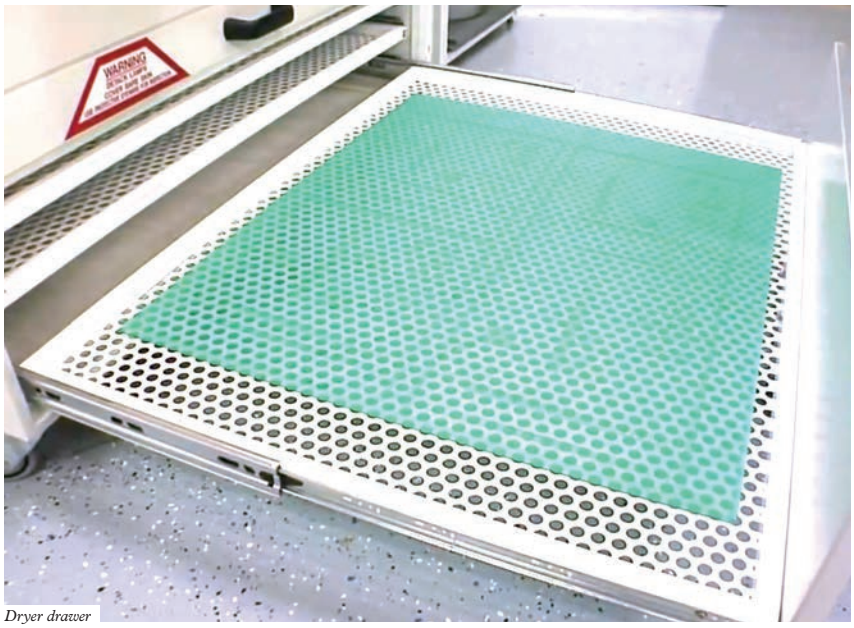


Dryer drawer


Jessica Harkins Harrell

"The temperature of water used to process plates also plays a role in both the pH of the water and how well the polymer will dissolve into the bath"

Another factor that will determine washout performance are the brush settings on the processor. Signs of improper settings include too shallow of a floor, brush marks on the floor, and improper washout with inconsistent brush wear. If a plate is over-washed, small dots and fine detail could be removed from the plate. If a plate is under-washed, there will be leftover polymer residue, inconsistent dot size and inconsistent floors.

The drying temperature of the plate is also important. The drying process for water-wash plates is mainly to remove the surface water from the material. Measure the temperature of the dryer drawers on a weekly to monthly basis. Proper drying temperature is between 130-140 deg F. Temperatures that are slightly lower will still be acceptable, but temperatures that exceed 150 deg F should be adjusted immediately. Temperatures at 150 deg F or greater can distort the polyester backing, so be sure to measure both sides of the dryer drawer (left and right) with a thermometer.

Production: Begin by verifying the caliper or thickness of a plate by confirming the material gauge for each new batch of material before processing. Plates should be measured with a bench micrometer. Thickness should also be verified for every plate after washout.

Proper plate relief should be determined with a back-exposure step-test to determine optimal floor thickness. Ideal relief range on digital water-wash plates is 0.018" to 0.022".

Wastewater Disposal: While plate manufacturers promote the environmental benefits of water washout plates, disposal of wastewater is not necessarily as simple as pouring down the drain. Before disposal, check local water regulations and have a sample of the dirty plate wastewater tested. Unless otherwise approved by the local municipality, Cosmolight customers should drain wastewater into a 5-gallon bucket lined with a plastic bag. A solidifying agent is then added so the bag can be discarded in the trash after it is turned to a solid.

Processing water-wash flexo plates effectively is a science. Monitoring the variables discussed here, whether water chemistry, brush settings, dryer temperature, plate thickness, or proper relief, will improve performance from a quality and quantity standpoint.

Jessica Harkins Harrell has served as technologies manager for Anderson & Vreeland since June 2010. Before that she worked for Esko Artwork as FIQ supervisor with a strong focus in digital laser imaging, platemaking, fingerprinting presses, and software including the HD Flexo and Digital Flexo Suite applications. Harrell is a graduate from Clemson University in graphics communications

Washout time

Springfield Solutions board of directors L-R: Vice chairman/financial director Steve Forster; chairman Albert Dass; (seated) Matt Dass, joint MD/technical and innovation director and MD of Eon Visual Media; Dennis Ebeltoft, joint MD and operations director

Springfield Solutions pushes digital limits

Springfield Solutions is a focused, digital-only print house, most recently installing two Screen inkjet presses. But it is also integrating a far wider range of media into its customer offering, as Andy Thomas reports

When this writer first visited Springfield Group in Hull, UK, back in 1996, the company was already showing signs of a thirst for innovation with the installation of the first Indigo Omnius digital press in the UK.

Today, as the group celebrates its 40th anniversary, innovation is firmly in its DNA, with an extraordinary diversity of services and activities which take in digital printing, brand management, design and 3D printing.

Springfield started life under founder Albert Dass as a repro supplier to brands producing a wide range of packaging print from metal decoration to cartons. The company was an early adopter of digital origination.

A brief hiatus followed when Springfield was acquired by Chicago-based Fort Dearborn, which increased the company's conventional printing capacity with multiple Nilpeter presses. Non-print related business units were hived off, including a fledgling media group run by Albert's son Matt (see below).

When the Fort Dearborn project faltered, Springfield was bought back by Albert Dass, who made the bold decision in 2012 to turn the company into a fully digital print house. An HP Indigo ws4050 led the way (now replaced by a WS6800), followed by an HP Indigo WS6000. Albert Dass sold Springfield's last conventional press in March 2013.

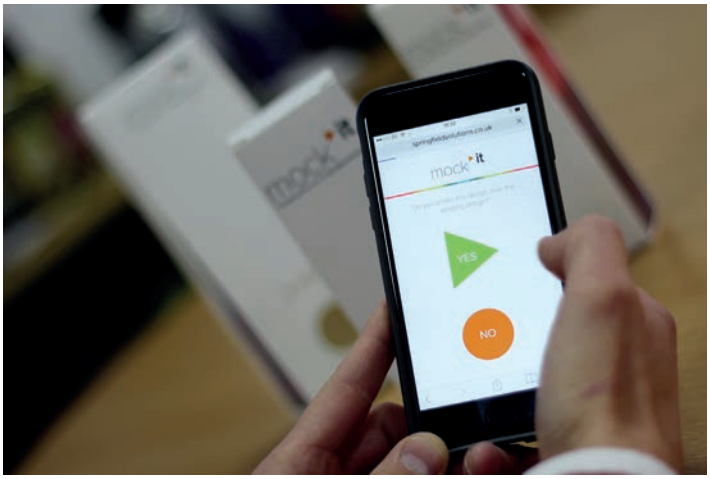
'What's different today from five years ago is our customers have started to "get" digital,' says Dass. 'They do not need a huge shed filled with labels and can do promotions and shorter runs, and change designs more than once a year.'

This exclusive focus on digital print and media led the company to rebrand itself as Springfield Solutions, with Matt Dass and Dennis Ebeltoft installed as joint managing directors. Today the company employs 100 people across its three business divisions.

Adding inkjet

Dennis Ebeltoft and Albert Dass started looking at inkjet technology as far back as 2009, when the quality was 'nowhere near where it needed to be,' as Dass explains. 'By Labelexpo 2012 we saw the technology start to improve. We really did our homework and narrowed our list to 7-8 inkjet suppliers, giving each the same low to high ink coverage job file to print.'

Springfield already had a long history of investment in Screen proofing and platemaking equipment stretching back to 1986, which



Top: Dennis Ebeltoft and Screen Europe president Brian Filler with Screen TruePress Jet L350UV. Above: SmartPicture allows a hidden pixel pattern to be identified

Specialist labels – Revealabel and shrink

Alongside its push into digital print, Springfield has worked hard to bring its customers innovative pressure-sensitive label technologies.

The most recent of these is the peel-back Revealabel which allows the consumer to open two additional leaves – printed both sides – from the main label. A variable position adhesive makes sure it remains fastened to the product and the peel-away corner can be positioned so it does not interfere with the graphic design.

'Demand for these labels has been pushed by recent changes in EU regulations which mean brands have had to reprint with a lot more information included,' says Dennis Ebeltoft.

Springfield has also developed reel-fed self-adhesive shrink-on labels (SASO), particularly for the aerosol can market. 'The technique combines everything that is great about digital - lower orders, reduced pre-press costs and fast lead times - with the shelf appeal of 360degree print,' says Matt Dass.

is still going strong. 'So we understood Screen's reliability and background. We liked the simplicity and print quality of the TruePress machine and placed an order for a press in 2013.' That Screen Truepress Jet 350UV was the first installation in Europe, entering operation in March 2014. A second Jet350UV machine followed in June last year.

Springfield makes no differentiation between its HP Indigo and Screen presses when a job comes in.

Ebeltoft says Springfield's customers like the '3D' appearance of the UV inks, but the company can vary the screen-like effect using its own color server to control ink laydown without affecting color. 'If it's a label with a significant amount of ink coverage, we can restrict the amount of ink used.'

The relationship between customer and supplier has proa fruitful one as both parties are learning from each other. The presses are now fitted with inline corona treaters, and GEW has swapped its air cooled UV heat sink for a chilled water heat sink. Additional rollers have been fitted to hold certain materials at a higher tension so it does not have the opportunity to conform, particularly where shrink films are concerned. 'We are printing our own self-adhesive shrink film which is outside the original specification of the press, so we worked closely with Screen on this,' says Ebeltoft.

Reflecting on Springfield's experience with the dual Screen presses to date, Ebeltoft says: 'The uptime is very good. We have also cross-trained people who worked before on the finishing line and trained them to run the Screen press and finishing line – you could not do that with the HP Indigo.'

In-line finishing – now with lasers

While most digital installations separate print and finishing, Springfield is a firm believer in in-line finishing. Springfield was the first converter to place an AB Graphic Digicon in-line with an HP Indigo press. 'We tried it with the ws4500 but it was really too slow,' recalls Albert Dass. 'When we got the faster WS6000 we went in-line immediately. Now three of our four digital presses are in-line and they will all be in-line in three months. One of the big benefits is that we have one man running two machines, where before we had one man printing and one converting.'

One Screen press is integrated with a JetConverter L350s finishing system with varnishing, lamination, die-cutting and slitting. A second JetConverter is standalone.

Springfield was a pioneer of laser die-cutting. During L&L's visit, a WS6800 press was being fitted with a Series 2 ABG laser. 'We implemented laser finishing with ABG in 2013 and we struggled with PP/PE, but with the new modulation system we have been more successful,' says Albert Dass. 'This is important. If you go back 4-5 years, 10-15 percent of our work was

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Springfield's label offering includes (L) SASO (self-adhesive shrink on) labels for aerosol containers

3D Prototyping

Springfield Solutions offers brands the ability to visualize and physically handle container and label prototypes using both 3D visualization software and 3D printing technology. Last year the company produced 5,304 artworks and over 500 3D pack designs.

'We are in the business of helping brands promote their products a lot earlier in the food chain,' says Matt Dass. 'Our 3D pack shots help our customers push new products into social media channels and on-line retail stores. For them the question is now "how will you win on the digital shelf against competitors". So we help them develop packaging which really punches on the screen, on the digital shelf.'

Part of this service is troubleshooting new pack and label combinations. In one case, 3D printing a new design of shampoo cap showed that it obscured the main brand label, causing a redesign of the label. Springfield's designers also came up with an innovative holder for a panic alarm, all the way from concept on paper, to 3D printed prototype, to the injection molder.

"By Labelexpo 2012 we saw the technology start to improve. We really did our homework and narrowed our list to 7-8 inkjet suppliers, giving each the same low to high ink coverage job file to print"

on PP/PE and today it's 35 percent.'

Continues Dass, 'Our finishing workflow suits laser because it is fairly standard with not a lot of foiling – usually just a varnish and a cut. We do have lamination on our Digicon Series 3, but we do not use it often, and we have no requirement for screen printing.'

Once the new laser system is proven on the WS6800 it will be implemented on one of the Screen inkjet presses. 'It's actually easier to implement on the Screen inkjet press because we don't have variable print speeds,' says Albert Dass. 'The HP has different speeds depending on the repeat length which means speeds at the laser are all over the place. With Screen we're always running at 50m/minute or 35m/minute.' The laser is fully integrated into an Esko front-end, picking up step and repeat information from a barcode originated by the Esko system.

'Laser gives us the potential for a fully digital line,' says Albert Dass. 'We are also looking at digital spot varnish where we flexo varnish now.'

Springfield has worked closely with ABG to automate its finishing lines where possible. ABG's Auto-Slit auto knife positioning has been configured to take information from the Cerm MIS via JDF.

'We have also integrated ABG's Flyevision inspection system into the HSR and SRI rewinders which can operate at speeds of up to 250m/min.'

The Cerm MIS sits at the center of Springfield's plant integration strategy. Carlo Sammarco, European business manager, packaging solutions at Screen Europe, says Springfield pushed Screen to integrate the press' operating system into its Cerm MIS, and this partnership was formalized at Labelexpo Europe last year.

The JDF link to the Cerm MIS automates planning and step&repeat routines. Information is sent back live to a digital dashboard displaying production data, printing speeds and meters printed.

'We installed the Cerm in 2010 and it took over two years to yield its full benefits, but we are there now,' says Dennis Ebeltoft. 'We can now account for every meter of material used. We scan all our inks and varnishes into the system. Using barcode scanning we know when a job starts running and when machines stop. We have pedometers on the HP presses to count good labels and

Springfield makes use of Screen Vivid mode

we now use JDF to send that information back automatically to Cerm. When a job is finished we label the leftover roll before it goes into storage.'

Springfield's development team has been working with Screen to extract information on ink usage collected by the Equios operating system. 'We built a custom report for all inks on each job. It's so important when you're are on the leading edge to have the sort of people who can do this,' says Ebeltoft.

Short runs, color-matched

Springfield is seeing a continued reduction in run lengths. 'We found jobs coming down and down to the extent we are printing 1,500 to 2,000 jobs a month totaling 1 million+ linear meters,' says Ebeltoft.

Springfield is working with Cerm on more efficient planning. 'We want a bucket we can throw jobs into so we can schedule work much more fluently,' says Matt Dass. 'We do not want to have to change cutter every time we change jobs.'

With Springfield's move to 4-color digital, are spot colors an issue for brand managers?

'There is no longer the insistence on special colors like there used to be,' says Albert Dass. 'We're focusing on speed and short runs and you don't get this by washing up a special color.'

At Labelexpo Europe Screen announced a Vivid mode which further expands the gamut of the CMYK inks in the Jet350UV by modulating controller waveforms to achieve a higher density. Springfield's own team of color management experts have further modified Vivid. 'This gives the Screen press a wider 4-color gamut,' says Ebeltoft.

'Springfield recently launched a color management process for our Screen presses which demonstrates greatly improved results on flat color,' says Ebeltoft. 'We recently printed color swatches for a series of paints, which is a highly critical application. The fineness of the (3 pico-liter) dots achievable with the Screen press is very important.'

'Remember we started out as a repro company and this remains our core business, color matching on all sorts of packaging like

"Brown is the most challenging color to print In terms of consistency, as it contains all four colors, so the potential for variation is massive"

metals and plastics and cartons, so we have a massive history and wealth of experience to call upon,' says Albert Dass.

Color matching tools have become more sophisticated and using the latest GMG color management software Ebeltoft says the Screen presses are now achieving over 80 percent of the pantone range. 'Now with the Screen Vivid we can bring in even more colors.'

Concludes Ebeltoft, 'Brown is the most challenging color to print in terms of consistency, as it contains all four colors, so the potential for variation is massive. We can achieve a deltaE of under 2 from start to end of a reel.'

For more information see www.springfieldsolutions.co.uk

Multi-media

A central pillar of the Solutions offered by the rebranded Springfield group is multi-media. Matt Dass has run Eon media for the last 13 years. It was part of the original Springfield Group, but was not considered core business by Fort Dearborn. So Matt Dass and Steve Forster took it out of the group and developed the business independently. Today it is firmly back in the Springfield fold.

Eon covers a diverse range of media from animation to app development, and from pure design to 360 degree video and website development. One particularly exciting development is SmartPicture, which allows a hidden pattern of pixels to be embedded in an image. Once a dedicated app is loaded a smart phone camera acquires the pattern and links directly to on-line content.

