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# Labels & Labeling

The wider world of narrow web

Oct/Nov 2007

Volume 23 Issue 5

## Labelexpo review

Part one of the industry's most comprehensive review of Labelexpo Europe 2007

## Training special

A global training initiative plus overview of systems in North America and Brazil

## Award winners

Winners announced of this year's Label Industry Global Awards

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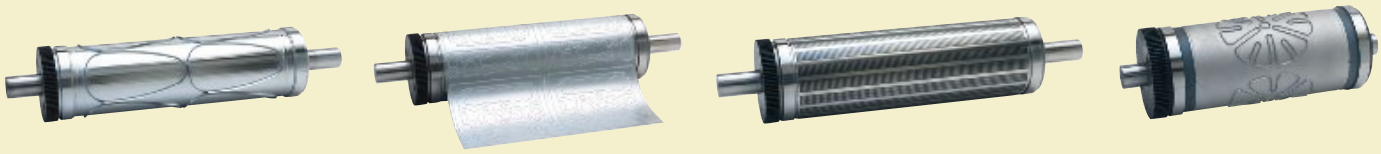

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# Leader

Along with a record attendance, this year's Labelexpo Europe provided a vibrant indicator of the continued pace of technological innovation in our industry. As we predicted before the show, major trends included the introduction of a new generation of 4-color inkjet systems and a shift to narrow web offset. Consolidation of the industry is continuing apace, and the show gave us an insight into the future strategy of the recently merged EskoArtwork group. As we note in this issue of *L&L*, one effect will be a new push to establish the packaging-specific PDF-Plus format as the accepted standard for file exchange between global brand owners, repro houses and label converters.

It is easy to get dazzled by the new technologies at Labelexpo, but if we cannot find the trained operators to exploit them, we are in deep trouble as an industry. Our pre-show survey of European label converters echoed the findings of our other global converter surveys – the shortage of trained operators at all levels is one of the biggest challenges facing our industry.

"It is easy to get dazzled by the new technologies at Labelexpo, but if we cannot find the trained operators to exploit them, we are in deep trouble as an industry"

In this issue of *L&L* we kick off a major debate on the future of training with a document by label industry guru Mike Fairley proposing a global standard training program. We also examine the training available in the Americas and examine a far-sighted industry-sponsored scheme in Brazil. You can make your own contribution to the debate on our website at www.labelsandlabeling.com.

Finally, I'd like to congratulate James Quirk on his promotion to deputy editor of *Labels & Labeling*. James has worked with Mike Fairley and I for two years and, with his fluent Spanish and Portuguese, has established himself as an expert on the industry in Latin America – as well as covering stories as far a field as India, China and Southeast Asia. You will be hearing a lot more from James in this column and as chairman of our global label summits.

Andy Thomas
Group Managing Editor


# The perfect style for every occasion


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# Labeling news

## India Label Show joins Labelexpo group

Tarsus Group plc, the organizer of the Labelexpo Global Series, has acquired Mumbai-based Label Expositions Private Limited, which owns the India Label Show.

The India Label Show (launched in 2002) takes place biennially and its next edition will be held in New Delhi on 3-6 December 2008 under the organization of the Labelexpo Global Series. The group has operated in India since 2004 and has already held two successful Label Summits in Mumbai (2006) and New Delhi (2007). A conference, presented by world leading experts including Mike Fairley, will run alongside the exhibition.

Roger Pellow, Labelexpo managing director, said: 'India is one of the world's most exciting label markets with an incredible potential. Over the past four years we have worked with all the key local and international players in the India label market and through this acquisition we hope to find even more ways of growing and supporting the industry.'

Anil Arora, president, Label Expositions Pvt Ltd, said: 'The Labelexpo Global Series brings with it decades of experience in organizing label exhibitions and conferences around the world. The India Label Show has already established itself as the must-attend event in India and the new owners will help to support it in the next phase of its growth.'

Harveer Sahni, board member of the LMAI and managing director, Weldon Celloplast, commented: 'I am happy at the acquisition of India Label Show by Tarsus. The Indian Label Industry can now look forward to a show of world standards. We can look forward to a show where Indians will rub shoulders with important industry specific visitors from around the world. The India Label Show under Tarsus will bring about global awareness of the Indian Label Industry. I wish the show all success.'

- The Label Manufacturers Association of India (LMAI) has announced a new executive committee. Manish Desai becomes president following the resignation of Bhavin Kothari, Vivek Kapoor is vice president, R L Deshpande secretary and Sandeep Zaveri treasurer. Amit Sheth has been elected an honorary member with a permanent place on the committee. The rest of the executive committee comprises Harveer Sahni, Ranesh Bajaj, Rajesh Chaddha, Ajau Agaarwal, V S Raveendran, Gururaj Ballaward and Jigesh Dani. P V Narayanan is no longer a member.

## UV flexo shrink sleeves from Sleever

Gravure shrink sleeve label specialist Sleever International has introduced UV flexo printing for shrink sleeve labels following a three year development program.

'This flexo technology makes it possible to carry out 10-color back/front printing, super high quality image definition, flawless half-tones and shades, and also unequalled precision of text,' said marketing manager Pascal Leroy. UV flexo enables Sleever to satisfy the increasing demand for short to medium run shrink sleeve labels for cosmetics, perfumery, para-pharmaceutical and food brands.

Moving to UV flexo has also allowed the company to turn products around faster, with delivery times down to 2-3 weeks and tooling cost reduced by 50 percent.


Comparative tests between gravure and UV flexo have been validated by key players in the cosmetics and food markets, including L'Oreal, Unilever and Ducros, says Leroy.

UV flexo printed sleeves are converted on standard Sleever machine systems, including the Powersleeve and the infrared Powerskinner or steam Powersteam.

## Nilpeter forms inkjet press alliance

Nilpeter has signed an agreement to develop narrow web UV inkjet technology with UK-based FFEI, a former business unit of Fujifilm.

The first solution to be designed jointly by Nilpeter and FEEI is called Caslon, and had its world première at Labelexpo in Brussels (see Labelexpo review page 32).

Andy Cook, managing director of FFEI, commented: 'Nilpeter is the perfect choice to propagate our combined imaging expertise into label and packaging production. Few other companies have such an intimate understanding of these constantly evolving markets.'

In addition to integration of Nilpeter and FFEI technologies, Caslon utilizes the latest 1001 printheads from Xaar.

Lars Eriksen, president and CEO of Nilpeter, commented: 'Our objective with the design was to provide a solution which can augment current pressroom capabilities, rather than need a separate printing environment and production workflow, which is required by most competitive digital solutions.'

Caslon can be integrated into Nilpeter's conventional flexo press lines or function as a stand alone roll-to-roll system. In the former configuration, Caslon's speed is claimed to match that of conventional units.

# Resource merges with Mid-South

Resource LabelGroup, LLC has merged with Nashville, Tennessee-based Mid-South Graphics, Inc. Both companies are to be located at Resource LabelGroup's headquarters located in Franklin, Tennessee. The merger expands Resource LabelGroup's offerings into the RFID sector.

Resource LabelGroup CEO Allen Barnes commented: 'Packaging buyers and consumer packaged goods companies are exploring technology at such a fast pace, and they're looking to their label suppliers to expand their service offerings beyond printed pressure sensitive prime labels. It's imperative that label converters grow and change in order to become effective solution providers.

'The merger with Mid-South Graphics catapults Resource LabelGroup to the highest level of engineering expertise across narrow web technologies, and provides a turnkey range of services that will meet our customers' needs well into the future.'

Founded in 1957, Mid-South Graphics began in the computerized labeling and application industry, and in 1991 the company shifted its primary focus to the production of specialty tags and labels. Mid-South entered the RFID arena in 2002 and today, RFID applications make up more than 30 percent of the company's total revenues.

Mark Davenport, founder and CEO of Mid-South Graphics, has been appointed president of Mid-South RFID, a newly formed division of Resource LabelGroup. He said: 'ResourceLabel's prime label-converting capabilities, coupled with Mid-South's smart label expertise, will present a unique opportunity to our customers and to our employees.'

# Rotoflex produces cylinders in Canada

Rotoflex Tooling, a division of Rotoflex International, now manufactures magnetic cylinders in Canada. 'With the increased demand for flexible dies, our customers need the shortest possible lead times,' said Earl Warren, GM. 'Manufacturing the magnetic cylinders in Canada results in faster service, reduced downtime, and better value,'

'Magnetic cylinders fit easily into existing die stations – providing a cost-effective alternative to solid die replacement,' continued Warren. 'Using strong magnets that are strategically placed around the circumference of the cylinder, a flexible magnetic die, or plate, can be used to die cut various substrates. This technique saves not just set-up time, but also saves money as a flexible plate is less expensive than a solid rotary die and can be produced quickly.'

# Bobst Group buys Fischer & Krecke

The Bobst Group has taken over Fischer & Krecke. The acquisition, subject to due diligence and merger control approval, is expected to close end 2007 or early 2008, and represents the Bobst Group's latest initiative to expand its activities in the flexible materials industry.
The main activities of the Fischer & Krecke Group are located in Germany. The company offers flexographic printing presses under the brand name Fischer & Krecke and rotogravure printing presses under the brand name Kochsiek.

# PIA/GATF honor Harpers for education

The Printing Industries of America and the Graphic Arts Technical Foundation (PIA/GATF) has honored Ron and Katherine Harper with the 2007 Education Award of Excellence for industry representatives.

Founders of global anilox supplier Harper Corporation of America, the Harpers received the award for nearly two decades of dedicated support of flexographic education at both the high school and college level.

Guest speaker Bettylyn Krafft, chairman of the Phoenix Challenge Foundation, told the assembled group, 'It is so fitting that Mr and Mrs Harper are recognized with this award. Without the Harpers, flexo education would quite simply not be where it is today. The entire industry owes them a debt of gratitude.'