'We developed SmartPicture as an alternative to QR codes,' says Matt Dass. 'We did 18 months development on printing micro codes and our color management team was invaluable in developing something that would scan but could not be seen with the naked eye. 'Unlike Augmented Reality, which works on a fixed image, we can change the hidden image any number of times to take the user to different on-line destinations. It is totally secure. We control where the user is taken and the hidden image itself is controlled by our repro department.'

An example of how Springfield's divisions link up is a Revealabel developed for Lion brand BBQ sauce. The label pulls out to reveal competition details and also incorporates a SmartPicture which, when scanned, allows the consumer to enter a BBQ chef competition.

All app programming is carried out in-house, which means the results can be closely tailored to individual customers. Local Rugby League club Hull Kingston Rovers is using SmartPicture on its match day program. When fans scan the cover, they can vote for Man of the Match and view videos and a range of club-related information. iBeacons are another aspect of Springfield's multi-media offering. iBeacons are miniature (around 5sq cm/2sq ins) Blue-tooth-enabled communication devices which interact with devices via a dedicated app. Springfield offers the whole package including app programming. At Hull Kingston Rovers, iBeacons are located around the ground. 'If you walk into restaurant the app brings up a menu,' explains Matt Dass. 'And we can also push match data to fans throughout the game.'

Springfield is also abreast of the virtual reality (VR) revolution and has developed with a local packaging company a headset which holds a smart phone. 'Where we want to take this is in-store environments, so customers can 'walk in' and see what packaging will look like in a realistic environment.'

Jayco Fing, FSC, explains the FSC certification process to visitors

Labelexpo Asia marks new trends

The global industry's leading materials suppliers gave unique perspectives on sustainability and market trends at Labelexpo Asia 2015. Kevin Liu reports

At Labelexpo Asia 2015, Sharon Xiao, sustainable development manager, Greater China, at UPM Raflatac, gave a speech on boosting business growth through sustainable development, sharing the platform with the Sustainable Paper and Palm Oil Project at WWF China and the Forest Sustainability Council (FSC).

Sharon Xiao said UPM Raflatac's focus on sustainable development had brought commercial benefits, and the company will use its influence on both upstream and downstream suppliers to move this agenda forward.

Carmen Chua, vice president and general manager of Avery Dennison Materials Group, North Asia

A related aspect in China is the increasing regulation affecting industry sectors such as food and pharma in particular. 'In the European Union there are already strict rules for food contact materials and information disclosure,' said Xiao. 'In China, the GB9685 food security standards will also be revised this year, and there will be more stringent regulations aimed at food contact material and food additives.'

The pharmaceutical industry is facing even harsher security and anti-contamination requirements. One particular areas of concern is blood storage bags, the labels of which now have stringent requirements for low migration and security. There is also the garment industry. China is a huge market for the export and manufacturing of textiles, but the EU's requirements for chemical components in textiles are becoming more and more severe.

Sharon Xiao joined UPM Raflatac after nine years working for a multinational manufacturer and an NGO for sustainable development. She holds a Master's degree in sustainable forestry, and her career started with the value chain management of forest products. 'In the past five years, the sales of UPM Raflatac's products with FSC and PEFC certificates have all shown growth,' she said. 'We now have more than 780 types of certified products.'

Xiao introduced UPM Raflatac's Label Life LCA tool, used to evaluate the environmental impact of its products. 'During this process, we introduce the concept of ecological design to assist us in reducing the impact of products through their life-cycle. Brand owners as well as converters can realize their sustainable development targets using our evaluation method.'

'There are 1.6 billion people in the world relying on forests, and there are more than 1,300 hectares of forest disappearing each year,' said Sun Mingming, senior officer of WWF China in the next presentation. 'The production and consumption of paper products in China is approximately 25 percent of the global total, and this means Chinese forest paper enterprises have the biggest responsibility for sustainable development.' In September 2015, WWF sponsored the 'Sustainable development proposal for paper products', promising to eliminate illegal of raw materials from the supply chain, increasing the share of sustainable paper products – especially those with FSC certificates and those which use recyclable and renewable resources.

'Label converters and suppliers can increase their commercial value by applying for FSC forest certificates,' said FSC representative Jayco Fung. 'There are currently more than 30,000 FSC-certified

Sharon Xiao's keynote speach

Sharon Xiao, Sun Mingming, Jayco Fung

Sun Minming, WWF China

enterprises.' Fun explained FSC indicates that the raw materials used in the making of labels come from a responsible forest, through a transparent chain of certified enterprises.' At the same time, forestry regulations in the EU are becoming more stringent, and purchasing standards are being correspondingly improved. Unilever, for example, has established a packaging target for its sub-brands for packaging and labels in accordance with forest certification. IKEA has also said that more of its paper and wood products will obtain FSC certificates. 'For the Chinese label industry, adopting a responsible supply and purchase policy displays a responsible company image for the wider society, public, brand owners and distributors.'

Demand slows but still grows

In the past two years, the growth of the Chinese economy has slowed; the year-on-year growth of GDP in Q3 2015 decreased to 6.9 percent – the lowest level since the global financial crisis. In future, there will be huge pressures on the Chinese economy. Output and profitability of industrial enterprises have shown a downward tendency. Some foreign-owned enterprises have even started to leave China, or move their plants to regions with lower labor and land costs, including Vietnam and Malaysia. Under these circumstance, Georges Gravanis, global president of Avery Dennison Materials Group, still maintains a positive attitude when he met the press during Labelexpo Asia: 'We have full confidence in the growth of the Chinese market and increasing demand for Avery Dennison's products. In my opinion, the year 2015 is a transitional one and we believe that growth levels will return to the label industry.' This positive attitude is reflected in the opening on January 22, 2016, of two additional solvent coating lines to enhance Avery Dennison's production capacity in China. The new lines will be focused on applications including electronic products, automobiles and outdoor advertisements.

Carmen Chua, vice president and general manager of Avery Dennison Materials Group North Asia added, 'Though we describe the present status of the Chinese economy as a "slowdown", market demand is still growing, even if at a slower rate than before.' Chua said some sectors have suffered more than others, picking out the electronic sector as an example. 'In the past 12 months, the growth rate of this industry was almost unchanged, while in other markets we are serving, industries such as food and beverage showed continued growth. Since 2010, the use of smart phones has increased massively, and we have products serving this market. However, the sales of smart phones in the Chinese market this year ceased growing for the first time, resulting in no increase in demand for labels for smart phones.'

Another trend noted by Chua is market diversification, with more brands emerging – 'It is not like the past when only a few famous brands controlled most of the market share.' Georges Gravanis agreed with Chua that the electronics sector has stagnated. 'Some southern cities are the major centers of electronics manufacturing in the world, and their products are mostly for export, which means it won't be seriously affected by a decline in domestic demand. But with Europe and American seeing a slowdown in demand for electronic products, these manufacturers are demanding fewer labels. At the same time, labor costs in China are going up fast, leading some large-scale electronics manufacturers to move production to Vietnam and Malaysia, which contributes further to the slowdown in the domestic electronics market.'

The durables market has also seen a slowdown. 'Automobile is the second highest consumption area for durable labels, and the output of several major domestic automobile manufacturers has declined in the past 12 months by as much as 20 percent. The overall result is that consumption of labels in the electronics segment last year was unchanged. Now that the Chinese government is focusing on expanding domestic demand and stimulating consumption we believe there will be a very good growth in markets such as the food and beverage, pharmacy, even health and personal care industries in the next five years.' Addressing the question of adoption of films or paper labels, the company's Sun Xin said: 'In China, both are growing; but for the markets we are paying attention to, we are delighted to see that the growth of film labels is faster than that of paper, especially in beverage and food labels and laser printable labels. We also notice a growth of film labels in men's care.'

E-shopping creates opportunities

The '11.11 T-mall shopping festival' in 2015 reached an astonishing turnover of 91.217 billion Yuan (13.8bn USD) in a single day. In future, the penetration of online shopping will go further. Carmen Chua spoke of the implications for labels: 'Pressure-sensitive has a great opportunity in logistics labels which today are simply pasted on. Currently, penetration of pressure-sensitive labels in the logistics market is only 30-40 percent. We have good reason to believe that penetration will rise in the next five years to 80 percent.'

Chia also sees big opportunities in the growth of mobile printing. Portable handheld printing devices are already popular in western countries and this technology will move into the Chinese market in the near future and Avery Dennison's linerless thermal printing labels are a suitable option.'

For more information about Labelexpo Asia events, go to www.labelexpo-asia.com

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(Pictured right) Sandeep Zaveri, president, LMAI

Aditya Chadha of Update Prints delivers vote of thanks

Harveer Sahni chairs the Q&A panel session

LMAI holds technical workshop

Harveer Sahni, managing director of Weldon Celloplast, reports from an event which gave north Indian printers a deeper insight into technology trends

LMAI (Label Manufacturers Association of India) organized its second technical workshop and networking meeting since Sandeep Zaveri took over as president at Chelmsford Club, New Delhi. The first such event was held in Mumbai in December 2015.

It was interesting to note that almost all of LMAI printer members from Delhi NCR pre-registered for the show and more than 100 delegates attended the workshop, against a targeted and expected 80 members. This was despite the fog, chill and an extremely difficult traffic situation in New Delhi that day.

Welcoming the guests, Kuldip Goel, vice president LMAI and managing director of Anygraphics, speaking in Hindi (India's national language) likened the association LMAI to a devotional place such as a temple. He said a temple is built on four pillars, each of which has a special significance.

"Aditya stressed the need for the label printing fraternity to be more interactive, to share the importance of better prices for raw materials, selling prices, employee retention and more profitability"

'In our association,' he said, 'the four pillars are members, suppliers, sponsors and the media.' Initiating the technical part of the workshop, Shailesh Kumar Sharma, senior technical manager, Flint Group India, spoke on the quality aspects of inks as well of the role of UV light in curing. He also dwelled on the present UV curing scenario undergoing transformation leading to the implementation of LED UV technology as a more stable and futuristic one.

Explaining the capability of LED UV to cure ink on thinner substrates and provide better adhesion, Carston Barlebo of AMS (Air Motion Solutions) cited a case study of their AMS Flexo Series LED UV system for the narrow web label industry at a food packaging converter in Italy. The system is fitted on a 7-color 530mm Omet VaryFlex F1 530. He informed that this is the largest UV LED system ever installed, which provides savings in energy, replacement costs and increased productivity. The system is compatible with LED-optimized inks and varnishes from leading manufacturers.

Growth

Manish Kapoor of Nilpeter spoke about the

Naveen Goel, Any Graphics, was the host for the evening

Manish Kapoor of Nilpeter

Chirag Gokani, an expert on wealth management

Weldon's Pawandeep Sahni gives out assessment forms

Delegates at the LMAI technical seminar

Sandeep Zaveri, Rajesh Nema, Naalin Sharma (Global Graphics)

Rajesh Chaddha, Update Prints (L) and Rajesh Nema, Pragati

growth and increasing market size of flexo-printed labels and its extension into the packaging industry. He also focused on the need for printers targeting the huge packaging industry to invest in combination printing so as to derive benefits from each technology to create innovative and highly decorated packages. According to Kapoor, even though the label industry is growing at 15 percent per annum, it is a miniscule portion of the packaging industry whose size, he said, is about 24 billion USD. He emphasized that it was an opportune time for the industry to invest in these emerging technologies.

Flexographic printing is highly dependent on the quality of pre-press. Deepanshu Goel of Creative Graphics, a pre-press company, spoke on the importance of pre-press in platemaking. He also explained the importance and proper use of double tapes and anilox rollers.

Finance and wealth management are a sensitive part of growth in any business. Chirag Gokani, an expert on the subject, spoke on the importance of financial planning leading to wealth management. Sandeep Tiberwala from Yes Bank, commenting on Kuldip Goel's remarks on the constituents of the association being the pillars of association, remarked: 'Banks are an inherent part of this structure that provide strength to the pillars.' He also spoke about the procedures and requirements for getting adequate finance by label printers for their businesses.

There was an interactive session by Harveer Sahni, managing director Weldon Celloplast, where all the speakers were a part of the panel. Most of the questions were about the LED UV and were answered by C P Paul of APL and Carston Barlebo of AMS. Harveer Sahni commented, 'Pre-press is the heart of flexo printing, which has evolved in quality over the years', and in response Deepanshu Goel elaborated on the importance of good pre-press in flexo printing. Shailesh Sharma of Flint Group informed the gathering that Flint will be hosting many open house sessions for LED UV inks in the near future.

Finally the host for the evening, Naveen Goel, invited Aditya Chadha of Update Prints to deliver a vote of thanks. Aditya, in his concluding remarks, stressed the need for the label printing fraternity to be more interactive, so as to share the importance of better prices for raw materials, selling

Kuldip Goel, vice president LMAI and managing director of Anygraphics, speaking in Hindi (India's national language)

prices, employee retention and more profitability. It was an evening where one saw a large number of next-generation young managers, including Aditya Chadha of Update prints, Anuj Bhargav of Kumar Labels, Naveen Goel of Anygraphics, Rishab Jain and Parshav Jain of Jain Transfer, Pawandeep Sahni of Weldon Celloplast, Gurdev Jandu of Jandu Engineering.

The evening ended with a networking cocktails and dinner. Happy at the success of the event, Sandeep Zaveri president of LMAI, and Rajesh Nema, the association's secretary, announced that the next workshop would be held in the south of India, most likely in Bangalore, followed by one in Ahmedabad.

LMAI is the sponsor organization for Labelexpo India, which takes place on November 17-20. Go to www.labelexpo-india.com for more information

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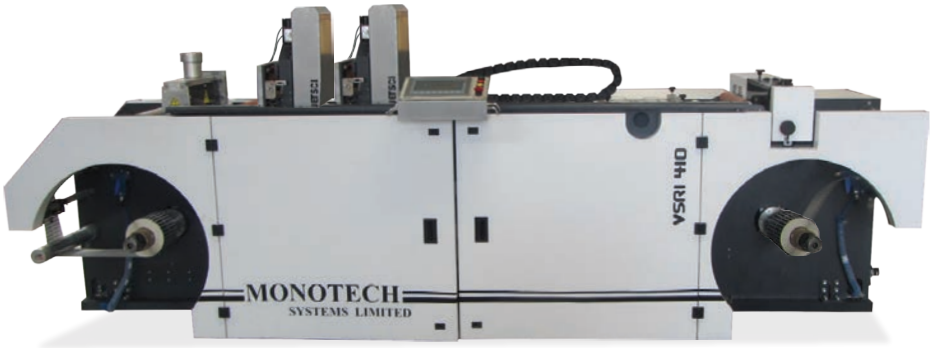


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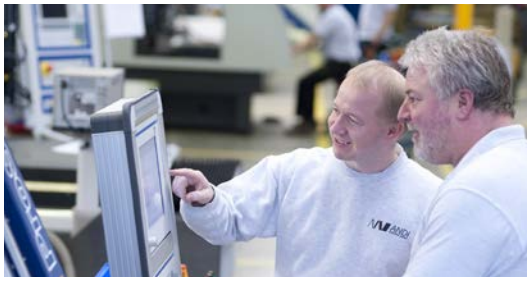

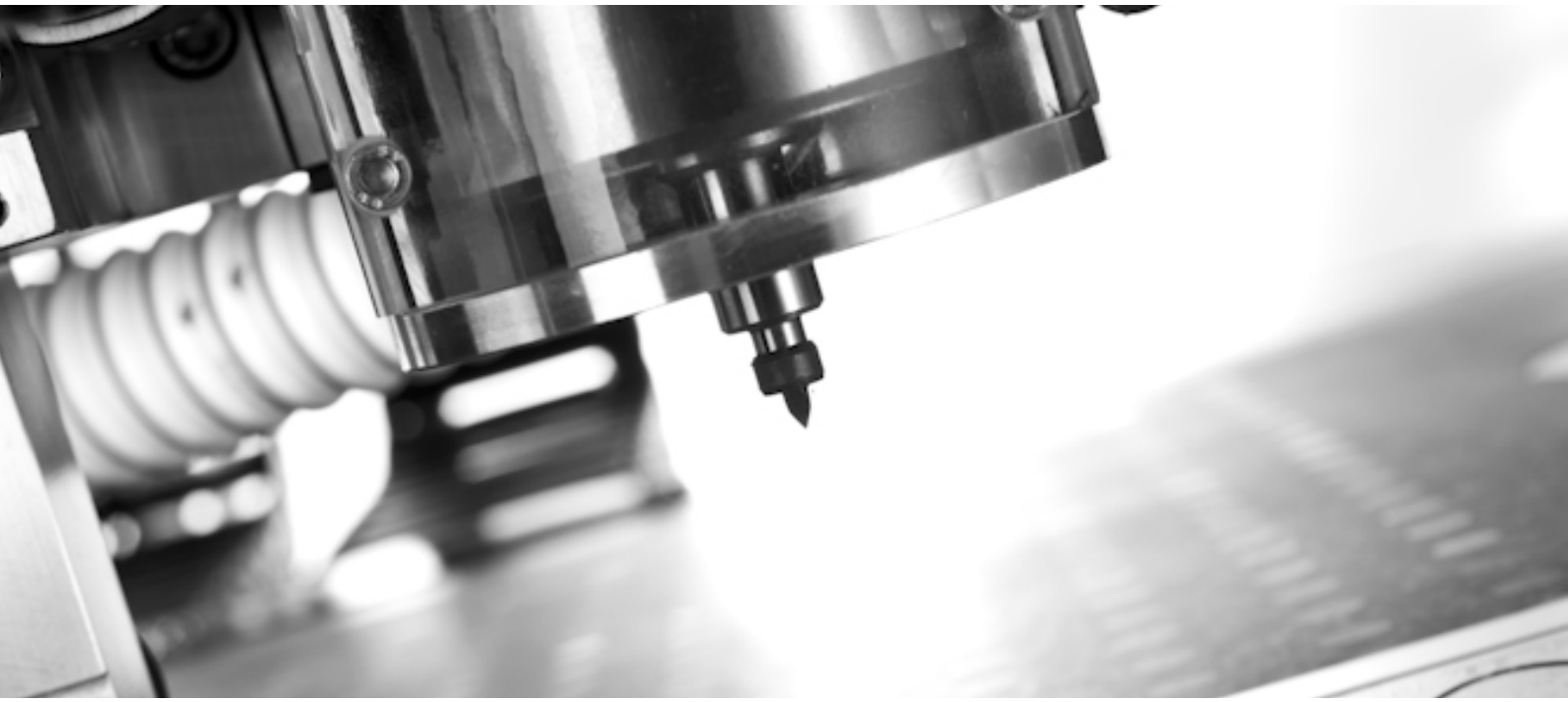

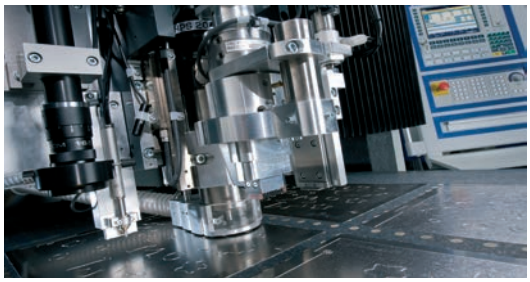
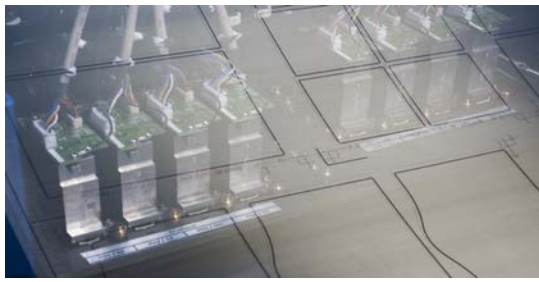

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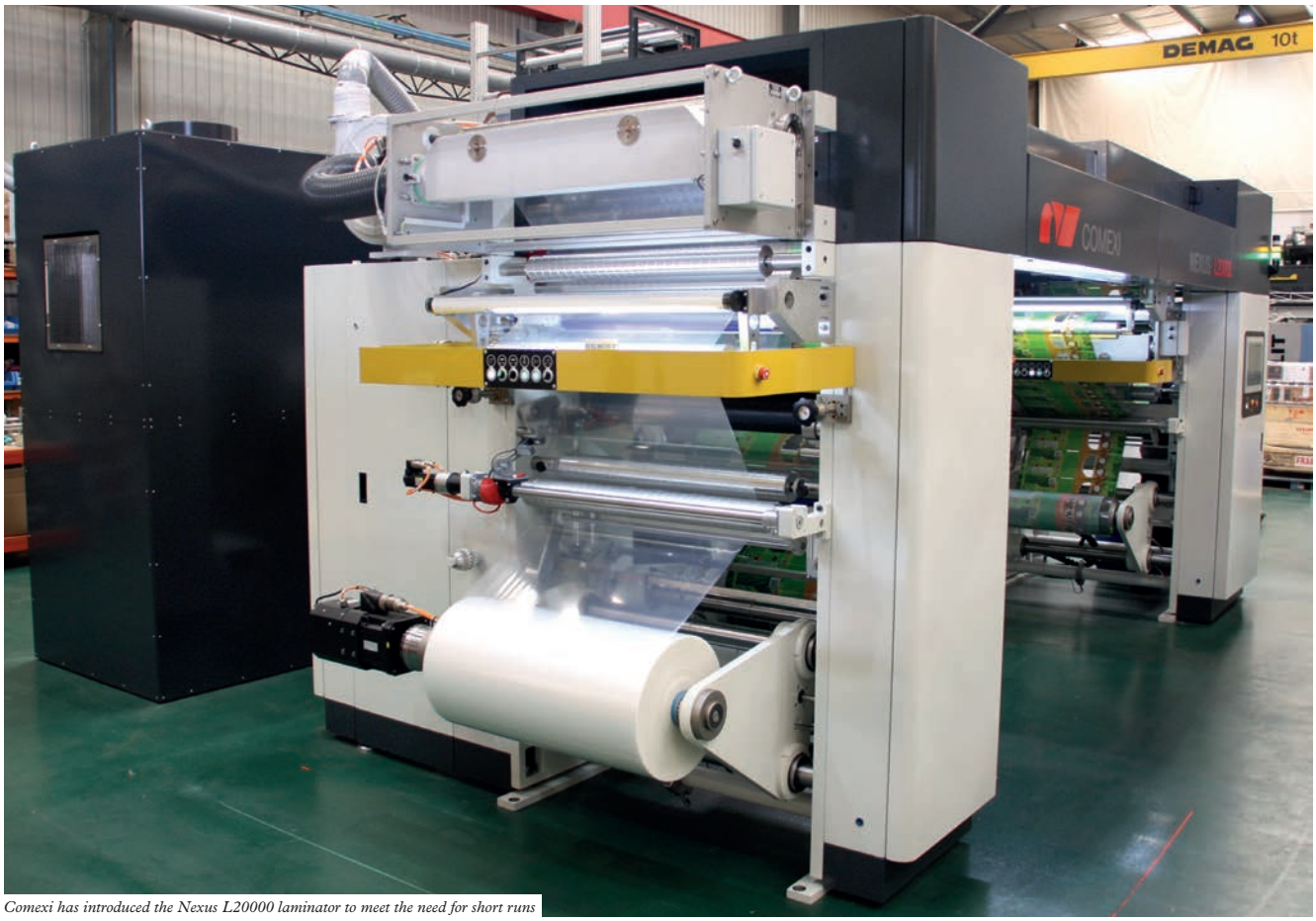

Comexi has introduced the Nexus L20000 laminator to meet the need for short runs

The future of coating and laminating

Key issues including the status of solventless coatings, in- versus off-line coating and anti-migration requirements are examined by David Pittman

Coating and laminating are important steps in the label and packaging production process, delivering key performance characteristics to the printed product. Ink transfer and adhesion, barrier properties and the packaging's finish are three examples of the areas where they can have an impact.

'With flexible packaging, for example, an anti-fog coating may be required or a coating or laminate that provides a specific barrier protection, such as moisture resistance or protection against light,' says Tom Kerchiss, managing director of RK PrintCoat Instruments. 'And the coating or laminate layers and adhesive components must be optimized for the process – heat sensitive materials would be avoided in a situation where there are elevated temperatures, either when engaged in further processing or at the end-user stage.'

'For all applications, the coating must provide protection of the substrate and printed image from scratching, or smudging,' states Kim Krintel, vice president of Tresu DigitalSolutions. 'Especially when printed substrates are stacked directly after they are printed. Coatings also enhance aesthetic appeal. Many different types of varnish effects can be created that grab the customer's attention at point-of-sale, including matte, gloss, soft touch, line effects, spot and flood varnishes. This is especially important for high-end niches, and cosmetics applications in general.'

Krintel, Kerchiss and Cindy Furth, industry manager for laminating adhesives and coatings at Ashland, identify migration as being another major consideration, with the latter saying that, when used in food packaging, both coatings and adhesives used to make laminates must be low migration. 'They require a functional barrier to be used on the innermost layer of the lamination to prevent direct or indirect contact with the food.'

Krintel further notes the necessity to optimize products to ensure a fluid workflow, and to ensure stable printing without any problems on the machine. 'Necessary properties include good slip angle for easy feeding of the substrate, rub resistance to ensure brand integrity is maintained, and viscosity characteristics for optimized curing and drying at speeds of up to 5,000sph on board substrates ranging from 180-500gsm.'

Kerchiss continues: 'A process will be limited by its weakest link, so solution mixing must be undertaken accurately, viscosity controlled, monitoring quality and minimizing or eliminating airborne and other contaminants is essential in order to avoid defects such as ribbing and pinholes, etc. The

Developments in coatings

Equipment investments have taken place from one end of the supply chain to the other, with substrate suppliers Wacker, Metsä Board and Herma all investing heavily in production. Of interest to converters directly, Bobst is to introduce a new coating laminator for flexible materials in 2016 and Maan Engineering has opened a test center for its roll-to-roll coating techniques. Tresu has extended its iCoat 30000 with a Twin version, while its iVarnish range has been formulated for the iCoat, and Pinta flexo, coating systems. In the consumables arena, Michelman has made coatings a key pillar of its new organizational structure, and has introduced a number of new products: Michem Flex R1930, Michem Flex HS268 and Michem Lube 160RPH, a water-based wax emulsion additive designed to control the coefficient of friction (COF) of flexible packaging coatings without compromising bond strength, heat seal, barrier or printability properties. From Ultrachem has come the Safe to Touch Print (STTP) water-based coatings with antibacterial properties reported to last the lifetime of the print, while from Dow Corning is the Syl-Off EM 7945 coating, a water-based silicone emulsion developed for off-line coating of polyethylene terephthalate (PET) films. Walki has introduced MOST, a new extrusion coating designed to keep mineral oil away from food.

coater, method of application and the coating itself are interdependent, and they must all function in unison.'

Albert Chicote, brand manager at Comexi, states that filmic materials are getting thinner, coatings and adhesives are having a higher performance level, and the final products must withstand ever-more aggressive conditions. To suit this, he notes the importance of ensuring evenness during application. 'Otherwise, problems might occur during or after rewinding and slitting. Moreover, coating layer evenness is essential as some specific properties of the lacquer are directly linked to the amount applied.' Ensuring perfect drying and achieving the optimum bond strength with little residual solvents, and achieving a good lamination with an even nip point, without wrinkles, curling or sparkling problems, are other factors Chicote highlights.

Solventless to lead the way?

An ongoing talking point for all steps along the label and package printing supply chain is the environment, and for the coating and laminating markets this focuses heavily on the use of solvents.

'Solvent-based formulations will be forced to be compliant as VOC regulations become more stringent,' says Fruth. 'It is likely that we will see an increase in technologies that provide alternatives to heat and chemical curing, which should help reduce energy consumption and compliance issues. UV will continue to grow, and we will see growth of electron beam curing. LED curing will also grow as converters look for sustainable alternatives.

'Solventless will continue to grow in the flexible packaging market. Adhesives and coatings that are 100 percent solid will continue to gain momentum as regulations become more stringent and acceptable VOC levels are reduced.'

"Adhesives and coatings that are 100 percent solid will continue to gain momentum as regulations become more stringent and acceptable VOC levels are reduced"

Chicote notes that water-based options still have margin for growth, while solventless adhesives are moving into high-end markets and are now able to withstand the harshest of conditions, such as sterilization and aggressive products. 'Legislation will be stricter on solvent emissions and this will reinforce water-based and solventless even more. We cannot be blind either to the fact that adhesives companies are subject to a high cost pressure and will push them for alternatives to solvent-based.'

Polyonics, a company which applies coatings to films that allow printing and other functionalities, sees solvent-based products as the key to producing highly functional and durable coatings, with the flexibility in dissolving resins into a solution and dispersing other ingredients as the main benefit that solvent-based coatings offer over water-based systems. 'Solventless or radiation cured adhesive systems show some promise, but still do not meet our performance needs,' says Tom Rogers, marketing director at Polyonics. He adds that solventless adhesive systems, 'will have a future, as they have a good "theoretical" cost position and the curable type can provide some performance benefits, especially durability. 'The lack of competition in the adhesive production has limited the economic incentives and adoption. When that changes, the capital investment will be easily overcome and greater usage will result.'

In-line or off-line?

A move to solventless formulations will also assist in the growth of in-line application, providing converters with operational efficiencies as they seek to meet the demand for shorter lead times and speed to market, Fruth comments.

However, Chicote sees off-line remaining as the dominant means to apply coatings and laminates owing to the greater productivity offered by an off-line set-up, and where press and applicator speeds are not so interdependent. 'There are a few exceptions, such as cold-seal or lamination in-line in gravure presses, also some downstream to apply different coatings, but in general we do not see it as a trend, globally, but a demand for some specific projects.'

'The increasing complexity of the market and the need for speedy product development, the resolving of process issues and inconsistencies may favor off-line specialist systems,' reports Kerchiss. 'In-line coating system developers have not been slouches, with many of the systems currently becoming available very capable machines.'

Tresu's iCoat 30000 is an in-line option for use with the HP Indigo 30000, a 29in sheet-fed digital press, although Krintel says there are situations where a near-line or off-line operation might be preferable. 'It depends on run length sizes, the type of press, the type of decoration required and the converter's overall

Tresu's iCoat 30000 is an in-line option for use with the HP Indigo 30000

From Ultrachem has come the Safe to Touch Print water-based coatings with antibacterial properties reported to last the lifetime of the print

Michem Lube 160RPH is a water-based wax emulsion additive designed to control the coefficient of friction of flexible packaging coatings

Developments in laminating

Comexi has introduced the Nexus L20000 laminator, which is designed to complement HP Indigo's 20000 digital press for flexible packaging applications. Comexi's existing product portfolio features a range of laminators, such as the Nexus SL2 solventless laminator, as recently installed by US converter Flexographic Packaging Company. Constantia Flexibles is investing in new capacity at its manufacturing site in Spain with a conventional narrow web press and a narrow web adhesive lamination machine. The UK's Elite Labels has installed a B3+ Foliant Vega 400A compact industrial laminator. Further back up the supply chain, Universal Adhesive Systems has installed a CL350 hot melt adhesive coater/laminator from sister company Universal Converting Equipment. And API Laminates has increased the production capacity for its Transmet laminate following the completion of the upgrade, and commissioning, of a new module on the Laminator 4 production line at its Poynton manufacturing site in the UK. In other developments, Michelman has added DigiPrime 680, which is said to exhibit good lamination bond strength, and ProAmpac has acquired Coating Excellence International, a flexible packaging and technical products company which specializes in wide web extrusion coating and laminating of film, foil, paper, board and nonwovens. It will enhance ProAmpac's existing extrusion lamination capabilities.

offering to the customer, plus their position in the supply chain. This begs the question about how the converter's role is evolving in an increasingly integrated workflow. Some customers are taking over more responsibilities in the supply chain as a result of their digital offering. One German folding carton converter for example is printing and coating, but also packing the products in the boxes and put them in the store, taking care of the logistics to the retail outlets. In this case, the printing operation is a small part of the overall workflow.'