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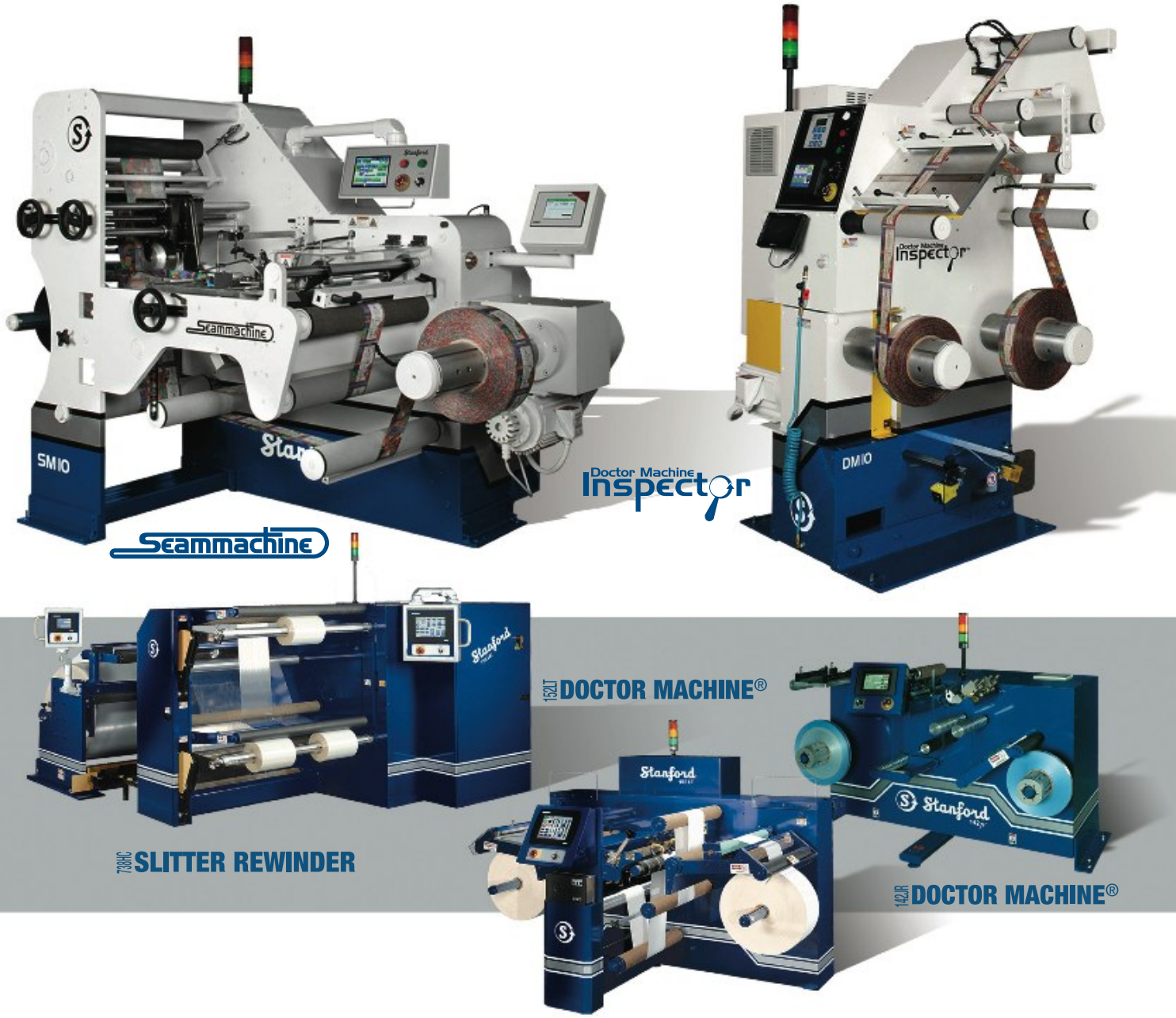


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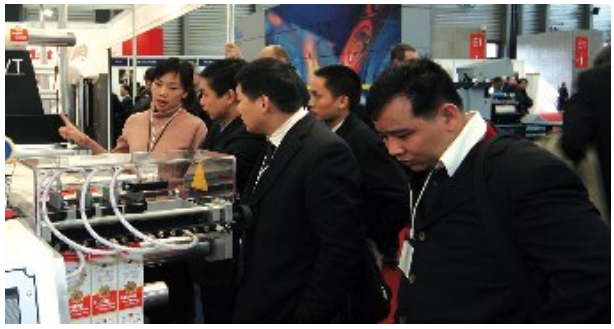
# Labeling news

## Labelexpo Asia to be biggest yet

Labelexpo Asia, the largest label industry exhibition in the Asia-Pacific region, will be taking place from 28-30 November 2007 in Shanghai. Exhibitor space has expanded by 25 percent on the 2005 event, and the show will feature a major presence of more than 50 local Chinese machinery and materials manufacturers, as well as many leading international suppliers.

The expansion of Labelexpo Asia reflects a growth rate in China of between 15-17 percent for all types of labels – three times higher than Western Europe and America. There are estimated to be more than 4,000 domestic enterprises engaged in label printing, of which at least 60 have an annual turnover of more than 20 million RMB ($2.66M).

With direct access to this lucrative market, Labelexpo Asia is expected to welcome over 12,000 visitors and 350 exhibitors to the Shanghai New International Exhibition Centre. As well displays from the leading European and North American conventional press manufacturers – including Gallus, Nilpeter and Mark Andy – there has been a significant increase in the amount of digital machinery being displayed. HP, for example, will demonstrate two ws4500 digital presses. Labelexpo Asia 2007 is supported by key Chinese graphic arts associations including the Printing Trade Association of China (PTAC), China Association of Printing and Technology (CAPT) and Intex.

## Flexo and litho inks to drive RFID growth

A recent White Paper from the NanoMarkets consultancy predicts that silver conductive inks will offer sizeable opportunities to materials firms and ink makers over the next decade. The firm estimates the value of silver inks sold to the printable electronics industry by 2014 will be nearly $1.2 billion.

This huge expansion is going to occur mostly in new applications such as displays and RFID, where the design requirements are for thin lines, high resolution, good registration between layers and highly consistent ink properties.

These inks will use nano-particulate versions of silver which offer a wide range of advantages ranging from higher conductivity, through finer lines to less need for thermal processing. NanoMarkets also looks at the role flexography and lithography might play in the future of printable electronics (PE). Screen printing and ink-jet are the dominant printing technologies but neither represent the future of volume PE manufacturing, says the consultancy.

'Screen cannot achieve the fine features required by many potential PE products, nor can its machines support the volumes that are expected to be required. Ink-jet printing is attractive for manufacturing PE because it can create small features, it does not waste expensive conductive inks and it is capable of printing in small quantities which is good for the R&D environment and for customized electronics. However, ink jetting isn't capable of producing circuits in large volumes either. As volume requirements ramp up in the PE business, both offset lithography and flexography will account for a growing share of activity once PE move beyond the R&D phase.'

## Barry-Wehmiller acquires Stanford

Robert H. Chapman, chairman and CEO of Barry-Wehmiller Companies, Inc., has announced the completion of its fifth acquisition this year with the addition of the business and assets of Stanford Products of Salem, Illinois.

The business will be integrated with Accraply, a Barry-Wehmiller division headquartered in Minneapolis, Minnesota, to create a nearly $50 million company in labeling technology with multiple locations in the US and Canada.

For more than 60 years, Stanford Products has been a respected manufacturer of slitting, rewinding and inspection equipment for the packaging and converting industries. In addition, Stanford has a major position in machinery for the manufacture of shrink sleeve labels, which complements Accraply's presence in this rapidly expanding market segment.

'Combining the Stanford business with Accraply's extensive capabilities will greatly enhance our position in the growing shrink sleeve label market and will expand our product offerings in both our new and traditional label and converter markets,' said Accraply president Greg Tschida.

Stanford president Séamus Lafferty said, 'We are very excited about joining forces with Barry-Wehmiller and Accraply for the continued success of our combined businesses.

# Labeling news

## MacDermid files patent lawsuit

MacDermid has filed a patent infringement lawsuit against DuPont on a US patent relating to its digital photopolymer plate technology.

MacDermid is claiming that DuPont's flexographic plates marketed under the names DFH 45, DFM 45, DFM 67and DPR 67, are covered by a MacDermid US patent related to digital photopolymer plate technology. This suit also claims that DuPont has 'actively induced others to infringe through offers to sell, advertise and promote digital photopolymer plates.'

MacDermid is seeking monetary damages and demanding that DuPont 'stop further acts of infringement' associated with these products. 'MacDermid has made a substantial investment in developing its digital technologies and must protect this very important intellectual property,' said Dr Timothy Gotsick, director of innovation at MacDermid.

## Nilorn rides denim wave

With sales of jeans soaring as they continue to be a staple of the British wardrobe, one company – Nilorn UK – is thriving on the back of the denim revolution.

'Today, we not only wear jeans lounging in front of the TV, but we are also happy to wear them for a night out on the town or for a day at the office. More recently, we have even seen celebrities wearing them down the red carpet. That's why many of us have several pairs of jeans hanging in our wardrobe. '

There isn't just one label on a pair of jeans,' says Chris Wildman, brand sales manager at Nilorn UK. 'Apart from the main labels (inside the jeans, leather tag, hang tag and back pocket flasher), you have stitching on back pockets; a flag/tab, the small but important signature label normally sewn to the side of the back pocket and a fly label, a woven label sewn to the fly of the jeans.'

Over the years Nilorn has seen an increase in more exciting raw materials being requested – from rubber and molded plastics – to make a brand label stand out from its rivals. Leather and leather-look labels still remain popular especially for the patch on the waistband.

Says Wildman: 'Brands are becoming much more discerning about the labels and opting to choose materials or colors that make their labels more appealing. Plastics and rubber are particularly common on jeans that are targeted at the younger, funkier end of the market.'