New markets and uses

Kerchiss details how coatings have progressed from the simple waxes common in the 1950s, to specialty bio-polymers for applications including medical wound care purposes and specific flexible packaging applications. 'The current trend towards the application of ultra-thin coatings is set to continue,' he adds, 'and in order to meet the requirements of products such as electronics (OLED displays, anti-static component layers, thermal adhesives, separator membrane devices), digital printing (inkjet receiver layers), industrial (release films, environmental control window films, machines and their components) will have to be very precise in operation. Coating and other systems will increasingly become more bespoke to the customer in order that increasingly complex application requirements can be met.'

"The current trend towards the application of ultra-thin coatings is set to continue"

Rogers reiterates the growing move to thinner materials: 'Thinner materials are key to future markets. For example, an important market for Polyonics is electronics tracking labels. The lack of space in handheld electronic devices is driving the need for thinner and thinner labels. So the challenges are to be able to coat thin gauge films, high speed dispensing of labels from liners and producing permanent, high strength bonds with very thin adhesives.'

And like most other segments of the industry, digital printing has had an impact on the coating and laminating markets, with Fruth drawing attention to the need for faster drying and curing to keep up with advances in converting equipment which has gotten faster and faster, plus the demands of customers for shorter lead times and speed to market, as facilitated by digital printing. 'There are several new platforms that require improved fade resistance,' says Fruth. 'We see growth in digital printing with our label converter customers continuing to find applications for their digital printing assets,' adds Polyonics' Rogers.

Digital printing is changing the mentality and way of working in extremely short runs, states Chicote, although for medium and long runs it is not yet competitive against flexo, gravure or offset. 'Digital printing is a technology which fits perfectly for campaigns, promotions and multi products, but most companies must be re-educated to benefit from this advantage. It makes no sense having a shortened time to market when printing if your lamination process is the same as it used to be. The whole "time-to-market" message would get weaker. So new opportunities in lamination, especially with water-based adhesives, will come thanks to this.'

For further info, see L&L issue 3, 2016 for an in-depth look at digitally printed packaging

Combating counterfeiting

Counterfeiting is big business, and requires heavy investment from those involved in detecting and preventing it. David Pittman reports

While it can be difficult to collect figures on the global scale of counterfeiting, it is clear that the multi-billion dollar figure is growing each year as counterfeiters look to capitalize on the appetite of an emerging and empowered middle class around the world.

'The issue of counterfeiting is growing, and is something brands are seeing more and more and having to pay closer attention to,' says Kim Schneider, senior director, Technology Solutions at Avery Dennison RBIS. 'It is a big number and a big problem.'

'It is especially a problem in growing economies,' states Rolling Optics CEO Chester Anderson. 'Large consumer markets in Nigeria, Brazil, Indonesia, Thailand, Pakistan, India and China are emerging, so the taste for consumer products is increasing. This results in a market for counterfeits opening up.'

Schneider comments, 'Counterfeiters are targeting the same markets as brands are.' But these developments also open up opportunities for converters with a presence in these countries. 'They will have the opportunity to provide their and our customers with the tools and systems they need.'

> "Counterfeiters are targeting the same markets as brands are"

Handbags to eggs

Counterfeiting occurs not only in most geographies, but also in a diverse range of product categories – from luxury goods and high-end apparel and footwear, to consumer electronics and industrial components. Eggs and till receipts have also been counterfeited.

When it comes to high value consumer goods, studies indicate some consumers will make the choice to buy counterfeit goods, balancing quality, acceptability and social responsibility against access, price point and value perception. A research study from the International Chamber of Commerce's BASCAP (Business Action to Stop Counterfeit and Piracy) initiative also showed that consumer attitudes towards counterfeit goods vary widely, for example with different thresholds for products which will be ingested.

Chester Anderson argues that the most appropriate options for brands need not be the most expensive or sophisticated. 'You don't want the pack to end up being more expensive than the product, so optically variable or thermochromic inks, for example, are good options. Printers don't need to go too technical to meet regulations, nor do they need to reinvent the wheel. These are

Consumers authenticating products plays an important role in counterfeit detection

Avery Dennison RBIS offers a number of options for brand protection

Visible features of Jujo Thermal's Extrassure are hot foiling, embossing, holograms and QR codes

Three times the functionality

Tri-thermochromic ink formulations extend the working temperature range of these products. Thermochromic inks have an established place in the market, with some notable examples of brands deploying them on labels and packaging. Luminescence, however, states that they have been limited in their application by their reaction to ambient temperature. Too cold and it is difficult to initiate a reaction, too hot and the reaction will already have occurred. Tri-thermochromic inks change between three set colors, such as brown below 25 degrees C, then orange up to 35 deg C and yellow above 35 deg C. These temperature levels can also be altered according to the intended environment of application, so with a 10-27 deg C window of application for cooler climates. Tri-fluorescent inks react with three distinct colors in different light frequencies.

Jujo Thermal's Extrassure has a fluorescent effect that is easily and quickly observed under UV light

tried and tested products, and have been in the market for a long time. They are rarely counterfeited as they are hard to replicate.'

Tools to fight back

According to a report published by MarketsandMarkets, the anti-counterfeit packaging market is projected to grow from 82.05 billion USD in 2015 to 153.95 billion USD by 2020. Options are available at all steps in the printing and converting process, from variable data and other design elements, to taggants added to the ink formulation and other built-in chemical components. For example, security ink manufacturer Luminescence's products range from thermochromic and tri-thermochromic ***(see boxout, 'Three times the functionality')***, to fluorescent, tri-fluorescent, photochromic and iridescent inks.

'Some of the most popular types of labeling security measures right now are adhesive-based,' says Kim Hensley, product manager at Mactac Roll Label. These include: clear permanent adhesives that leave behind residue when removed and have a stronger bond than a typical general purpose acrylic permanent adhesive; nameplate or void labels that leave behind the word 'void' or some other indicator that tampering has taken place; and destructible film labels that fracture or deform upon a removal attempt.

A bespoke approach

Anti-counterfeit solutions are highly diverse. Overt options include holograms and QR codes, which provide consumers with a means to authenticate their purchases directly. Covert options include restricting the anti-counterfeiting element to those equipped with scanners and similar devices who know where to look and what to look for.

'Optically variable and thermochromic products can be easily verified by eye, although not many consumers walk around with a UV torch,' says Jamie Ashley, sales representative at Luminescence. 'It's important to choose the appropriate option and pay careful

"Large consumer markets in Nigeria, Brazil, Indonesia, Thailand, Pakistan, India and China are emerging, so the taste for consumer products is increasing. This results in a market for counterfeits opening up"

attention to the substrate. Paper strength can undermine the functionality of the ink, so it's important to look at the bigger picture.'

In all cases, education is an important element in delivering these options all the way through to the consumer. Avery Denison RBIS works closely with customers to develop bespoke programs. 'Education is an important step in any brand protection program,' says Schneider. 'We put together and run training with our customers, and work with them to train the supply chain on how and what to look for and provide the tools to help them detect counterfeits.'

Sometimes counterfeiters add their own fake security elements to further confuse consumers, as Anderson details through a real-life example. 'The counterfeiters were placing holograms onto the fake goods when the original did not have them. We're taught to see certain things as a mark of quality and authenticity, when the opposite might actually be true. Similarly, there are examples of QR codes being reproduced and the code diverted to an authentic looking website but which is fake.'

Rolling Optics has developed a multilayer, 3D hologram, manufactured using proprietary machinery that makes it extremely hard to replicate. 'We offer a very specific product, which provides a barrier to reproduction. I haven't seen counterfeits in the market yet,' claims Anderson. 'That doesn't mean to say there isn't and there aren't people trying to replicate our technology. If you've got someone throwing enough resources at a problem, they will eventually overcome it. This is why we spend a lot of time talking to our customers and developing the product to suit their needs.'

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"Craft beverages have a high value that makes them a target for counterfeiters, so they need to be looking at and adopting anti-counterfeiting measures"

A bundled approach

A growing trend is for a bundled anti-counterfeiting option, fusing multiple overt, covert and forensic technologies – QR, RFID, NFC, substrate, inks and more. 'There will always be counterfeits,' says Schneider, 'but an effective multilayer solution is a powerful tool and difficult to duplicate.' Avery Dennison RBIS is already doing this, while Rolling Optics is working with partners to combine its holographic technology with options such as QR codes and void seals. 'It's a small but growing group, who want these individual products bundled together to make life as hard as possible for the counterfeiters.'

Jujo Thermal's Extrassure tamper evident seal combines the security features of the company's own paper security technology with RFID technology, holography, hot foiling, a QR code and die-cutting. The glue used in the seal is an EU-approved pharmaceutical product. It has been developed with Starcke, a brand protection expert focused on combining graphical design and technology.

The future

'What the customer needs, where it is to be used and by whom are important questions,' says Ashley. 'We are doing the hard work in our labs and ink manufacturing facility, so for printers it is an easy implementation. All our products are designed to run on-press as normal, making it easy for the printer to use and, in the end, the customer to verify.'

Mactac has identified a trend for more ink-based security measures. 'Ink-based security measures would be effective in determining whether a product, such as a drug, food item or beverage which must maintain a certain temperature, has been mishandled,' says Ashley.

'It's a global business and market,' affirms Ashley. 'And new, smaller markets are opening up, but which have a high value. Craft beverage has a high value that makes it a target for counterfeiters, so those types of company need to be looking at and adopting anti-counterfeiting measures to protect themselves and their products.'

Products and technologies

With the market for anti-counterfeiting technology having such a high value, multiple suppliers offer bespoke and proprietary technologies to combat the counterfeiters. These range from Rolling Optics and its proprietary multilayer, 3D hologram product, to Luminescence's range of security inks. Avery Dennison's Select Solutions Security portfolio of labels involves several different constructions that allow for enhanced authentication and security measures, from overt to covert, and frangible, with labels which tear when removed.

Forensic options are available utilizing chemicals and DNA markers. Advanced Track & Trace's offers its flagship product Seal Vector, a secure digital data container that is suitable for all printing processes and all substrates. In late 2015, Advanced Track & Trace worked with British holography specialist Andrews & Wykeham to adapt Seal Vector for holographic substrates, creating HoloSeal, which resembles a regular hologram to the naked eye, but actually contains encrypted production information as well as a copy-sensitive feature. Advanced Track & Trace has most recently added Vary. IDs, a service for brands and digital printers to add unit codes on packaging and labels for track and trace and marketing purposes.

Similar to HoloSeal, Jujo Thermal's Extrassure tamper evident seals take an existing technology for product security and augments it with further functionality. Using partner Starcke's expertise, it combines a security base paper, hologram, emboss, hot foil, die-cutting, QR code and NFC tag. The glue used in the seal is EU-approved. Agfa Graphics' Arziro design software allows graphic designers to create elements that are difficult to reverse-engineer. Arziro Design is a plug-in for Adobe Illustrator, which offers dedicated design tools for the creation of very complex anti-counterfeiting artwork and patterns suitable for many applications such as packaging, labels and stamps. Agfa Graphics is also extending its offering in general security with a new tool offering a hybrid of authentication, track and trace and Internet of Things functionality. This combines a QR code with a copy-proof secure graphic.

For further info, read the feature on SML Group on p55

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Developments in slitter rewinders

Trends in this key equipment sector include increased automation and integration into press inspection systems, as Andy Thomas reports

Slitter rewinders are a key element in the quality control systems of label converters. Traditionally the rewinder inspection operation was seen as a low skilled and low productivity activity where defective labels were identified and removed from printed rolls and slitting knives set manually to process the finished rolls for the customer.

A quiet revolution over the last few years has seen all this change. Firstly we have seen automated setting of slitting and back-scoring knives move onto narrow web finishing systems, which can cut setting time down from 12+ minutes to under a minute. With integration into an MIS system, lane setting data is taken directly from the imposed PDF file, so there is no need for any manual intervention.

At the same time, we have seen rewinders integrated into press inspection systems, so responsibility for process quality control moves from the rewinder operator to an on-press camera. Faulty labels are identified at the printing stage, assessed for tolerance on an off-line workstation, then the rewinder 'slaves' to that information, automatically delivering defective labels to the splice station.

There has also been an increase in rewinder speeds as more sophisticated servo tension control systems allow rapid ramping up and down of web speeds without loss of register. Reporting systems are also getting more sophisticated.

Turret rewinds continue to be an interesting option for converters looking to further automate their operations.

Another interesting trend has been for simple slitter rewinder systems for off-line digital presses evolving into complete processing lines incorporating a wide range of options from varnishing to foiling, screen printing and beyond. We have not included those machines in this feature, as they are more properly defined as 'digital web processing' systems. We will cover these in a dedicated feature in L&L3.

New technology by manufacturer

ABG has been heavily promoting its automation agenda after pioneering auto-slit slitter knife and back scoring on the Digicon finishing machines (see Working Without Waste feature in this issue). Turret rewind automation is another plank of this strategy and the most recent installation is at Etiket Nederland, a specialist in self-adhesive labels, both blank and full-color up to eight colors. The company's product portfolio includes EC, booklet, sandwich and linerless labels.

The 5-color MPS EF 430 flexo press with a web width of 420mm and a maximum speed of 200m/min is fitted with a new AB Graphic Vectra turret rewinder for in-line finishing of labels.

Accraply has launched its 438 slitter rewinder, a cantilevered duplex differential center winder with constant tension rewind via load-cells or the constant torque rewind.

Features include ultrasonic unwind measurement, adaptive tension control, single or dual shaft winding, an on-board drive processor, and a 12in touchscreen. The 438 is suited for a wide range of products including polyethylene, polypropylene, polyester, film laminates, self-adhesive labelstock, paper and other flexible materials.

At Labelexpo Europe, Ashe Converting Equipment launched its automatic core loading facility on the company's glueless 4-spindle turret rewind non-stop finishing machine. Each core can be loaded individually within seconds and gaps between each loaded core can be set and achieved with the system. The same system can operate core sizes of internal diameters from 25mm to 76mm.

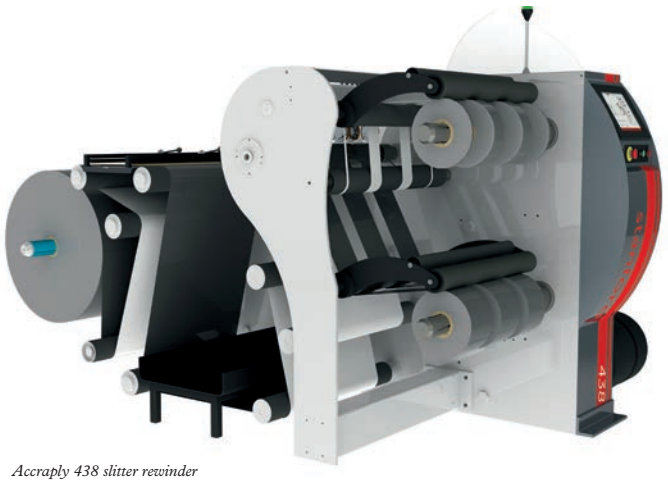
"We have seen automated setting of slitting and back-scoring knives move onto narrow web finishing systems, which can cut setting time down from 12+ minutes to under a minute"

The company showed the latest design of die station running on a 420mm wide Opal converting line. This form of rotary die station is loaded horizontally and the pressure load is achieved via hydraulic rams, allowing precise and accurate loading of the die cylinders to the material being run. The design also allows for ease of loading and unloading of the die cylinders when fast changeover times are required for blank label production.

Also new from Ashe is a fully automatic knife positioning system now available on the Sapphire S2 series (duplex or duplex turret).

Bar Graphic Machinery launched four systems at Labelexpo Europe. The 450mm-wide BGM Elite MultiflexG2 is a full servo multiple substrate inspection slitter rewinder for unsupported and supported materials from 11 micron upwards. Fitted with BGM intelligent tension control system, the machine was demonstrated with E+L's latest sensor-free MMLD control system.

The BGM Ecoflex is a multiple substrate inspection slitting and rewinding machine, demonstrated fitted with a 1-meter capacity



Accraply 438 slitter rewinder

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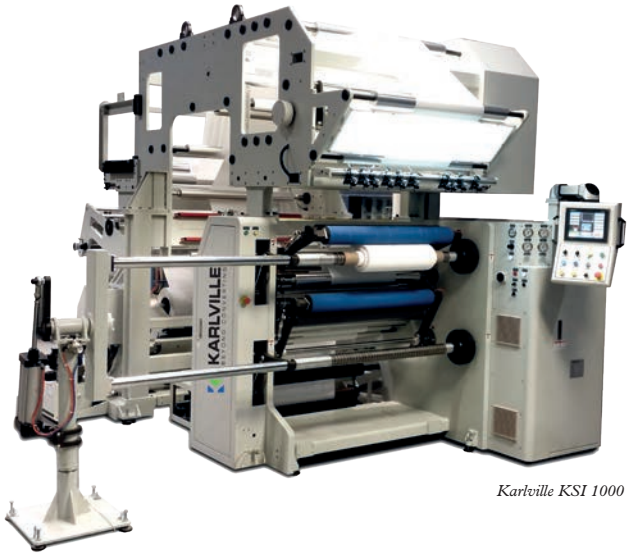


Karlville KSI 1000

"The Jupiter WF is designed to integrate with a press fitted with inspection cameras and workflow link. The machine stops only for pre-defined defects, which are automatically removed"

unwind and integral roll lift. It includes a job memory facility.

The eDTR re-register die-cutting slitter rewinder and eDSR high speed die-cutting slitter rewinder are both fitted with BGM's easy load die-cutting station. The weight of the die is supported by the bottom guide rail, improving operator set up time, handling and reducing damage.

Brotech Graphics has introduced the TR in- and off-line turret rewinding system with four quick change expandable spindles, core gluing and end roll closing system with integrated label dispenser and inkjet printer.

Faes has introduced the grün converter, which allows slitting and rewinding of narrow, 3mm ribbons. The web width is 300mm, resulting in100 slit and wound rolls. A double-sided axial friction winding shaft allows replaceable spring assemblies to be used on both sides, allowing pressure to be applied to the winding cores and the spacer rings. The spacer rings are co-rotated by the winding shaft, thus transferring the frictional power to the adjacent cores in each case.

Gonderflex International has launched its entry level GFSR Compact 1300 slitter inspection rewinder with 760mm (30in) unwind, dual 14in rewinds (355mm) – all with automatic tension control – and pneumatic rewind spindle options down to 1 inch (25.4mm). Speed is 200m/min (750ft/m). There are shear/crush/razor knife options.

Grafotronic has incorporated automatic slit knife positioning – called Wifi-slitting – into its new HI2 slitter rewinder. The system also includes Q-Shaft fast change rewind shafts, dynamic web tensioning and digital web guides. The system builds on the web path developed for the HI slitter series to allow better efficiency when processing thin films. All commonly used camera systems can be integrated in the new machine, which has a top speed of 350m/min. As well as a film package, a semi-turret rewinder is a further option.

Hyden has launched a narrow web inspection slitter rewinder operating at up to 300m/min. The machine features airshafts on the unwind and rewind, splice table, pre-slitting web aligner, a servo-positioning nip, rotary knives with pneumatic throw and an edge slitting system with Venturi trim extract. Options include clear label count, missing label detection, inspection system integration, inkjet coding and dual shaft rewind, along with remote system diagnostics. The servo control system is manufactured by Tesla Controls, a subsidiary of Hyden. Hyden sources components from ABB, Siemens, E+L, Optex, Festo and P+F.

KTI used Labelexo Europe to introduce its Mustang-series turret rewinder, now with a smaller footprint and increased production speeds. The machine automatically loads cores, allowing for faster turret cycle times and permitting shorter rolls to be run at higher line speeds. The rewinder has four spindles and is available in web widths up to 20 inches (508mm), roll diameter up to 12 inches (304mm), speeds up to 750ft/min (228m/min) and can run cores ranging from 0.75in to 3in (19mm to 76mm). Optional features include a roll label closure system, automatic core loading, slitting module and touch screen HMI mounted on a pendant arm. Customers can choose from two types of core gluing: automatic spray glue system with a hot melt tank and spray nozzle or the traditional core glue pot with an optional refill system.

Labeltech has added to its Eiger330 die-cut to register machine launched at Labelexpo Europe with a wider version, the Eiger 430. Both systems are designed to work in-line with Labeltech's IT450 slitter rewinder. The Eiger 430 incorporates an additional nip roll and has been designed 'to be more stable and more compact' with a shorter web path.

It processes webs up to 430mm wide and can host cylinders up to 24in (2,192mm). The gearless die station can be customized to use magnetic cylinders from most printing machines.

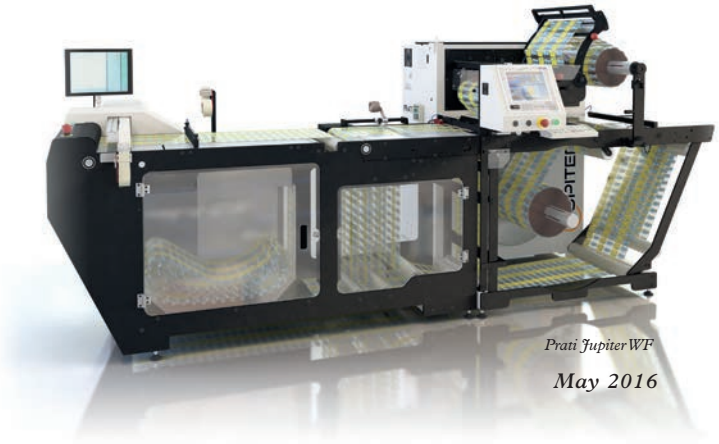
Also new is the Sciliar bi-directional horizontal table-top rewinder. Features include servo-driven unwinder, nip roll and rewinder; bi-directional rewinding with internal/external unwinding and rewinding sensor; a maximum speed of 100m/min (328ft/min); a web width of 260mm (10.2in); interchangeable unwinder and rewinder air shafts; splicing table with pneumatic clamps; a 7in color touchscreen; ultrasonic label counter; and an area for options such as a camera or inkjet marking printer

Labeltech's third new product for 2016 is the Vajolet semi-automatic turret rewinder, which will be launched in a few months. As with the Eiger, it will work in-line with the IT350/450 inspection slitter rewinder.

Italian label converter Rilievografia Fiammenghi has installed the first Eiger330 die-cut to register unit, in line with an IT450 slitter rewinder. 'The machine mounts an E+L Nyscan 100 percent inspection camera and offers us a complete solution for producing finished and quality checked label rolls in just one step, sparing time and increasing productivity,' comments company owner Andrea Fiammenghi,

Karlville's new KSI-1000 is a compact overhead slitter rewinder with open access to splice tablets and slitting section. The KSI-1000, is available in web widths of 800mm and 1000mm and has an operating speed of up to 400m/min with fully automatic closed loop tension control, and dual bi-directional differential rewinds.

This machine incorporates a shaftless unwind for 1000mm



Prati Jupiter WF

"Available as options for new equipment or as retrofits to most existing installations, the modules enable converters to meet a wide range of stringent requirements, including pharmaceutical compliance and high security applications"

diameter rolls with an easily accessible splice table. The quality assurance system is provided by AVT, which includes an inspection camera directly on the press and rewind side. With the multi-loop overhead web path a detected defect can be removed at the second splice table.

The slitting section with tangential web path allows for bottom knife positioning without spacers. A touchscreen-driven interface allows for label counting, multi-lane missing label detection tag detection, and matrix waste calculations.

Lemorau has added internet remote assistance to its CR 1000 jumbo slitter rewinder, designed to run a wide range of substrates from paper and cardboard to films, with optional features including web guide, anti-static bars, lay-on rolls, razor and circular knifes, friction shafts and automatic web tension control.

New from Prati is the Jupiter WF slitter inspection rewinder, finishing the full range of unsupported film, clear-on-clear and SA labels. It is designed to integrate with a press fitted with inspection cameras and workflow link. The machine stops only for pre-defined defects, which are automatically removed.

Prati is also now offering the option of FastCut automated knife and counter-knife positioning on its Saturn series of inspection slitter rewinders. This allows tighter tolerance levels as well as time and materials savings, says the company.

Rotoflex has launched the Security Series of modules for its VSI, HSI and VLI product lines. Available as options for new equipment or as retrofits to most existing installations, the modules enable converters to meet a wide range of stringent requirements, including pharmaceutical compliance and high security applications.

Options available with the Security Series include very high resolution inspection, variable data inspection, braille inspection and bar code reading. Missing labels, remaining matrix, splices, flags,

Smag Sirius slitter rewinder

Labeltech Eiger 430

spots, fading and missing color, text defects and registration can all be detected by the Security Series. In single-pass inspection mode, any repaired or replaced label will automatically be re-inspected to ensure full compliance.

Further developments at Rotoflex enhance workflows where rewinders are integrated with roll-mapping applications. The Rotoflex waste wind-up option can now be used to remove large lengths of waste material while maintaining accurate length and label count. Very high rates of acceleration and deceleration coupled with accurate stop positioning ensure maximum production throughput.

Rotoflex has also enhanced the capabilities of its VLI inspection, slitting and rewind system, which now operates at speeds up to 610m/min (2000ft/min). The updated URC 2.0 operating system allows operators to monitor all functions from a single screen.

Additional productivity tools of the URC 2.0 are the Report Management System (RMS), and biometric recognition. RMS collects real-time production data on performance variables such as run time, defects, production volume and scrap generation, as well as compares outputs of multiple machines. With biometric login, operators can skip manual login entry, providing optimal security.

Smag has developed a new generation of slitter rewinders based on the modular concept used for its Galaxie silkscreen printing and digital converting equipment.

The new Sirius is built with an independent unwinder that can process standard rolls or larger rolls up to 4,000 linear meters. The inspection module includes a mini buffer allowing automatic, default stops on the splicing table at high speeds (300m/min). The Sirius can integrate any type of inspection camera, as well as other applications like inkjet modules. The rewinder is available with single or double shafts or an automatic turret rewinder.

The new Orion model is based on the Sirius design and can receive one or two flexo printing stations and up to two full rotary die cutting stations for blank label production and die-cutting operations.

Both models can be ordered with a servo option for foil or film applications and can be integrated with a sheeter for A4 type labels.

Smag has also updated its tabletop rewinder range with the Vega 2 and Vega Print. Dedicated to jobs with 200mm web width rolls, the Vega is a compact rewinder with both intermittent and continuous modes. The machine can be fitted with web guide, camera, inkjet or a laser printing option.

For more detail on automation of finishing systems, see the Working Without Waste feature in this edition of L&L

drupa 2016 will run May 31 to June 10 in Düsseldorf, Germany

Labels and packaging at drupa 2016

L&L looks at label and package printing technology to see at drupa 2016. Compiled by David Pittman

The latest instalment of drupa will present a variety of technologies and processes to the global printing community, from those for labels and packaging production, to commercial and industrial applications and even 3D printing. All the supply chain members needed to make these a reality – equipment vendors, consumables specialists, substrate suppliers and software developers – will be there.

With more than 1,600 exhibitors spread across 19 halls, there is a lot to see during the 11 days of the show by the expected 300,000 international visitors. Claus Bolza-Schünemann, KBA CEO and drupa 2016 chairman, identifies 'Print 4.0' as a trend that will be central to drupa 2016. Print 4.0 is embodied by the latest generation of print technology, and takes its name from Industry 4.0, the common name for the fourth industrial revolution. Further, Bolza-Schünemann sees packaging, as well as functional and digital printing, as a key theme for this year's show.

'Packaging says and does much more today, and is a communication and sales tool,' says Bolza-Schünemann. 'It is an interactive multimedia tool, and something consumers engage with daily. It is more and more intelligent. It has a further functional role in protecting products and minimizing food spoilage. Then there is the role it plays in providing supply chain security and in anti-counterfeiting [see feature, Combating Counterfeiting, p107-110]. Packaging design is also important, and helps tie customers to a product and enhance brand loyalty.'

"Packaging says and does much more today, and is a communication and sales tool. It is an interactive multimedia tool, and something consumers engage with daily"

Labels and packaging's presence through exhibitors will be augmented by drupa Cube, drupa Innovation Park and Touchpoint Packaging, a feature area in hall 12 implemented in collaboration with the European Packaging Design Association (epda). Touchpoint Packaging is divided into four 'future labs' focused on food and beverage, non-food, pharma and cosmetics, and includes a program of seminars and presentations. It is aimed at brands, packaging designers and service providers already operating in the packaging industry or who want to enter the sector. 'Our aim is to use the Touchpoint to identify potential in packaging design and production, and address important vertical markets,' says drupa director Sabine Geldermann.

'We will be covering the whole spectrum of the packaging world: technical/functional requirements, cultural and ethical considerations, cost-effectiveness and efficiency, the wide range of substrates through to the technologies used,' adds Claudia Josephs, epda project manager.

drupa 2016: the details

Venue: Messe Düsseldorf
Dates: May 31 - June 10
Opening times: Monday to Friday, 10am to 6pm; Saturday/Sunday, 10am to 5pm

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drupa preview

Adecol
Hall 13, stand F24
Brazilian industrial adhesives specialist unveils plans to reach 10 million BRL (2.7 million USD) in export trade in 2016, double the current figure.

Asahi Photoproducts
Hall 11, stand A60
Introduces two new plates: AFP-DCV digital flexo plate, designed for water- and solvent-based inks in flexible packaging applications; and AWPTM-DEW, incorporating the properties of its existing AWP-DEF plates with the addition of a faster plate processing speed, and intended for larger format flexible packaging operations with higher plate throughput.

Bobst's new MW 85 F mid web CI flexo press is presented

Ashe
Hall 12, stand B43
Shows 430mm-wide Opal Converter for high speed blank label production and converting pre-printed labels, and 520mm-wide Opal four-spindle 'glueless' turret slitter rewinder, allowing non-stop slitting and rewinding at speeds of up to 250m/min. Also to shows 1650mm-wide Diamond duplex turret slitter rewinder, 1650mm-wide Sapphire duplex slitter rewinder with automatic knife positioning and TC-25 semi-automatic core cutter.

AV Flexologic
Hall 10, stand A20
Machines on display include: SAMM 800 semi-automatic mounting machine; SAMM 3000 Postprint; TIR sleeve measurement system which analyzes the quality of the sleeve or the cylinder, with or without tape, by measuring the 3D landscape of the surface; Flatmount 3000 flatbed mounting machine; Mount-O-Matic Direct Drive Plus Pro and Mount-O-Matic Upside Down; TAMM 1700 automatic tape applicator; Demounter 1700; and Cosmoline 900 for processing water washable flexo printing plates.

AV Flexologic's SAMM 800 is designed for narrow web applications

Berhalter
Hall 11, stand C70
Presents SMARTembosser as a way to produce embossed lids, and for rim embossing, logo embossing and debossing of pre-cut lids. Also shows the LABEL-light die-cutting tool concept for in-mold labels. LABEL-light is a patented tool combining the advantages of flatbed die-cutting and affordable tooling. LABEL-light has been designed especially for a cost efficient production of small to medium size IML label volumes.

Bograma highlights the RoboStack with in-line banding system from ATS-Tanner for die-cutting, counting and banderoling of labels

Bobst
Hall 10, stand A60-1/4
Highlights include: a new version of the M6 UV flexo press, configured for folding carton production; presentation of the MW 85 F mid web CI flexo press; in-line flexo, gravure and digital printing presses for folding carton, paper and film; new laminators, coaters and metalizers, many featuring digital automation technologies; and new hot foil stamping, die-cutting and folder gluer equipment. Extended color gamut printing, using four or seven fixed colors, on new ECG optimized presses, presented. Working with partners in the Revo Digital Flexo project to present the technology.

Bograma
Hall 6, stand B38
Stand highlights include the RoboStack with in-line banding system from ATS-Tanner for die-cutting, counting and banderoling of labels. Shown is 8 x 6cm labels rotary die-cut from 47 x 35cm formats and the section grids automatically removed. After the die-cutting and breakout process, the products are stacked, sorted and counted and fed to an ATS-Tanner banderole system. BSR 550 Basic and BSR 550 Servo are also shown.

Cartes
Hall 10, stand C41
Shows Gemini 360, a new modular converting machine, and a GT360 series converting line incorporating printing and embellishment.