# InkSure receives product innovation award

InkSure Technologies, a provider of covert machine-readable authentication solutions, has been awarded the 2007 Frost & Sullivan Product Innovation Award – Chipless Tag Market (APAC). InkSure's award came within the Automation & Electronics (Smart Cards & RFID) segment. 'We're pleased to be recognized for the innovations being made with our SARcode chipless RFID technology. It is an honor to be an award recipient along with so many prestigious technology companies,' stated Don Taylor, InkSure's vice president of global marketing.

InkSure has leveraged the intellectual property developed in its current ink-based security solutions business to develop multi-bit (e.g. 96-bit) 'chipless' RFID codes ('SARcodes') that can be printed with

conductive inks beneath the surface of documents, product labels, product packaging and products themselves at a projected cost of less than one cent (US) each.

'Such printed codes are offer far more security, functionality, and data-carrying capacity than traditional barcodes and have the potential to revolutionize the brand protection and supply chain management industries,' said the company in a statement.

InkSure expects its SARcode chipless technology to be available by the end of 2008.

### Viking Label

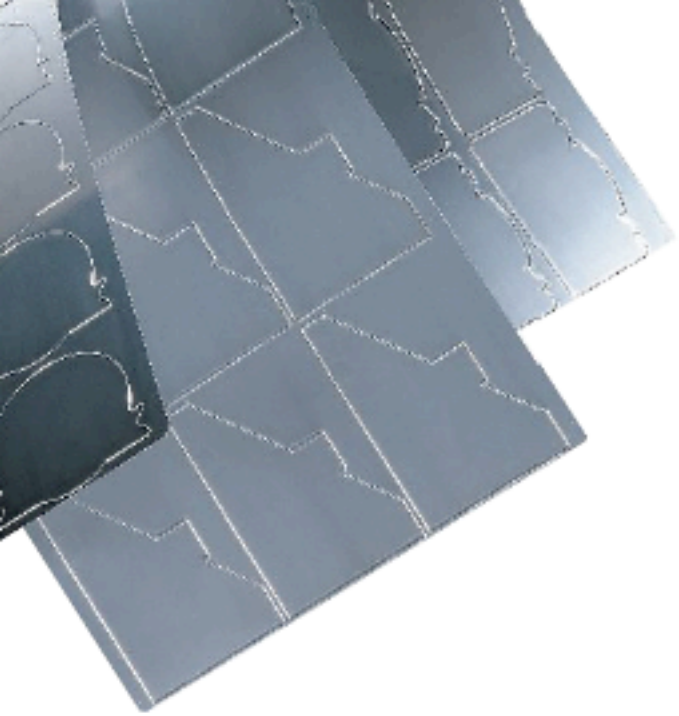
Due to an editing error at our London office in LL Issue 4, p.100, two names were wrongly spelt in the article 'Zero Defects'. The name of Viking's customer should read Gold'n Plump Poultry, and John Lundberg was wrongly quoted as John Lundgren. Apologies to all concerned. You can read the corrected article at www.labelsandlabeling.com by navigating to magazine/archive/LL4.

# Mark Andy India move

Mark Andy has announced a long-term contract with a multinational engineering and software development firm based in Bangalore, India, to build a dedicated team of engineers and software professionals.

The team will work closely with Mark Andy's distributor in the region, Flexo Image Graphics, to better understand the special needs of the Indian and Asian markets and design products for these fast-growing regions.

'Mark Andy has been focused on the Indian markets for some time and has enjoyed much success with Flexo Image Graphics,' commented Mark Andy CEO Paul Brauss. 'Building a strong engineering foundation in this region will allow us to provide the right design solutions to support these rapidly growing markets.'



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# Environmental news

## PIA/GATF, SGIA and FTA join to create Sustainable Green Printing Partnership

PIA/GATF has joined with the Specialty Graphic Imaging Association (SGIA) and the Flexographic Technical Association (FTA) to form the Sustainable Green Printing Partnership (SGP Partnership). Many printers are facing a growing number of inquires regarding sustainable printing practices, and according to a recent survey conducted by PIA/GATF, over 90 percent of printers believe that their customers will require 'Green' printing in the future.

The SGP Partnership is comprised of volunteer print leaders and other key players from each of the three associations. The project is being led by Gary Jones, director of environmental health and safety affairs for PIA/GATF.

Jones believes PIA/GATF needs to play a prominent role in the Green movement of the printing industry. 'We are on the cusp of a fundamental change in the way printers will be doing business in the foreseeable future,' Jones said. 'This initiative will give printers the tools they need to respond to the market and demonstrate their continued commitment to protecting the environment through sustainability.'

## Skanem Liverpool launches environmental project

Skanem Liverpool in the UK has recently completed an environmental project focused around the disposal of waste products from its manufacturing process. A new bailing system has been installed at site and the return and re-use of all ink, varnish and chemistry containers has also been introduced, both internally and with supply partners.

Site managing director Steve Dunne said: 'With the increasing focus on the environment in our day to day life and the spiraling costs for disposal of waste materials through landfill, it was critical that we reviewed our processes in this area. This is a problem we all face in our daily lives and it is becoming key in any manufacturing business.

'In the next 12 month period we had forecast a disposed waste figure of approximately 1,000 tonnes from our operation. The majority of this was laminate which was compacted and then taken away for landfill. With the investments in equipment increasing our operational capacity and the uptake we have in now operating on a 24 hours per day, seven days a week basis, it became a key consideration as we would have to have emptied the compactor on a daily basis to deal with this increased tonnage.'

100 percent of Skanem Liverpool's matrix waste is now removed direct from the presses and bailed. It is then loaded onto a transport sledge and removed free of cost from the site by recycling partners. This waste is then converted into plastic formed end user items for the building and agricultural sectors.

Dunne added: 'The success of this project can now be clearly seen in the reduction of compactor collections to one per week from the previous three. It has now become a real blueprint for the rest of the group to follow in going green for ours and our children's future.'

*A new bailing system has been installed at Skanem Liverpool*

## Printers cut CO2 emissions by 4,800 tonnes with UV from GEW

UV systems manufacturer GEW has revealed figures on CO2 emissions with cost savings to date based on the supply of its e-Brick electronic UV curing systems.

Malcolm Rae, managing director, said: 'We are developing products to help printers use energy more efficiently with UV systems that not only reduce consumption and costs, but also reduce CO2 emissions. These are now key issues in almost every aspect of industry including retail packaging where brand owners are favoring "Green" suppliers and demanding compliance with pre-set environmental criteria. Since the launch of the e-System range, we calculate that collectively, printers running with e-Brick have reduced CO2 emissions by 4,800 tonnes based on the UK average of CO2 produced per kW hour generated. In addition the related cost savings of curing with e-system products amount to a staggering £1,000,000 plus. We can only imagine the impact of this as a contribution in reducing the carbon footprint of the printing industry alone.'

The e-System was launched in mid 2005 and has been well received by both press manufacturers and printers wanting to upgrade existing machines and replace traditional ballast power supplies. The system uses high frequency electrical output that increases UV power efficiency by a minimum of 10 percent – thereby reducing electrical costs and contributing to a cleaner environment.

# Environmental news

## Overnight Labels opts for refillable cartridges

US converter Overnight Labels has decided to switch its toner supplier to Cartridge World, a member of the Environmental Protection Agency Waste Wise program, in order to recycle materials and reduce excess waste. According to Cartridge World, it takes almost a gallon of oil to make a new laser cartridge, and with over 350 million cartridges being discarded on an annual basis, that adds up to approximately 350 million gallons of oil and a lot of landfill. The new cartridge supplier gives Overnight Labels the opportunity to refill existing cartridges rather than contribute unnecessary waste to landfills.

Todd Dirolf of Overnight Labels commented: 'After winning the Flexographic Technical Association award for Environmental Excellence – Process Improvement, we saw that little changes really do add up, so we started to look for more ways to improve our waste output. We're glad that we found Cartridge World – because they're a member of the EPA Waste Wise program, we have added confidence in their assessments. Not only have they helped us eliminate waste, but they're saving us a bit of money in the process. It's a good situation for us and for the environment.'

## Purac introduces new solutions for PLA bio-plastics industry

Bio-plastics producers should find it easier to enter the Poly-Lactic Acid (PLA) market following the decision of CSM subsidiary Purac to extend its portfolio to include lactides. In addition, Purac has developed components which make it possible to efficiently produce bio-plastics that withstand temperatures of at least 175degC for applications such as hot fill bottles, microwaveable trays, temperature resistant fibers, electronics and automotive parts.

PLA is produced from lactic acid coming from agricultural products such as corn, sugar beet, tapioca and sugar cane.

Arno van de Ven, VP chemicals and pharma at PURAC said: 'Market growth has been hampered by the availability of economically achievable production technology. By using Lactides as a monomer for PLA production, PURAC bridges the technology gap that currently restricts the plastics industry to accelerate the PLA market growth'. Purac has filed several patents to protect its technologies.

## Smith & McLaurin claim environmental first

Smith & McLaurin is claiming to be the first self-adhesive laminator to gain dual chain of custody certification under the FSC and PEFC schemes, which ensure that paper-based products are produced from sustainable and well managed sources.

'Like all environmentally responsible companies, we have already made significant changes to our operations in order to play our part in protecting the environment,' says Craig Monks, sales & marketing director. 'We have already removed more than 60 percent of our waste away from landfill, stopped producing any solvent adhesives and worked closely with our local environmental agency.'

Following three years of planning and research into environmentally friendly materials, Smith & McLaurin launched its AdaptEco range early this year. Gaining FSC/PEFC dual certification is a vital part of that program.

A full report on the company's environmental initiatives will appear in Issue 6 of *Labels & Labeling*.

## Coca-Cola sets lofty recycling goal

Coca-Cola has announced that it is investing more than $60 million to support recycling in the United States. These investments are part of a comprehensive goal to recycle or reuse 100 percent of the company's PET bottles in the US.

'We have set an ambitious goal to recycle or reuse all the plastic bottles we use in the US market,' said Sandy Douglas, president Coca-Cola North America. 'Our investments in recycling infrastructure, coupled with our work on sustainable package design, will help us reach this target.'