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May 31 - June 10, 2016
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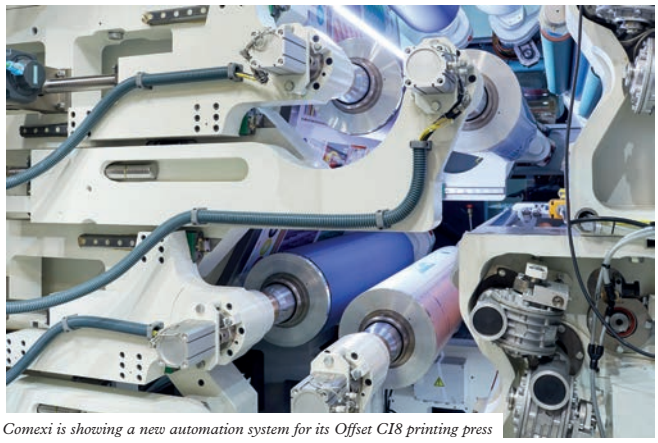
drupa **Hall 09 / A22**



Comexi is showing a new automation system for its Offset CI8 printing press

DataLase's new Variprint monochrome technology uses laser reactive pigments delivered via a coating, or conventionally printed

Cerutti
Hall 16, stand B3
Italian machinery manufacturer showcases the integration of digital inkjet printing into gravure press lines and laminating equipment. Also presents its established flexible package printing equipment in the R98X and R1081 gravure presses, plus the AC94X laminator and EC94X coating unit.

CHILI publish
Hall 7a, stand F40
Debuts PDF rendering technology to enable organizations to improve the speed and quality at which PDFs can be viewed. Also showcases CHILI publisher 5.0, the latest update to its flagship software.

Collins Inkjet
Hall 3, stand C50
Shows development work on drying inkjet inks using electron beam technology.

Comexi
Hall 10, stand B20
Reveals new automation system for its Offset CI8 printing press, and new flexo press based on existing FI platform. Also exhibits on the HP stand with the Nexus L20000 water-based laminating machine.

Cosmo Films
Hall 3, stand A31
Introduces a new range of premium lamination films under the Luxotique brand, comprising velvet, scuff-free matte and digital lamination films. Also showcases its standard and special application lamination films.

Dalim Software
Hall 7a, stand E41
Presents ES online production management tool to access, manage, control, organize, and sort projects and files.

DataLase
Hall 6, stand A19
Shows new Variprint monochrome technology for 'inkless' in-line digital printing, offering real-time messaging and late-stage variable data printing on-pack. This uses laser reactive pigments delivered via a coating, or conventionally printed onto a package, which when exposed to a low power carbon dioxide or NIR diode array laser on the packing line sees a color change reaction to create 'high definition, premium quality' digital print.

DG press
Hall 10, stand D2
Exhibits a new printing unit for its Thallo variable sleeve web offset press, and a refurbished Vision unit. The business scan service, to help its customers make their organizations more efficient and profitable, and a new online shop for spare parts also presented.

Dilli
Hall 10, stand A21
The new Neo Mercury digital drop-on-demand UV label press running at 50m/min at a maximum resolution of 1200 dpi is seen running alongside a wide format UV printer.

Domino
Hall 5, stand A23
Displays a 7-color N610i inkjet digital label press running at up to 75m/min using UV-curable inks. Also shows 'Textures by Domino' option for digital creation of three dimensional textured images. B2 digital sheet-fed printing option debuts also, along with the newly launched 782mm print width Domino K600i monochrome printer.

Derprosa's Soft Touch technology is showcased on the Taghleef Industries stand

Dr. Fischer
Hall 3, stand F56
UV and infrared lamp specialist shows new medium wave range product, LRP, to address energy consumption and service life issues.

DP Lenticular
Hall 7, stand F9
Presents world's first large format lenticular lens, as well as products for the offset, digital and label markets. Partners with KBA for live demos for the offset market.

Edale
Hall 12, stand B5-3
Design and consultancy the main focus for the UK firm, which is seeking to discuss how it can support with web transportation systems and complex integration. Also talks about the features and benefits of

FireJet products are central to Phoseon's presence

The print image monitoring system Elscan OMS 6

its portfolio of flexographic and digital hybrid printing presses offered to label and packaging printers.

EFI
Hall 9, stand A40-1/-2
Introduces hybrid technology based on its Cretaprint system for ceramic tiles, Jetrion label printing system and Vutek wide-format kit to create a 'revolutionary' system for packaging, initially targeted at corrugated. Also features new water-based and LED packaging inks.

Epson
Hall 5, stand A1
Label printing is one of five zones featured, and SurePress digital label presses a major focus within this zone, including the L-6034VW and the 7-color L-4033AW. Also features the ColorWorks C7500 desktop label printer for in-house on-demand applications and the portable LabelWorks LW-Z900 for industrial and construction use.

Erhardt+Leimer
Hall 16, stand B40
Focuses on the Elscan OMS 6 print image monitoring system and the AG 8 actuating drive, used in combination with the FE 52 color line sensor and the DO 30 command station for web guiding on unwinders, rewinders and in pivoting frames. Also presents the new WBM tool for the web-based commissioning and operation of a web guiding system.

Esko
Hall 8b, stand A23
Launches XPS Crystal 5080 UV LED exposure unit, featuring simultaneous UV main and back exposure, and the CDI Crystal 5080. These can be integrated to form the CDI Crystal 5080 XPS. Digital finishing portfolio is simplified with Kongsberg X and C platforms, with versatility and performance respectively in mind. Also new is the Device View module within Automation Engine that integrates hardware and software, so flexo platemaking with workflow automation.

Further, Esko Software Platform is the new name for its preproduction software tools, previously Esko Software Suite, along with multiple improvements to products on the platform.

ETI Converting Equipment
Hall 3, stand C14
Presents new range of flexo presses in widths from 330mm to 670mm. Cohesio technology also features, which enables the user to produce their own pressure-sensitive material from any paper or film roll. A 330mm Mini-Cohesio is shown with live demonstrations of clear-on-clear in-line laminate manufacture and printing at high speed.

EyeC
Hall 3, stand A92
Shows Carton Pre-Feeder, a movable and flexible module that can be connected to any folder gluer in order to check the quality of the processed packaging material before delivery. A new inspection head is available for all the products of the EyeC ProofRunner Carton range, and also shown is Proofiler, an off-line inspection system optimized for fast sample checking.

FFEI
Hall 10, stand B16-2
Showcases Graphium hybrid digital-flexo press and a range of applications that can be produced in a single pass, such as laminated wristbands and complex labels to a range of packaging products.

Flexo Concepts
Hall 11, stand C34
Introduces a variety of new MicroTip variations on its TruPoint Orange doctor blade to enhance performance in flexo printing and coating applications, and allowing printers to choose a blade to optimize metering effectiveness, maximize blade life and maintain a safe pressroom environment.

Omet moves into package printing

Omet's new 850mm-wide Varyflex V2 Offset marks the narrow web label printing equipment specialist's decisive move into the packaging press market. The press combines offset printing units with the company's patented sleeve system in combination with flexo printing units, with Omet sales and marketing director Marco Calcagni identifying this combination of print processes as a rising trend. 'The combination of different technologies provides benefits especially with specific jobs. Being able to combine offset and flexo enables the printer to take advantage of the peculiarities of each technology and merge them to confer higher value to the final product.'

Omet says the press suits various sectors, in particular flexible packaging, either for food or non-food, and in-mold labels printed on sheet-fed offset presses. A wide range of substrates, from thin film to carton, can be printed and it can run food-compliant offset UV inks. The BroadBeam electron beam drying system developed by PCT Engineered Systems can also be integrated, which Calcagni says is part of Omet's aim to give the press 'absolute flexibility'. 'It is ready to print either in wet-on-dry mode by installing inter-deck UV curing systems, or in wet-on-wet mode, through UV or EB curing system at the end of the line.'

Omet identifies potential customers as those using gravure technology, which often requires a high quantity of solvent inks and is not able to satisfy short runs due to the high cost. Flexible packaging converters seeking to widen their market range, label printers moving towards this technology and sheet-fed printers, who have experience in offset printing and want to enter the packaging market, are on Omet's hit list for the Varyflex V2 Offset 850.

'Offset printing technology guarantees high quality through efficiency and low equipment costs,' states Calcagni.

Flexomaid
Hall 16, stand 53
Shows range of cleaning products, including the AeroMaid cleaning cabinet for anilox cleaning and the EcoMaid line of cleaning detergents to clean anilox rolls directly on the printing press.

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Flint Group
Hall 3, stand B53
Shows a variety of products for label and package production in three locations across the show floor. Hall 3 has an information booth positioned with other ink and print consumables suppliers; Hall 8b houses a pre-press stand, shared by the Flint Group division Flexographic Products and Thermoflex; and Hall 8a a stand with joint branding of Flint Group and Xeikon that highlights their combined offering following the acquisition of the digital print specialist and creation of Flint Group Digital Printing Solutions.

GEW
Hall 12, stand A28
GEW launches the NUVA2 UV system for wide web applications, available in widths up to 2.5m from a single lamp. The NUVA2 is a fully air-cooled UV system for web or sheet-fed applications in the printing, coating and converting industries. The active air cooling and optically tuned reflectors maximize lamp curing effect while reducing heat radiation onto the substrate.

NUVA2 systems can at a later stage easily be upgraded to LED operation. An arc lamp cassette and an LED cassette can be operated inter-changeably and seamlessly on the same print unit using the same Rhino ArcLED electronic power supply, control panel and cabling – the only tool needed is an Allen key.

GEW also unveils its Multipoint in-line UV dose control, which allows comprehensive monitoring of the UV output during the curing process. It acts as a built-in UV intensity meter and measures the actual intensity across the full width of the lamp. Low intensity which would not adequately cure is thus avoided, as is insufficient output from a degraded lamp.

GEW's third launch is an inert atmosphere UV curing system, used principally in the production of silicone release liners and direct food contact packaging, with the curing process takes place under controlled conditions in a sealed nitrogen chamber.

GEW's inert atmosphere curing system can be supplied as an add-on or as a retrofit and comes with an embedded oxygen level analyser to ensure process consistency and production efficiency.

Global Graphics Software
Hall 7, stand B21/C20
Presents Harlequin Multi-Level Digital Screening engine to overcome common problems and mechanical limitations in inkjet printing.

GSE Dispensing
Hall 3, stand F50
Exhibits ink logistics options to eliminate waste, enable repeatable color on demand and reduce set-up times in label and package printing workflows. Stand highlights include the Colorsat Compact dispensing system, the Evolution Series Perfect Proofer and the Colorclean Indigo bucket washer.

Grafikontrol
Hall 15, stand A11
Shows TQC-360°, a modular platform developed to provide printers with an overarching option that guarantees quality. Also shows a number of quality control and register control systems for gravure, flexo and offset printing.

Harper Corporation of America
Hall 13, stand D68-1
Displaying HIVE (High Imaging Volume Engravings) series, and features QD ink proofing and flatbed printing system. Harper has developed printing features and accessories that minimize the amount of expensive materials necessary to test printed electronic concepts and ideas. Harper has also expanded the engraving geometries and volumes for proofers to accommodate the different deposit properties that are needed for functional inks and printed electronics.

Heidelberg
Hall 1, stand B1-1/-4 and B19-2/-5
Center stage is the Primefire 106, a joint development between Heidelberg and Fujifilm, combining their respective inkjet and application know-how.

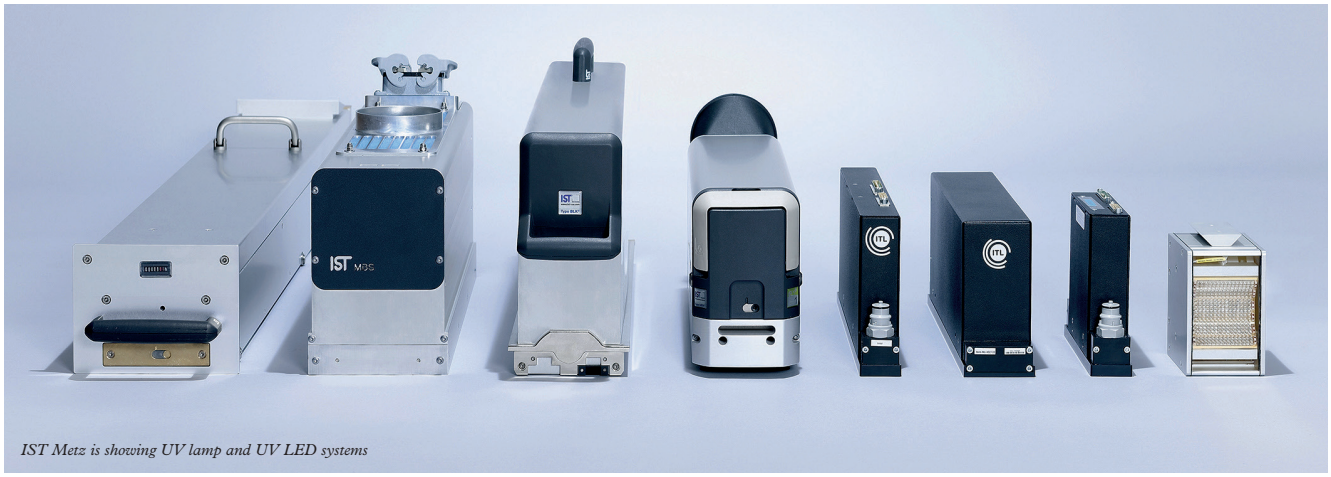
The 7-color inkjet press uses food-safe, water-based ink. 'Fire' is the new umbrella name for all digital products and also on stand are: Labelfire (formerly the Gallus DCS 340 digital press); Omnifire 250 for printing and coating on to 3D objects; and Versafire CP and CV, commercial sheet-fed toner-based options.

Other products of interest include a second generation Speedmaster XL 75 Anicolor, the new Prinect Press Center XL and a new operating system for all Speedmasters, an upgraded Speedmaster CX 102, enhanced Prinect workflows and converting machinery from Masterwork.

Highcon
Hall 9, stand C50
Introduces Pulse, Beam and Euclid III digital finishing units. Beam can operate at 5,000sph and features three 1kW lasers, while the B2 format Pulse offers similar performance to the established Euclid technology but in a smaller footprint and using one 800W laser. Also introduces the Axis software and a 3D modeling package.

HP Indigo
Hall 17, stand A1-1/A1-15
Presents a variety of digital printing technologies for label and packaging applications. *See the news pages at the front of this issue for full details of its latest developments and products.*

Hybrid Software
Hall 7a, stand F41
Shows cloud-based enterprise workflow and variable data options for digital package



IST Metz is showing UV lamp and UV LED systems

Metsä Board is showing various paperboard products

Primefire 106 takes center stage on the Heidelberg stand

printing; warping and 3D facilities for shrink sleeves and cartons; plus a 64-bit scalable RIP for PC and MAC platforms.

INX International Ink/Sakata INX Group

Hall 3, stand A50

Shows inks for flexible packaging and high-color water inks for corrugated board. JetINX printhead drive and ink recirculation system features, as do the CGS digital proofing system, GTB inspection system and EG-1 Autocolorimeter.

IST Metz

Hall 2, stand B10

Focus on the HYcure product range for sheet-fed, web-fed and narrow web printing, and demonstrated with the aid of the MBS system for label printing. The practical applications of both UV lamp and UV LED systems also on show to demonstrate the use of UV lamp systems for printing packaging and UV LED systems for commercial printing on a Heidelberg Speedmaster XL75-6+L (UV Anicolor). The press runs four times a day.

KBA

Hall 16, stand C47

Presents technologies from a number of its subsidiaries, including flexible packaging specialist KBA-Flexotecnica, metal decorating expert KBA-MetalPrint, KBA-Metronic and KBA-NotaSys.

Kodak

Hall 5, stand F9

Flexcel NX System '16, NX implementation services and Ultra NX key elements of presence. For flexible packaging printers, Flexcel NX System '16 means cost savings and press efficiency by delivering ink savings, faster press operation, use of fewer colors and longer lasting plates in narrow, mid and wide web operations. Advances in flexo plate technology also presented in the Ultra NX Experience room.

Komori

Hall 15, stand D4

Exhibits a line-up of hardware that includes offset presses, digital printing systems and post-press equipment, along with software products for the integrated control of these systems. Impremia IS29 is a 29in, 4-color sheet-fed inkjet digital printing machine with a maximum speed of 3,000sph and a maximum resolution of 1200 DPI.

Konica Minolta

Hall 8b, stand A65

Products shown include the bizhub PRESS 1250e series and the full commercial launch of the KM-1 UV sheet-fed digital press.

Landa

Hall 9, stand A73-1/-9

Launches two Nanographic presses targeted at carton and flexible packaging applications, as well as new Nanographic metalization process, demonstrated on a narrow web press

Leonhard Kurz

Hall 3, stand D60

Presents products for hot stamping, cold foil transfer and digital metal sectors, including the latest generation of its DM Liner transfer unit. For the cold foil sector, it presents the Distorun module that enables single images to be applied on narrow web cold foil systems. In hot stamping, demonstrations focus on a 'novel' stamping technology for producing hot stamping designs incorporating nanoembossing. Also presents the foil grades Luxor/Alufin MTC, Luxor/Alufin MTU, Luxor/Alufin Gio and Luxor MTS Polarlight, and optically variable devices offering a high level of counterfeit protection while also being decorative.

On the MBO stand is the Stamina folding carton system with an integrated rotary die-cutting unit from Bograma

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HALL 14 STAND 71

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RMGT's DP7 is a B2 format liquid toner digital offset press

The SFRD3030 is part of Orthotec's presence

Lüscher Technologies
Hall 16, stand C7
Presents XPose! FlexLine 330L for 42 x 60in formats and combining a dual optic with 5080/2540 DPI with a unique patented internal drum system. Also shows the MultiDX! 320 CTP system.

MBO
Hall 6, stand B40
Shows 11 finishing systems covering offset print applications, digital print applications, and specialty applications such as direct mail, pharmaceutical finishing and packaging. Debuts web-fed K8-RS folder, and four lines from subsidiary Herzog+Heymann. Also on display is the Stamina folding carton system with an integrated rotary die-cutting unit from Bograma.

Metsä Board
Hall 12, stand C43
Shows its paperboards ideal for consumer goods, retail-ready and food service packaging, as well as services related to them. It is exhibiting together with PrintCity Alliance.

Miyakoshi
Hall 9, stand A22
Introduces MLP-H, a new semi-rotary UV wet offset press for labels claimed as 'the fastest' at 121m/min. It combines a running speed of 300imp/min with a repeat length of 406mm. Miyakoshi's calculation based on its customer shows that MLP-H provides a lower running cost when compared to flexo/letterpress up to 30,000m. Optional screen and hot foil stamping units also available. MLP-H will be sold in 350mm and 420mm web widths, handling a substrate range from 70-300 micron.

Omet
Hall 3, stand D90-1/-2
Introduces Varyflex Offset V2 850 designed and built for the flexible packaging market. *See boxout, 'Omet moves into package printing', for further information.*

The F10 iCon ink supply system is part of Tresu's technology presentation

Orthotec
Hall 3, stand D35
Demonstrates converting and finishing machines for wine label and digital converting.

Presstek
Hall 15, stand D59
Shows its 4- to 6-color high speed digital offset presses which feature on-press chemistry-free imaging and built-in automation. Select models offer aqueous coating or Eco-UV, a new integrated low energy UV system that instantly dries traditional and non-absorptive substrates. Plastic will be printed live on a 2-page, 4-color Presstek 52DI with Eco-UV. Also shows the GemPlate, Zahara and JT plates, with two new plates unveiled: a high performance negative thermal plate, for sheet-fed, heatset, or coldset web pressrooms; and a thermal plate for various newspaper press platforms. Further unveils Dimension Pro 2, new non-proprietary thermal CTP system.

An extra dimension

3D printing will have a dedicated presence for the first time at drupa in 2016, with a number of exhibitors and features highlighting developments with the technology. Stratasys, Massivit and HP are all amongst those showing 3D/additive manufacturing technology on the show floor, while Touchpoint 3D fab+print in hall 7a presents ideas, insights and case studies, and presentations in the drupa Cube address topics such as 'Touching the future of 3D print' and '3D print: hope or hype?'.

Paper converting specialist Highcon has also entered the 3D market by working with Autodesk to develop a software tool that allows the laser cutting element of its technology platform to be used for 3D modeling. This takes a virtual image and allows it to be broken down into horizontal slices that each correspond to an individual sheet of material. On its Euclid machine, these sheets are cut according to the image allocated to them by the front-end system, and each cutout can then be taken and stacked to create a model of the desired shape. The cut sheets can also be positioned in order, secured and then used as a mold to create physical forms and models in a more cost-effective and timely manner. The Highcon/Autodesk system also allows nesting, so multiple individual layers can be ganged on one sheet of material, which itself can be waste sheets that are already printed, such as that created during job set-up.

Polar
Hall 1, stand C3
Presented are the new D 115 Plus and Digicut Pro. DC-11plus label system also shown.

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Troika's AIM is a 2D microscope that can work in conjunction with different applications within the print industry

Phoseon
Hall 9, stand D5
Showcases FireJet air-cooled products with increased irradiance and new technologies to enhance performance.

PrimeBlade Sweden
Hall 12, stand C23
New 900 Nano+ doctor blades on show, featuring a modified treatment process now made deeper into the base material for enhanced durability and strength.

Recyl
Hall 11, stand C32
Launches new ultrasonic cleaning technology, and shows model integrating multiple functionalities, which were previously fragmented, into one assembly, so simplifying the technical characteristics of the machine.

RK PrintCoat Instruments
Hall 3, stand F35-1
Displays VCM-L lab/pilot coater and FlexiProof 100/UV, designed to enable users and producers of UV flexo inks to resolve quality control issues, color match and determine process fundamentals such as printability, gloss, scuff and chemical resistance.

Ryobi Mitsubishi Graphic Technology
Hall 16, stand D24
Shows DP7 B2 format liquid toner digital offset press. Press demonstrations to focus on the advantages of using digital offset to flexibly meet the need for custom print production of shorter run work.

Scodix
Hall 4, stand D60
Presents new digital enhancement platform and additional applications for its print enhancement technology. Also shown is the Scodix S Series and the Scodix Ultra Pro digital enhancement press with foil station, which is an optional module that can be run in-line.

Screen
Hall 8a, stand C11
Shows Truepress Jet L350UV digital label press producing a wide range of different label applications. Demonstrations of a variety of new anti-counterfeiting, product tracking, security and full color, individual barcode printing features also shown. Launches Trust Network Service, a remote diagnostic and preventative maintenance option which uses IoT technology, enabling real-time remote management of equipment status and operating conditions.

SEI Laser
Hall 12, stand D23
Introduces Labelmaster, a modular system with four laser heads used for finishing and digital converting. Labelmaster operates at a constant 100m/min with a traction control system working in synergy with the control unit of the material shift. It can process rolls of paper, gloss paper, PET, PP and BOPP up to 600 mm. Labelmaster can be customized upon purchase or afterwards with a series of optional upgrades that can be retrofitted.

Siegwerk
Hall 3, stand A58
Features products such as its Sicura Nutriflex LEDTec low migration UV LED flexo ink and UniRICS water-based ink system. Digital inks also a focus. Siegwerk is expanding its business into the inkjet ink market for labels and packaging with extended research and development capabilities and a dedicated inkjet laboratory in France.

Sistrade
Hall 7a, stand F21
Presents the Business Intelligence tool for faster and more assertive decisions using dynamic dashboards; Project Management module; and Smart Statistics to provide pre-built dashboards.

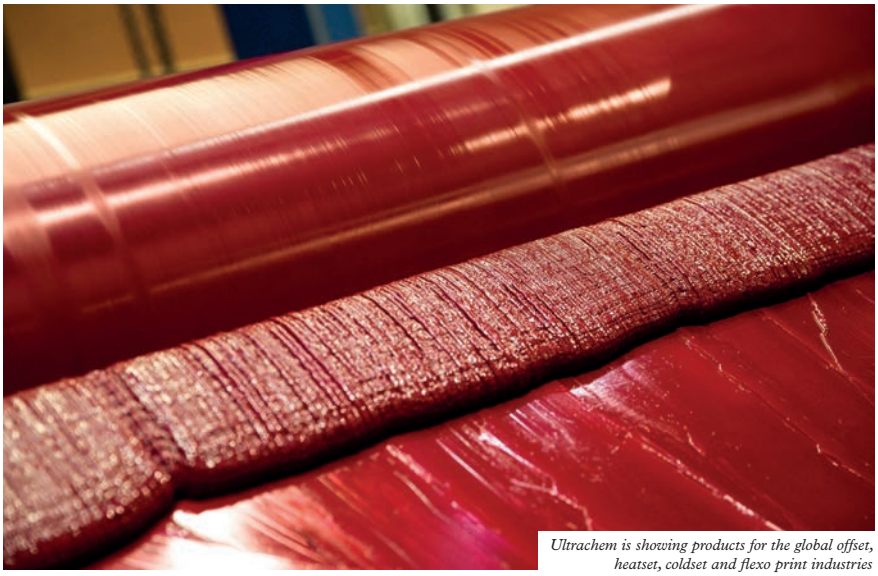
Steinemann Technology
Hall 1, stand B18
Presents digital varnishing machines from the dmax family for smaller sheet formats, including the narrower dmax 76 for spot varnishing on paper and board sheet sizes up to 760 x 760mm, and the dmax 76c entry-level model.

Swedev
Hall 3, stand B73
Introduces SWED/CUT H7 doctor blade with a multi-job blade life, and ability to handle abrasive inks like white and metallic through a new coating. This coating also has a low surface friction which decreases cylinder wear and prevents the build-up of heat in the contact between blade and cylinder.

Taghleef Industries
Hall 4, stand D25
Shows new range of Derprosa Soft Touch films for roll-fed, self-adhesive overlamination and IML applications.

Technotrans
Hall 2, stand A4
Presence focuses on cooling systems for digital printing and UV printing applications and interconnected, smart control systems. Highlighted is smartchiller, used for the efficient cooling of digital printing presses in the lower to medium power range.

theurer.com
Hall 9, stand E14
Highlights C3 software for printing and packaging production. New business intelligence dashboards, JDF automation with HP Indigo 20000 and 30000 digital presses, a cloud edition, the new C3.2016 user interface and a mobile CRM app presented.



Ultrachem is showing products for the global offset, heatset, coldset and flexo print industries

MPS open house

MPS will open the doors of its new headquarters in Arnhem, The Netherlands, during drupa 2016. The open house takes place on June 1-3 and June 6-7.

Free bus transfers from Düsseldorf to Arnhem will be arranged. Visitors will experience a factory tour, lunch and live demonstrations on MPS presses in the new MPS Technology & Expertise Center. On show will be the EF multi-substrate press, the EB flexo press and the hybrid EF Symjet. Buses leave the exhibition center at 10am and return to Düsseldorf by 3:15pm.

Toyo Ink
Hall 4, stand B39
Products shown include high reactivity UV offset inks that help reduce energy consumption, Kaleido UV flexo inks with an expanded color gamut, and low migration UV inkjet inks for safe and compliant packaging. Also promotes water-based flexo inks and developments in EB curing technology both in offset and flexographic printing systems. For flexible packaging, shows liquid inks for reverse and surface printing, and solvent-free lamination adhesives.

Tresu
Hall 10, stand D54
Highlights are F10 iCon ink supply system, iCoat 30000 Twin (on the HP Indigo stand), and a printing unit to highlight the productivity and flexibility of its web-fed Innovator flexo printing lines for folding carton applications.

Troika Systems
Hall 10, stand C13-4'
Launches Advanced Inspection Microscope (AIM), a 2D microscope. Further improvements to its FlexoPlate QC and anilox management system for Anilox QC also presented. Exhibits alongside trade association Picon.

Uflex
Hall 15, stand C51
Launches new extrusion lamination machine. Also on display is a gravure press based on electronic line shaft technology with all printing, unwind, rewind, in-feed and out-feed components equipped with servo motors and drives, plus a range of embossing cylinders, elastomer flexo sleeves and plates, and a range of anti-counterfeiting technology.

Ultrachem
Hall 3, stand E45
Shows UV and conventional inks, conventional/CTP developers, water-based flexo inks and sundries, UV and water-based coatings, FOGRA-approved solvents and founts, UV and conventional blankets, ink blending and color matching, and specialty adhesives (low migration).

Univacco
Hall 3, stand F1
Shows new range of multi-purpose graphic pigment foils, Real Seamless Rainbow Sheetfed cold foil and an improved version of the OF-06 UV overprintable hot stamping foil. A Gietz FSA 870 Compact hot stamping and die-cutting press runs on its stand.

Universal Converting Equipment
Hall 12, stand D12
Highlights Universal X6 slitter rewinder, Universal CCA automatic core cutter and a hotmelt adhesive coating station.

Uteco
Hall 10, stand A18/B3
Shows equipment for the production of a variety of printed products, including flexible packaging, and introduces technological developments in flexo, gravure, inkjet and offset printing, lamination and converting.

Valloy Corporation
Hall 4, stand C5
Shows Topazet UV13R compact roll-to-roll UV inkjet printer featuring Ricoh RH2220 printheads. White ink and varnish are available for special effects, and applications include label printing and flexible package printing.

Weifang Donghang
Hall 3, stand E95
Presents 430mm-wide DHF20420-6 flexo press for label printing, and including a self-adhesive label die-cutting unit, delam/relam, removable turn bar, cold foil unit and waste removal unit. Additional options include screen and gravure printing units. It can run water-based and UV inks, and can combine hot air, IR or UV dryers.

Weko
Hall 2, stand B54
Presents application systems for powders and liquids, particularly for digital printing applications.

Wikoff Color
Hall 3, stand E31
Shows Photoflex LED inks, formulated to run at press speeds of 700ft/m at 365nm and 395nm, and Photoflex High Shrink, a silicone- and wax-free series designed for reverse print where an opaque white or UV coating provides protection, and featuring colors with varying degrees of lightfastness.

Windmöller & Hölscher
Hall 15, stand A41
Present its full product portfolio, such as the Miraflex S CI flexo press, and focuses on the concept of Packaging 4.0, the company's vision of Industry 4.0 applied to the production of packaging.

Xeikon
Hall 8a, B20-1-3
Launches new flatbed die-cutting unit for the folding carton market, and shows Fusion concept for fully digital production of high-end, value-added label production. Also debuts Trillium One, a new liquid toner digital press, and new pre-press technology from Basys and ThermoFlexX, including the X20 and X30 for the labels and packaging market. Presence shared with new parent company, Flint Group.