## Boise Cascade earns FSC certification

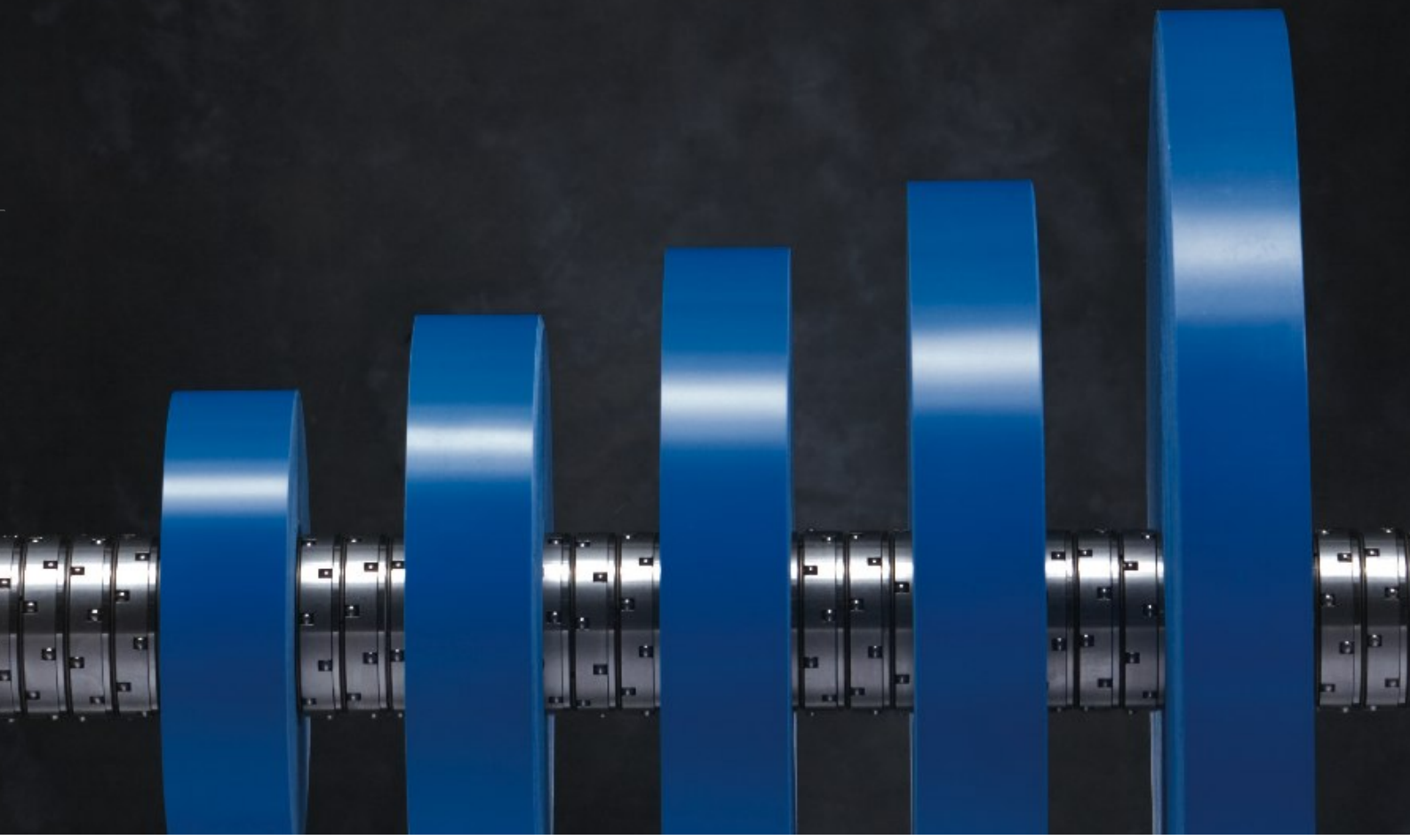
Boise Cascade, LLC has announced that Boise's mills in International Falls, Minnesota, and Jackson, Alabama, have earned Forest Stewardship Council (FSC) Chain-of-Custody Certification from the Rainforest Alliance's SmartWood program.

'Adding FSC certification further demonstrates our commitment to sustainable business practices,' said Alexander Toeldte, executive vice president, Boise Paper, Packaging & Newsprint.

Boise's Alabama and Minnesota paper mills went through a rigorous audit process this summer to add the FSC certification to the mills which have long been Sustainable Forestry Initiative (SFI) certified.

Certification allows Boise to use the Rainforest Alliance Certified seal and FSC labels and trademarks on products manufactured at these mills that meet FSC requirements. Chain-of-Custody certification assures consumers and forest product companies that the fiber they buy comes from well-managed forests. Chain-of-Custody certification through the Rainforest Alliance tracks fiber certified to the FSC standard from the source to point of sale.

# The latest trend in differential winding.



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# Environmental news

## Cargill, Teijin form NatureWorks JV

Cargill and Teijin Limited of Japan have announced a joint venture in NatureWorks LLC, maker of NatureWorksÆ biopolymer, derived from 100 percent renewable resources. On October 1, the two companies entered into an agreement in which Teijin will acquire 50 percent ownership of NatureWorks, effective upon regulatory approvals.

The move comes as NatureWorks expands to the nameplate capacity of its US polylactic acid (PLA) plant - the world's first and largest commercial scale biopolymer manufacturing facility. Cargill and Teijin, a global polymer producer, will accelerate NatureWorks' global sales growth and facilitate product expansion in the broad plastics and fibers markets served by NatureWorks.

'Teijin's downstream application knowledge in fibers, films and plastic compounds will be of immeasurable value as we grow production at our Blair, Nebraska facility and consider additional expansion in the fast-growing global marketplace,' said Cargill vice chairman Guillaume Bastiaens. 'NatureWorks will greatly benefit from Teijinís expertise in technology and end-use application development. Teaming up with Teijin will allow more brand owners, retailers and converters to address their global interest in sustainable solutions using NatureWorks biopolymer.'

NatureWorks PLA biopolymers, which are showing significant market growth, represent an important future-oriented business for Teijin and its customers. Under its commitment to developing bio-friendly chemical technology and related solutions, Teijin intends to leverage its expertise in applications for fibers, films and plastic compounds to play a key role in the development of new markets for NatureWorks biopolymer.

Since 2005, NatureWorks has recorded triple digit volume growth, with more than 100 leading brands & retailers in the US, Europe and Asia currently showcasing product innovations in flexible & rigid fresh food packaging, durable consumer articles, beverage packaging, apparel, home textile, personal care and hygiene applications marketed under the Ingeo brand.

# DuPont deal looks to bio-polymers

DuPont and Plantic Technologies Limited, an Australian company specializing in starch-based biopolymers, have announced plans to collaborate in the development and sale of renewably sourced polymers made from Plantic's technology.

Plans include the collaborative development of new, renewably sourced resins and sheet materials based on high-amylose corn starch as the renewable feedstock for applications including cosmetics, personal care and food packaging trays, caps and containers. In addition to co-developing these new materials, DuPont will market and distribute Plantic's starch-based resins and sheet products under the DuPont Biomax family of products.

'Putting DuPont's polymer science and biotechnology together with Plantic's leading-edge starch-based technology helps both companies broaden the performance of this class of polymers, while accelerating the availability of more options to replace the use of nonrenewable feedstocks,' Shanna Moore, DuPont global business director for sustainable packaging materials, said.

Under the agreement, DuPont will market Plantic's starch-based sheet materials for trays and rigid packaging applications in North America, extending Plantic's existing markets for these materials, which previously had been limited to Europe and Australia. DuPont also will brand and sell starch-based injection molding resins made with Plantic technology in all markets except Australia and New Zealand, using the DuPont Biomax brand.

DuPont has also created DuPont Renewably Sourced Materials, where each product contains a minimum of 20 percent renewable content by weight. These products are sourced to a significant extent from renewable, sustainable agricultural feedstocks, rather than petroleum. Renewably Sourced Materials from DuPont help reduce the environmental footprint, promote rural development and larger markets for farmers around the world, and help reduce dependence on petrochemicals for everyday products. Plantic-based products will be part of a growing suite of products being marketed under the DuPont's Renewably Sourced Materials initiative.

Plantic's novel polymer manufacturing technology is based on the use of high-amylose corn starch, a material derived from annual harvesting of specialized (hybrid) corn. The unique chemical and film-forming properties of this type of corn starch allow for development of a range of applications across conventional plastics markets. In addition to being renewably sourced, users can take advantage of excellent end-of-life properties such as biodegradability and compostability.

# Label Industry Global Awards

On the first evening of Labelexpo Europe, hundreds of global suppliers, converters, trade associations and media gathered to celebrate and reward excellence in the label industry at The Label Industry Global Awards Gala Dinner. Votes were collated from across the world and industry expert Mike Fairley kick-started the awards ceremony.

## The award winners for the following four categories were:

### The R. Stanton Avery Lifetime Achievement Award *– sponsored by Avery Dennison*

**Winner – Andrew Jack, Dow Corning**

Andrew Jack has a career spanning over thirty-five years in the silicone industry. He has had a major impact on the world of labels through his dedication to pioneering products in solventless silicones, water-based silicones and, more recently, the provision of advanced cost-effective products that offer improvements in applied silicone costs. He has also worked tirelessly in supporting FINAT and the development of global standards.

***Below l-r: Mike Buystedt, TLMI; Arnaud Gougay of award sponsor EskoArtwork; Lance Schumaker, president, AVT, Inc., Koby Shtaierman, president of AVT Europe, winner of the Label Industry Award for New Innovation; Christian Menegon of award sponsor HP Indigo; Jan Frederik Vink, FINAT***

**Nominees:**

| | |
|---|---|
| Angelo Bartesaghi | Omet Srl. |
| Joseph Weber, Jnr | Weber Marking Systems |
| Tom Rink | Ritrama S.p.A |
| Jaume Puigbó | Caposa Group |
| Andrew Jack | Dow Corning |
| Helmut Schreiner | Schreiner Group |
| Jørgen Gerhardt | Gerhardt |

### Label Industry Award for Continuous Innovation *– sponsored by Labels & Labeling, NarroWebTech and Label & Narrow Web*

**Winner – Rotoflex International**

The judges selected Rotoflex International as their unanimous winner of this award for 'being at the forefront of technology-driven innovation in the fields of label inspection, slitting and re-winding for more than 25 years'. The company's recent innovations have extended into the specialized pharma-security and digital web-finishing areas.