Label Trends

North American digital label landscape

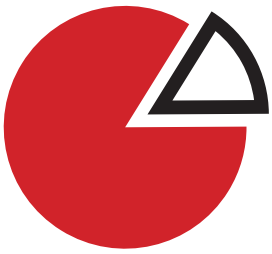
The North American digital label market can be summed up in one word: growth. Digital production press installations have already begun to outpace conventional machine installations and show no sign of slowing. However, there still is room in the market for both manufacturers to be successful. Chelsea McDougall reports figures from the 2015 TLMI North American Digital Label study, the most current data available

$1.037bn USD
North American digital printed label revenue

INSTALLATIONS
United States: 84%
Canada: 11%
Mexico: 5%

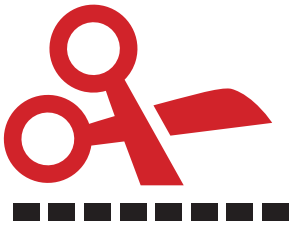
3 in 4 press installations will be digital by 2020
In 2011, 33 percent of all new press installation in the North American market were digital. By 2020, it's projected that digital press installations will reach 77 percent

Of the digital production color presses currently installed, **85 percent are electrophotography presses and 15 percent are digital inkjet**

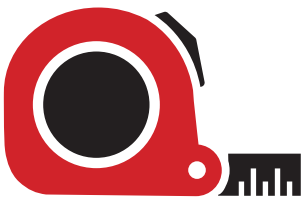


Of the total printed label market value, conventional press throughput makes up **$11.1bn USD, EP: $881m USD, digital inkjet: $155m USD**

Highest utilization of digitally produced labels:
Pharmaceutical: 17%
Consumer durables: 13.6%
Health, beauty and personal care: 13.4%



73 percent of digitally produced jobs require a second pass for die-cutting and finishing



Digital run lengths on average: 2,267 linear feet. Conventional run lengths: 27,163 linear feet

The top concern cited by converters for not investing in a digital press was not finding enough business to fill their digital press capacity

Source: TLMI 2015 North American Digital Label Study / Research Conducted by LPC, Inc

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02


01

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01 C P Paul of APL; Carston Barlebo of Air Motion Solutions; Shakti Jain of Great Eastern Impex

02 Ramu Ramanathan and Chirag Chokhani

03 C P Paul of APL; Rajesh Nema, secretary of LMAI; Sandeep Zaveri president, LMAI; Harveer Sahni, Weldon Celloplast


03


04


05


06


07

TLMI annual converter meeting

Hawaii

04 A golf scramble was one of the events keeping members entertained. From left: John Attayek, Inovar; Greg Jackson, Columbine Label; Mark Glendenning, Inland Label; Joel Carmany, Consolidated Label; and Nick Calvetti, Amherst Label

05 TLMI members enjoy the awards dinner From Left: Laura, Abbot Label; Mark Glendenning, Inland Label, John Abbott, Abbott Label; John and Pam Attayak, Inovar; Steve Schulte, Mark Andy; Gary and Colleen Cooper, Dot-It Labels

06 New TLMI president Mark Tibbits and wife Courtney at the annual TLMI converter meeting March 7-8 in Hawaii

07 Visitors to the TLMI annual converter meeting were immersed in Hawaiian culture with a Hula lesson

08 TLMI members enjoy a cocktail hour at the annual converter meeting. From left: Dan Muenzer, Constantia Labels and TLMI chairman; Dan and Mary Kay Taylor, Taylor Made Labels; Mary and Tim McDonough, Flexo-Graphics

09 Russ Zorn and Michelle Garza, DantexRBCor; Rob and Debbie Hutchison, Hutchison Miller Sales

10 Front row, from left: Jan Lehigh, Jill and John Grunst, Alpine Packaging. Back row, from left: Donnell and Michael Buystedt, Flint Group; Michelle and Fabian Zeller, AWT Labels & Packaging


08


09


10

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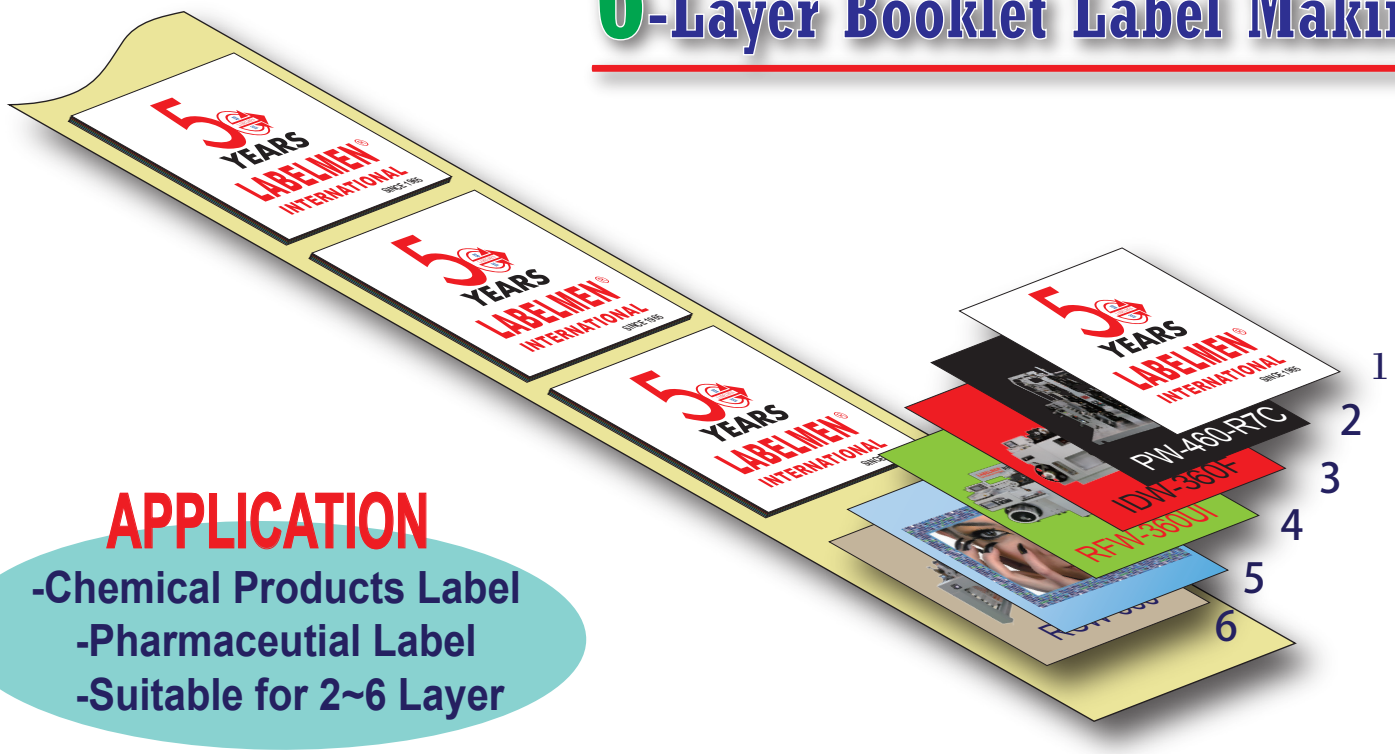

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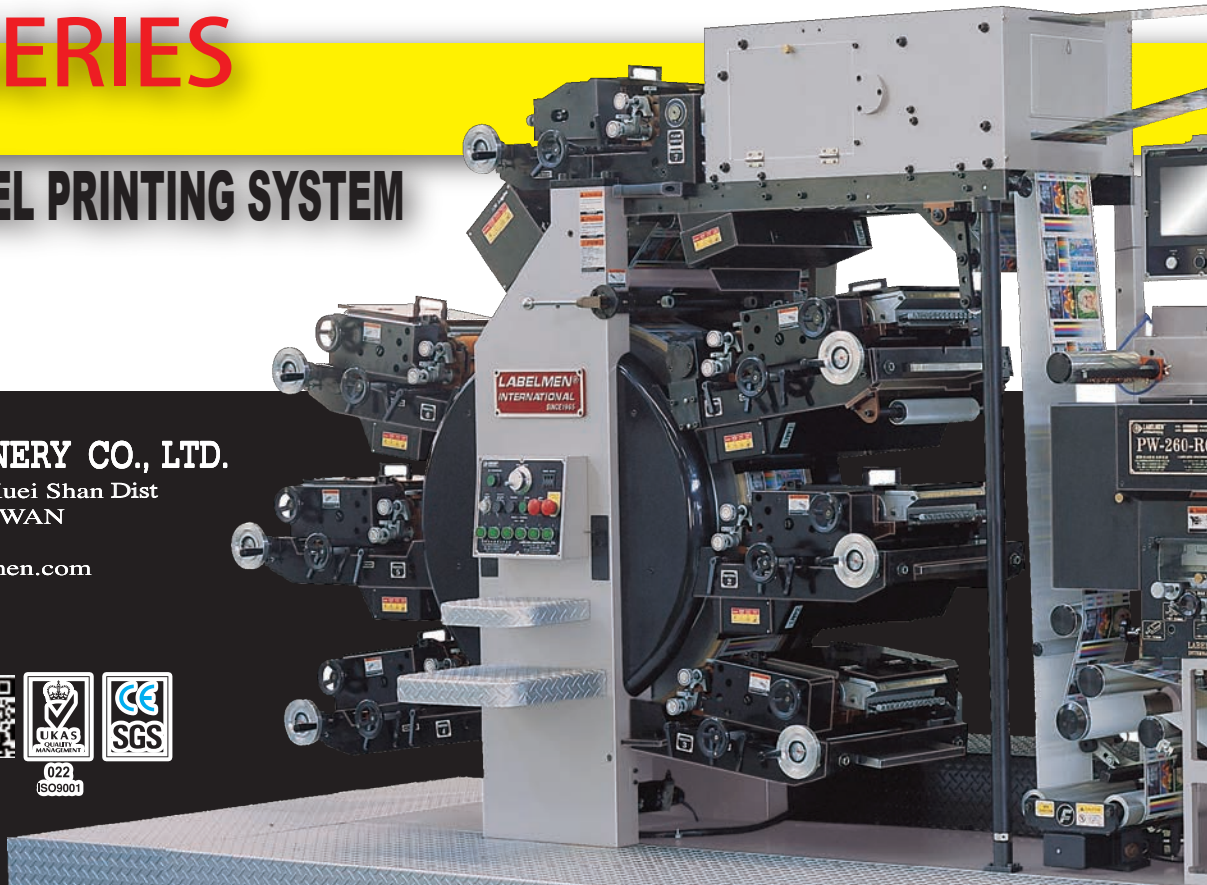

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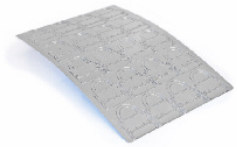
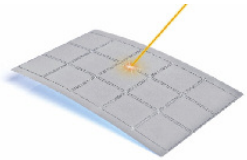
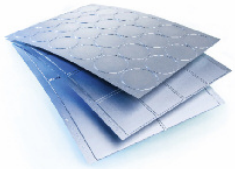


SuperCut flexible dies



Laser hardening



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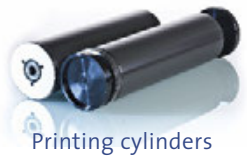
Steel-rule dies

Magnetic cylinders

PowerCut® rotary dies

Sheeter cylinders



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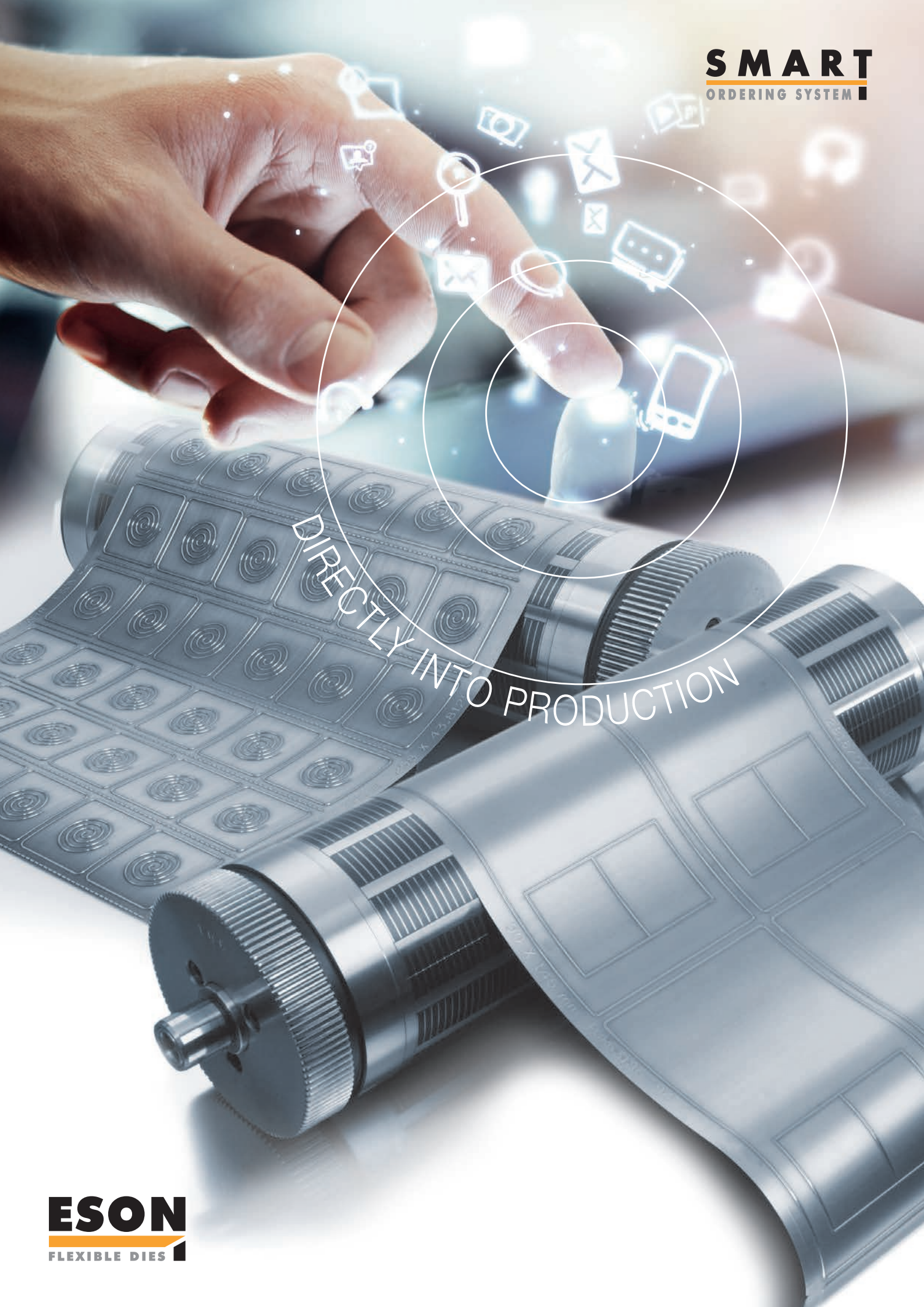


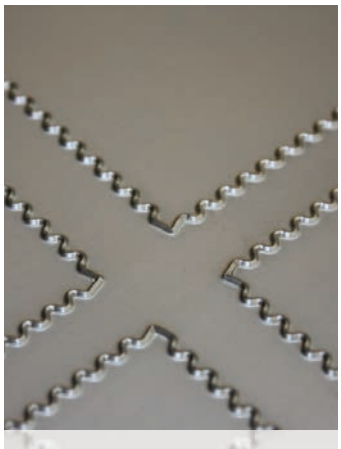
ESON
FLEXIBLE DIES

STD FLEXIBLE DIE

LSR FLEXIBLE DIE

NTP FLEXIBLE DIE

DLC FLEXIBLE DIE



STANDARD

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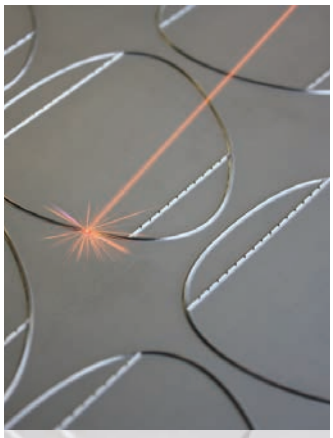
Finishing options are NTP and DLC.

Hardness of cutting edges: 48-50 HRC

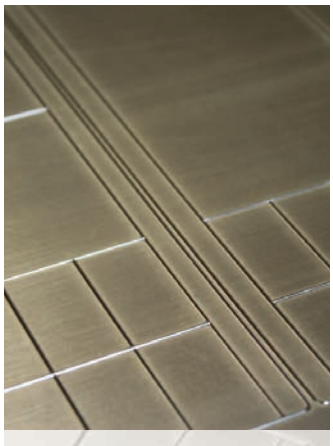


LASER

Suitable for very large print quantities. For standard and all special materials. Is generally recommended for cutting through and maximal lifetime.

Finishing options are NTP and DLC.

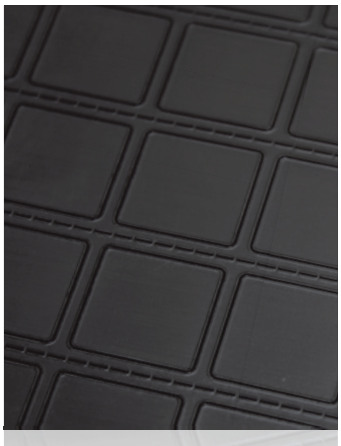
Hardness of cutting edges: 65-68 HRC



NTP

Standard or laser hardened flexible die with a very hard coating NTP, ideal for the abrasive thermal (thermal transfer) papers and cardboard. A thick layer of NTP enables extremely high running performances with outstanding wear properties.

Hardness of cutting edges: 60-63 HRC



DLC

Standard or laser hardened flexible die with a very hard and non-stick coating DLC, ideal for the separation of inks and adhesives, combined with a very long life.

Hardness of cutting edges: over 100 HRC

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