**Nominees:**

| | |
|---|---|
| RotoMetrics | Rotoflex |

***Below l-r: Jack Kenny, editor, Label & Narrow Web; Tony White, editor, NarroWebTech; Reinhard Muhs, president of Rotoflex, winner of the Label Industry Award for Continuous Innovation; Andy Thomas, editor, Labels & Labeling***

*Above left: Around 600 people attended the Label Industry Global Awards in the spectacular setting of Autoworld, Brussels.*
*Above: l-r: Christian Simcic of award sponsor Avery Dennison; Andrew Jack, Dow Corning, winner of the R. Stanton Avery Lifetime Achievement Award; last year's winner Calvin Frost of Channeled Resources*

Xsys Print Solutions
Gerhardt Engraving
ExxonMobil Chemical
Kocher + Beck
Dow Corning
AB Graphic International
UPM Raflatac
BASF Adhesives

## Label Industry Award for New Innovation
*– sponsored by HP and EskoArtwork*

**Winner – Advanced Vision Technology (AVT)**
'Since its formation, AVT has dedicated itself to raising the level of automatic inspection systems for web applications in the label and package printing markets through the use of sophisticated optical machine vision technologies,' said the judging panel. 'It is now a world leader in this technology, with more than 1,500 PrintVision systems installed worldwide.'

**Nominees:**
AVT
Bielomatik
GEW
Dims
Stork Prints
Xeikon

## European Converter of the Year
*– sponsored by Xsys Print Solutions*

**Winner – The Schreiner Group**
The judging panel unanimously selected the Schreiner Group as the 2007 winner, commenting: 'The Schreiner Group, under company president Helmut Schreiner, is undoubtedly one of the most innovative, creative and fastest-growing label groups in Europe with divisions at the forefront of pharmaceutical labels, labels with security features and traceable codes, customer-specific bar code and RFID label systems, and high-grade electroluminescence products. They are worthy winners of this European award.'

**Nominees:**
IlloSpear
Drorys Etichette
Arca Etichette
Caposa Group
Pago AG
Fix-a-Form/Denny Bros
Schreiner Group

Mike Fairley, Label Industry Global Awards judging panel chairman, commented: 'The quality of entries for the awards continues at the highest level and makes an ongoing challenge for the judges. Each winner has made a significant contribution to the growth of the industry and I would like to congratulate them all on their awards.'

***The Label Industry Global Awards take place at Labelexpo Europe and Labelexpo Americas. The next awards will take place in Chicago in September 2008.***

*Below left: Andy Thomas, editor, Labels & Labeling; Roger Pellow, MD, Tarsus' Labels Group; Helmut Schreiner, president, The Schreiner Group, winner of European Converter of the Year; Russell Joyce of award sponsor Xsys; Mike Fairley, director of strategic development, Tarsus' Labels Group*

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# The greatest show on Earth

**Andy Thomas, Mike Fairley, Barry Hunt, James Quirk** and **Danielle Jerschefske** provide part one of the most comprehensive review of a Labelexpo event that exceeded all expectations

Labelexpo Europe 2007, which took place September 26-29 in Brussels, surpassed all records in terms of visitors, exhibitors and equipment sales – making the show the largest label event that has ever taken place.

In total, 24,752 visitors from 114 countries attended this year's show – an increase of seven percent from the 2005 event. A remarkable 66 percent of visitors extended their visit by at least a day (compared to 2005), meaning that the daily attendance was significantly higher than the overall figures suggest.

By the end of the show, 85 percent of the 511 exhibitors had already rebooked their stand for Labelexpo Europe 2009 – a clear indication of the success of the event.

The show was opened with a press conference and panel discussion given by Roger Pellow, managing director of the Labelexpo Global Series; label industry expert Mike Fairley; and Dean Scarborough, president and CEO of Avery Dennison.

Members of the press were told that 145 of the exhibitors were new since the show two years ago, and that there had been an increase in Asian companies exhibiting from 14 in 2005 to 30 this year. 'We are now very much a global community,' said Pellow. 'This is by far the most international Labelexpo ever.'

Pellow also announced the acquisition by Tarsus Group, which organizes the Labelexpo Global Series, of the India Label Show. The event will take place in New Delhi in December 2008. 'India is a very important market for us,' said Pellow.

Mike Fairley, director of strategic development for the Labels Group of Tarsus, gave a presentation on world and European

**New for 2009 – the Digital Experience**

A major development for Labelexpo Europe 2009 – announced at this year's event – is the creation of the Digital Experience in Hall 9. This hall will be opened to exhibitors in 2009 and will have a strong focus on digital technology. Within a week of its announcement, over 70 percent of this hall had already been booked by suppliers including HP, Xeikon, Epson, EFI and Grafisk.

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A member of the Mondi group

label trends, revealing that the industry now converts around 36 billion square meters of label stock each year. He cited five major trends that are dictating the future of the industry: globalization of label suppliers and converters; label materials becoming smarter; the digitalization of production technology; environment and sustainability pressures; and profitability challenges.

Dean Scarborough welcomed the increased demand in the industry for sustainable products, emphasizing the important role that efficiency and innovation have to play in achieving growth through sustainable business practices.

'The demand that we are seeing today for sustainable products and business practices is, in fact, not new to this industry,' he said. 'We have been working hard for many years now to reduce waste wherever possible – for example, through our "Fasson Exact" program (producing roll materials in precise widths), through recycling projects, and through our drive to produce ever-thinner laminates and films.'

In addition to waste reduction, Scarborough identified other areas where Avery Dennison is looking to meet the 'green challenge'. 'Recycling is clearly a major issue in our industry. We view filmic liners as a more environmentally benign alternative to paper liners and expect them to play an increasingly important role in the future,' said Scarborough. 'Filmic liners are less bulky and there are more options for recycling them than there are for siliconized paper release liners.'

> "We are now very much a global community. This is by far the most international Labelexpo ever"

In conclusion, Scarborough emphasized that creating sustainable business relied upon everyone throughout the entire value chain accepting their responsibility. 'We can all benefit from helping our partners and customers to make their businesses more sustainable,' said Scarborough, citing the example of Avery Dennison's program in the US of lending Avery Dennison experts in lean manufacturing business practices to customers in order to help them work more efficiently and sustainably.


*The L&L team, from left: Mike Fairley, James Quirk, Danielle Jerschefske, Andy Thomas and Barry Hunt*

# [intelligence]G2

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# TOMORROW'S LABELS
## AVAILABLE TODAY

## Narrow and mid-web presses

Reflecting the fragmented industry it represents, Labelexpo shows always reveal some major theme, writes *Barry Hunt*.

This year there were two: the notable increase in rotary and semi-rotary presses and the arrival of commercially-viable full-color inkjet in several modes (covered later in this section of the review). In respect of offset, it still occupies a niche section of the roll label and flexible packaging markets. UV flexo and conventional flexo will continue to dominate the overall scene for some time to come. Nevertheless, offset is increasing its market share and is already shaping the production programs of European press manufacturers. Take Nilpeter for example, about 20 percent of its production includes offset printing units. This figure could reach 30 percent in two years time.

In fact, the company's commitment to the process was shown with its new MO-4, a fourth-generation combination press with a web width of 16 inches (406mm) and 18-25 inch repeat lengths. A patented sleeve system for the plate and blanket cylinders is coupled with a servo-driven steel impression cylinder. The 13-inch MO-3300 remains in production after achieving worldwide sales of over 200 variants since 1994. The FA and FB-Lines remain Nilpeter's best selling UV flexo presses. A new model is the FA-6, with a web width of 22 inches (558mm) aimed at converters of flexible packaging, especially shrink sleeve labels. The gearless, servo-driven press uses the latest sleeve/flexo plate technology. Shown for the first time in Europe was the FB-3300 S, made by the US subsidiary. The high performance, servo-driven press produces PSAs and flexible packaging at up to 750 ft/minute (228 m/minute).

Offset is now firmly established in the Gallus press program. At the show the company gave the worldwide debut of the RCS-430, which complements the established RCS-330. The 17-inch wide web of the new press – which was demonstrated with closed loop color control – reflects a general move towards wider web widths. Demonstrations included the production of wet-glue drinks labels normally associated with sheet-fed offset. After the show it was due to be shipped to Rako Ettiketten. Other displays included a 9-color, servo-driven EM 340 S – the new, smaller size in the EM S range – and an EM 280 UV flexo combination press (for more detail see LL4 2007, p78-79).

MPS launched the EO series (Effective Offset) available in widths of 330mm and 430mm to complement its EF, EP and EC UV flexo/screen combination presses. Intended for both packaging and PSA production, it uses MPS's Multi Drive servo system. The exchangeable offset units are made by Drent Goebel, which was doing its own thing promoting its VSOP sleeve press for film-based applications. MPS says the EO is a true hybrid press capable of running with screen, flexo, gravure and hot and cold foil stamping.

Omet is another offset newbie. It showed a new offset unit for integration within the VaryFlex 340, 430 and 520 lines, along with gravure, screen, cold and hot-foil, as well as UV flexo. An independent drive facilitates fast setups with minimal waste. Top production speed is up to 200 m/minute (650 ft/minute). Also new is Omet's X-Flex servo press with a straight web path of only 5.5 meters (18 feet) in length. Features include an impression cylinder with an integral chill drum to aid film printing, and automatic control over the width and length of the web. X-Flex is fitted with the Vision-1 System, a register control for minimizing waste and automatically controlling print quality without operator input. The same system is employed on the recently-introduced Varyflex F1, shown in a 20.5 inch wide version with gravure unit.

Aquaflex gave the European debut of the ELS Servo press, demonstrating an 8-color version capable of achieving up to 759 feet/minute. The ELS comes in 10 and 13-inch web widths with closed loop variable control over hot air or IR dryers for handling films, as well as optional UV curing. The two-roller inking system is said to eliminate cavitation and is designed for tool-less exchange.

The modular Comco C2, launched at Labelexpo Americas last

***The MO-4 – 4th generation of Nilpeter's offset combination press***


***MPS introduced the EO offset combination press***

year in Chicago, was prominently featured by Mark Andy. The mid-web UV flexo press incorporates I-Drive (Intelligent Drive System), which allows short-to-medium runs with simplified changeovers and operation when producing labels, flexible packaging and folding cartons. The C2 also features sleeve technology with a further accent on faster changeover times.

Also shown was Mark Andy's revamped and long-standing 2200 available in three upgradable versions. It has redesigned print stations and several major upgrades, including more efficient UV/hot air drying and more rigid die stations. Also available in web widths from 10 to 17 inches, the servo-driven XP5000 platform press can process unsupported film down to 16 microns. Users can run it with an online VSR inspection/rewinder for an integrated workflow.

Edale's display centered on additions to the Lambda converting system (covered separately). It also introduced the Gamma, a shaftless press featuring Edale's Pit Stop Color Change (PSC) system for fast job changeovers, aided by independent servo drives on each print cylinder. Pre-register, auto-register and print length control are standard features. A new type of print head design with quick access to components is said to allow complete color changes in less than two minutes. With a substrate range from 12 to 700 micron, products can include multilayer labels, sleeves, blister packs and small cartons from webs of 250mm and 430mm wide.

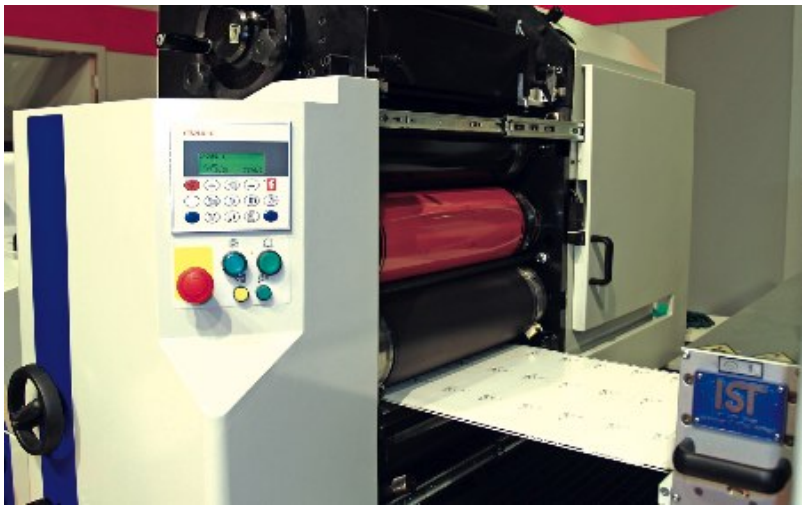
*Comco's C2 flexo sleeve press received its European debut*

Gidue promoted its PC-controlled 'Intelligence' system covering the servo-driven and digitized operations on its narrow and mid-web label and packaging presses. Data control includes online input into a user's management information system. It was a feature of an exceptionally long Xpannd hybrid offset/flexo press. Printing wine and oil labels, it included six offset units, three flexo units, plus two rail-mounted and gearless hot-foil stamping units, a rotary screen module and a flat embossing unit. Because it can maintain offset standards and include inline processing, Gidue sees it as a valid rival to sheet-fed offset operations for primary labels. A 21-inch wide servo-controlled Athena UV flexo packaging press and a 17-inch wide, 8-color I-Combat flexo/sleeve press completed the company's large display.

Offset's progress in labeling and flexible packaging – and a trend towards wider web widths – has over the years attracted manufacturers previously outside the label industry. They now build dedicated presses, such as Edelmann Graphics' Evo-Print V48 label press, capable of producing PSA labels, film products and small cartons. Available in widths from 11 to 26 inches, the V48 now features a steel-backed compressible blanket with a 2mm non-print gap. Muller Martini is another high-end manufacturer of variable size presses, but instead of three-cylinder print inserts it offers lightweight plate and blanket sleeve cylinders within a shaftless design for the

*Omet offset unit, which can be inserted into the Varyflex*


*Codimag's Viva 420 featured the Aniflo keyless inking system*



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# TOMORROW'S LABELS AVAILABLE TODAY

*Offset unit from Rotatek's Universal offset/flexo sleeve press*

Alprinta 52V (a 520mm unit was displayed) and the 740mm wide Alprinta 74V.

Rotatek highlighted the 450mm Brava. Described as the only variable-format semi or rotary press on the market, it offers a choice of production modes when handling mixed run lengths. Further up the print chain, is the 520mm wide Universal. It is designed to run substrates from 12 micron film to film laminates and carton board using offset and flexo units. Rotatek has developed its own sleeving system for the offset or flexo plates, as well as blanket cylinder. The sleeves are capped by a metal ring, like a conventional steel bearer, as part of a mechanical changeover system that allows repeat changes in under a minute.

Several semi-rotary offset presses were exhibited, including Codimag's Viva 420. It features the unique Aniflo keyless inking unit, governed by a customized and temperature-controlled anilox roll instead of conventional inking rollers. The anilox modifies ink viscosities to permit running with specially-coated waterless offset plates. In combination printing mode, the Viva 420 also prints with semi-rotary letterpress and hot-foil stamping modules. There are servo drives for each print station.

Lintec introduced the semi-rotary offset and servo-driven SOF-330, with preset register control. It complements the company's more familiar LPM-300 series of semi-rotary letterpress machines. Also from Japan, the Shiki Corporation displayed the new FX-1512, a shaftless offset/letterpress combination press with a 400mm web width.

KPG (Europe) – formed from the demise of Ko-Pack International – marked its show debut by


*From right to left (front): Erik Blomjous, sales director, MPS Systems; Jaime Dagnino Sr, managing director, ProFlexo International; Santiago Casteig, sales executive, Basil Ratcliffe (MPS agent: Argentina, Uruguay, Paraguay); Jaime A. Dagnino Jr, regional director, MPS Latin America; Norma Ratcliffe, managing director, Basil Ratcliffe; Eric Hoendervangers, managing director, MPS Systems; Alan Epstein, managing director, Imagex S.A. (MPS agent: Chile); Francisco Velazquez, sales manager MPS, Grafica Novaro (MPS agent: Mexico); Fernando Bortolim, sales manager, Coras do Brasil (MPS agent: Brazil). From right to left (back): Rossi Dagnino, product manager, ProFlexo International; Rudolph Becker, product manager, ProFlexo International*

## MPS Latin America established

Dutch press manufacturer MPS announced the establishment of MPS Latin America during Labelexpo Europe, *writes James Quirk.*

MPS Latin America is a partnership between MPS and its distributor in Latin America ProFlexo. MPS Latin America will have sales and services offices in Miami and headquarters in Santiago, Chile.

'MPS has identified Latin America as an emerging market that we want to be a part of,' said Jaime Dagnino Jr, who heads up the project. 'It is part of our global growth strategy. We have seen big trend changes in the Latin American market: there is a lot of growth and printers are increasingly looking for high-end technology.'

MPS Latin America will have distributors in Chile, Mexico, Brazil and Argentina, and a fully trained MPS engineer in Chile and Mexico. 'We have set up the infrastructure with headquarters, engineers and sales representatives,' said Dagnino. 'We expect big results: our aim is to sell between five and ten machines next year.'

Eric Blomjous, international sales director of MPS Systems, commented: 'We have achieved impressive growth in Latin America as a result of our focused strategy. MPS Latin America cements our commitment to deliver industry leading sales and service support in Latin America.'

MPS sold two presses into the market last year: the first – a 9-color EF 410 UV flexo press – to PubliGrafic International of Mexico during Labelexpo Americas in Chicago.

The company sold a multi-substrate 8-color EF silkscreen press to Argentinean company Autopack – helping the former letterpress house move into the production of shrink sleeves and other unsupported materials.

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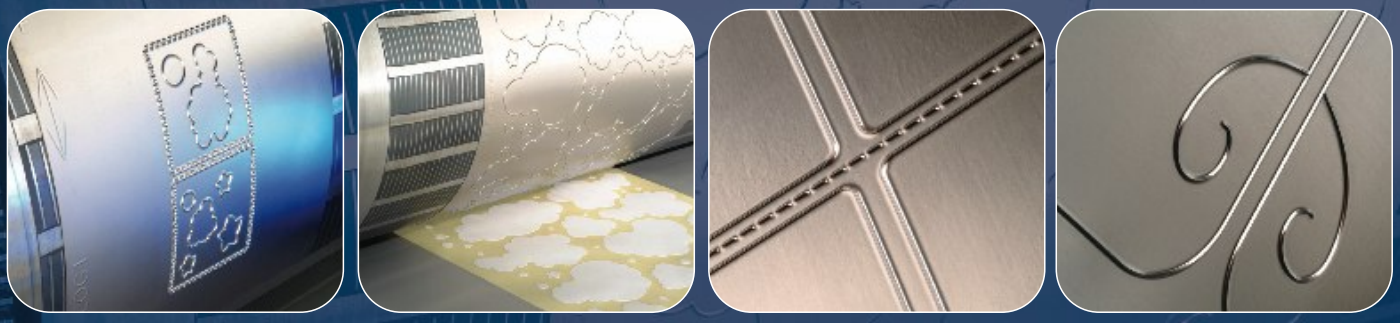

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# TOMORROW'S LABELS
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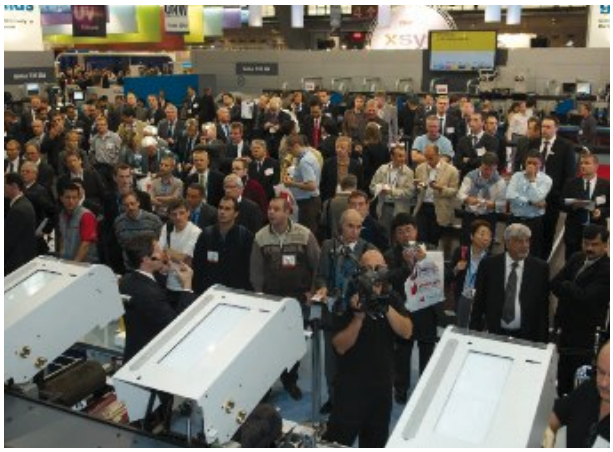

*Crowds gather for a demonstration on the Gallus stand*

demonstrating the Euro 400, an 8-color UV rotary letterpress combination press. Like others in the range, the press is manufactured by Toyo Koki with the accent on customized applications. Labelmen International from Taiwan showed the PW-260-R6C-I Type, another six-color rotary letterpress machine with common impression drum. It was shown producing in-mold and hair care labels from 260mm film webs.

The value in noting what some of the smaller, more agile suppliers are up to was typified by SMO, based near Berlin. Its EDM200 is a single-color UV flexo press with a 200mm web width, but capable of running in either semi-rotary or rotary modes. Although a simple concept, it uniquely combines a servo-driven stepless unit with sleeves for both the print and anilox roll. The compact press uses a GEW Type VCP UV curing system with e-Brick electronic controller. Applications could range from short-run overprinting to producing basic data labels for industrial or retail users.

This year's Labelexpo was characterized by many equipment and materials suppliers – some relatively unknown – seeking to establish a European bridgehead. The press makers included Link Label Machinery and Smooth Machinery from Taiwan, while Zhongtian Machinery Works (Zonten), Weifang DongHang Precision Machinery and many others flew the flag for the People's Republic of China. Representing Brazil was Etirama, which offers various modular flexo presses, as well as the colorfully named Flexo Wine central impression press launched at the show.

### Digital color and VIP

HP Indigo announced some new strategic alliances, especially with long-term partners EskoArtwork and AB Graphic International. The former introduced a new front end option for producing industrial variable data, including barcodes, on the established ws4500. While a choice exists, ABG is now HP's preferred provider of label converting lines. Its new Digicon Series 2 offers modular semi-rotary flexo, screen and die cutting units, as well as Braille printing. It was shown running with a ws4500, printing 20 jobs for each day of two days with eight-hour shifts for label printer Eshuis in The Netherlands. New partners include Klockner Pentaplast. It supplies PET shrink film and other substrates, while Innovia Films offers an expanded range of OPP films suitable for flexible packaging with white and transparent substrates.

HP's latest license for seven-color Pantone Simulation – CMYK plus orange, violet and green – is named HP IndiChrome Plus. Converters looking for standalone or integrated variable data printing now have a wide choice of technologies. For widths up to 18.5 inches, Nipson showed its latest VaryPress 500 roll-fed digital toner printer, which now delivers 600dpi at up to 500 ft/minute. It was shown with a VaryPress SCS (Spot Color System) offering up to four inkjet-printed colors. Xeikon majored on a 'soup factory' theme to promote its established 330 digital label press and D-coat converting unit. Allowing visitors to help create their personalized soup can label, complete with picture, offered another take on creating a 'real' working environment. More seriously, it was intended to show the operation of a digital work flow, aided by the DigiQuote costing tool from TimeHarvest. An offline converting line from Grafisk Maskinfabrik was also shown.

Matan introduced the short-run Spring 3, using digitally-controlled thermal transfer technology. It competes with flatbed screen to produce labels, decals, domed labels and membrane switches on various types of plastic films. Print width is 320mm. It can run with the offline Digital Finishing System from Allen Datagraphics, offering dieless cutting, laminating, slitting and rewinding at up to 1,000 labels/hour. Atlantic Zeiser's new Omega 36/36i inkjet printer is said to emulate flexo printing in printing variable data on various preprinted media, including labels. The resolution of 360 dpi from piezoelectric printheads can reproduce barcodes and text down to 4 pt. The entry-level Omega 36 operates at up to 30m/min, while this rate doubles on the Omega 36i. Both modules run with either web or sheet-fed processes, using UV or solvent-based inks. Domino featured the latest version of the K-Series drop-on-demand inkjet printers for fitting to narrow web presses or slitter/rewinders. The K200 version has a threefold increase in print nozzles to offer 316 dpi printing at 295 feet/minute (90 m/minute).


*Xaar's 1001 inkjet printhead has been adopted by several integrators*

### Lightweight print sleeves

Harper brought for the first time its XLT line of print sleeves for plate mounting. Additionally, the company showed its new carbon fiber anilox rolls which are much lighter than conventional steel rolls yet still offer a high line screen engraving, hexagonal cell geometry and compatibility with high performance flexographic presses. 'With press widths growing wider, the weight of the carbon fiber allows for faster press changes and is much easier for the operator to maneuver,' explained Michael Halfar, key account manager. 'Furthermore it is suited for higher print speeds because it reduces the amount of vibration and improves print quality.'

## Full-color inkjet

Converters' perceptions about handling short-to-medium PSA runs could be about to change with the advent of full-color, single-pass inkjet technology. Leading the trend is Xaar. Several OEM systems integrators and licensees now use its drop-on-demand, piezoelectric printheads, which at last can achieve fine detail, small text sizes and smooth tones on a moving web. At the show the Cambridge, UK-based company featured the Xaar 100. The variable drop (grayscale) printhead is self-cleaning to greatly reduce maintenance routines.

Xaar 1001 printheads were included on the Caslon module, a new departure for Nilpeter. It prints CMYK UV-curable inks on paper and film substrates that require no pretreatment. The prototype Caslon rig was developed with FFEI Ltd, a UK systems integrator. It was augmented by FA-4 flexo units in widths of 13 and 16 inches (20 and 22 inches expected later).

Nilpeter, which supplies the inks, says the operational threshold is around 2,300 feet (700 m) or lower. Another new single-pass hybrid unit is Impika's model 600. It uses two arrays of two-color piezoelectric printheads, printing paper or film with water-based pigment inks with IR drying. The print width is 474mm from reels up to 1.3 meters in diameter. The top speed is 75 m/minute. Resolution is given as 600 x 600 dpi. The modular Impika 600 can include a UV flexo print/varnishing unit, laminator and cold/hot foiling. Commercial availability begins in Q1, 2008. Launched last year in Chicago, the Jetrion 4000 is now in production and bundled with EFI's Fiery XF RIP and OneFlow software package (which is compatible with the EskoArtwork workflow).

*Nilpeter's Caslon inkjet printer on FA-4 platform*

*Epson showed a prototype of a full-color inkjet printer*

The roll-fed, stand-alone module uses Xaar 1001 printheads and achieves run lengths up to around 50,000 full-color labels with flexo-like quality. Top speed is 100 feet/minute (30.5 m/minute) in web widths of 4 and 8 inches. Orange and Green inks expected next year will expand the color gamut. The company announced an expanded European sales team and a partnership with Spartanics, which offers a fully integrated laser die cutter (covered separately). Also shown was the established Jetrion 3025 inkjet system – over 200 sold – for integration with presses and finishing systems. Sun Chemical's new SolarJet UV inkjet printer follows a similar pattern, but was developed with Imaging Technology International and uses Xaar 760 CMYK printheads. SolarJet achieves an apparent print quality of 900 x 900 dpi and is said to economically handle print runs of 10,000 labels or fewer. It is complemented by SolarDot pigmented UV inks to deliver reliable, high-quality print on a range of substrates. Top printing speed is 25 meters (80 linear feet) per minute in print widths from 53mm to 160mm.

Epson Europe made a first-time showing at any Labelexpo with an unnamed prototype of a roll-fed inkjet unit with a 330mm wide web. It uses Epson's latest MicroPiezo technology based on variable-sized droplets to achieve good tonal ranges. Commercial versions aimed at label converters are expected late next year, following a launch in Chicago at Labelexpo Americas 2008. It admits it is still testing the market. Plus points are proven pigment-based inks allowing printing on most untreated paper and film substrates, but it will need to address the unit's slow speed of only 5m/minute. One company betting on a digital future is Rapid Machinery, a manufacturer of roll-fed converting and printing equipment from New South Wales. Nick Mansell, son of founder Bruce, says it is developing an affordable inkjet platform with a 125mm web width, flatbed die cutting and laminator for producing secondary and industrial labels. It would integrate either Xaar or Konica-Minolta CMYK printheads using UV or solvent-based inks inkjet. It may be ready in time for Labelexpo Americas 2008, but Rapid's initiative again proves that some of the more interesting developments in our industry are not restricted to the bigger boys.

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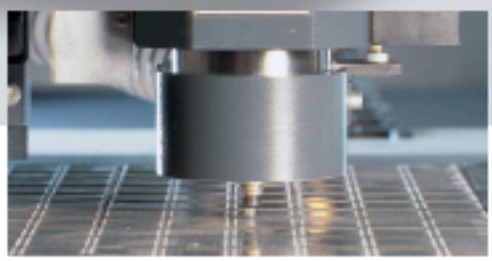

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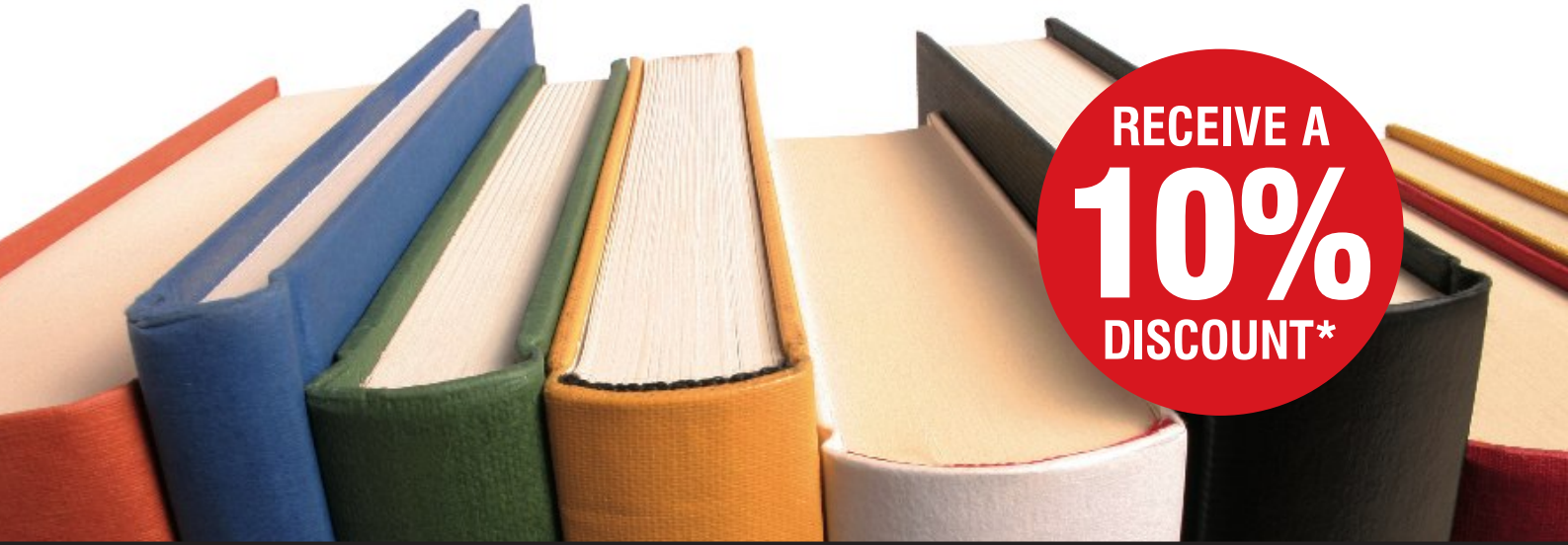


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# LABELEXPO EUROPE REVIEW

## Digital in brief

### Allen Datagraph

New Hampshire-based Allen Datagraph demonstrated its Digital Label System (DLS), an 8-color digital label printer using an Epson printer as a platform. The company also showed its Digital Finishing System (DFS) which allows printers to laminate, die cut, strip and slit in-line from any digital, digital inkjet or conventional flexo press. DFS opens the same vector-based file used for tooling in Adobe Illustrator, registering via its SmartMark Optical Registration System. 'We are extremely pleased with the show,' said Ken Pawlowski, director of digital products. 'It absolutely exceeded our expectations. The industry is really coming back to us in Europe because of the multiple languages and need for variable data.' Allen Datagraph selected two European distributors at the show, is looking into expanding the territory of its Australian agent, and is negotiating for representation in the Pacific Rim. Around half its visitors were from Europe, and half of those Eastern European.

### Cartes

Italian company Cartes' stand housed an impressive 12 machines during Labelexpo Europe – all of which were new or modified within the last six months.

The highlight was a line of two screen printing machines, hot foiling, embossing, and laser die cutting units – revealing the company's expertise in a variety of modular finishing equipment.

'Cartes has created a lot of great new technology in the last ten years,' said Eric Hearn, director of Cartes' UK agent Atlas Labelling Systems. 'People are realizing the benefit of having an offline finishing system – as it can slow the operation when combined on the press. With run lengths getting shorter and variants getting greater, people are looking for increased flexibility.'

***Cartes displayed 12 machines on its stand***


Founded 40 years ago, Cartes grew from its textile background into a machine manufacturer, and has installations in around 26 countries worldwide.

### DeGrava/OKI

Degrava Systems announced a strategic partnership with OKI and demonstrated the first joint project – the DP 8500 digital press.

Degrava's press features OKI's digital LED print engine and is powered by Degrava Colour Pro (DCP) software. The alliance gives Degrava's digital printing system access to OKI's marketing, sales and customer support network in EMEA (Europe and Middle East).

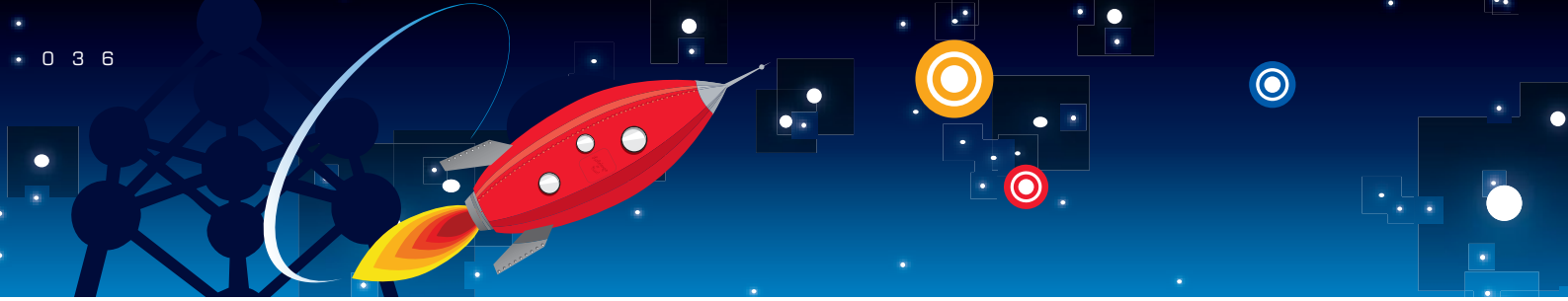
The DP8500 first debuted at Labelexpo Americas in Chicago last year. Recent improvements to the machine include batching and an improved long run-length capability. The full color print engine can now print a minimum of 2 by 2 inch label.

### HLT bv

Dutch company HLT specializes in the manufacturing of industrial digital label printers. Its 4-color toner based JEI 1225C label laser printer was displayed at the show; it is ideal for mid-volume, color and variable data printing jobs. The JEI has a 600x1800 dpi resolution and uses 256 gray levels. Various paper, synthetic media and PS substrates are printable on the flat paper path; the JEI can handle widths up to 11 inches and a thickness between 3-11mm. Heat sensitive applications and RFID, can be completed on the JEI because of the quiet cold flash fusion technology.

### Spartanics

For the first time in Europe, Spartanix demonstrated its Finecut Laser Cutting System and announced itself a premier finishing partner for EFI-Jetrion's digital inkjet presses. The laser cutting system implements through-cutting, kiss-cutting, personalization, creasing and more. The integrated camera, web and registration controls and matrix removal make for a smooth converting process. President Tom O'Hara told *L&L*, 'It was a great show – we were busy constantly. Spartanics is very pleased with the Jetrion partnership announced in Brussels. They have a great product and continue to improve. It's really a great match. Jetrion already has the ability to bring the web out of the machine for cutting to be sent back to the Jetrion rewinder. Our intention is to get the software files directly from Jetrion to do the necessary cutting to create a footprint. Currently our software is flexible and well developed so it should be rather straight forward to make the changes.'



# Smart/RFID

Nine companies featured in Labelexpo Europe's first ever Smart Label Zone, while a number of other smart solutions were on display throughout the show.

## Atlantic Zeiser

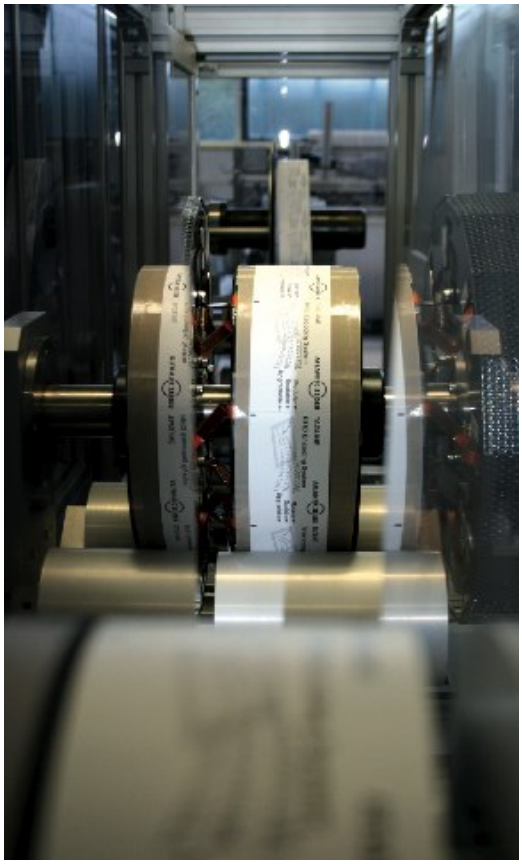
Atlantic Zeiser launched Tagline, a system for pre-personalization of RFID products such as smart labels and smart tickets. Tagline combines RFID chip quality control with personalization for the first time, says the company.

The modular system encodes and runs quality control on RFID tags and prints or marks the label using inkjet technology. Atlantic Zeiser positions Tagline as an ideal solution for smart ticket and smart label applications that must adhere to strict quality and accuracy specifications – such as in the pharmaceutical and food industries, public transport, and baggage tracking at airports.

## Avery Dennison Paxar

Avery Dennison Paxar launched its Snap 600 RFID printer for apparel labels. The machine runs at speeds of up to 305mm/second and can produce care labels on coated fabric or woven satins, variable data tickets (including pricing and barcodes), self-adhesive labels and variable data transfers for 'tag-free' labeling.

Marketing manager Ann Sansen said: 'This is the first time Avery and Paxar are at a booth together, so that has created a lot of interest.'



*Atlantic Zeiser launched Tagline, a system for the pre-personalization of RFID products*

## bielomatik

bielomatik used Labelexpo Europe to announce the development of the RF-LoopTag – a chip module which will allow converters to manufacturer smart labels without the need for exact positioning of the chip. The silicon chip is placed onto a secondary broadband antenna which can be applied close to the main antenna. The main antenna is made of aluminum foil instead of the usual copper.

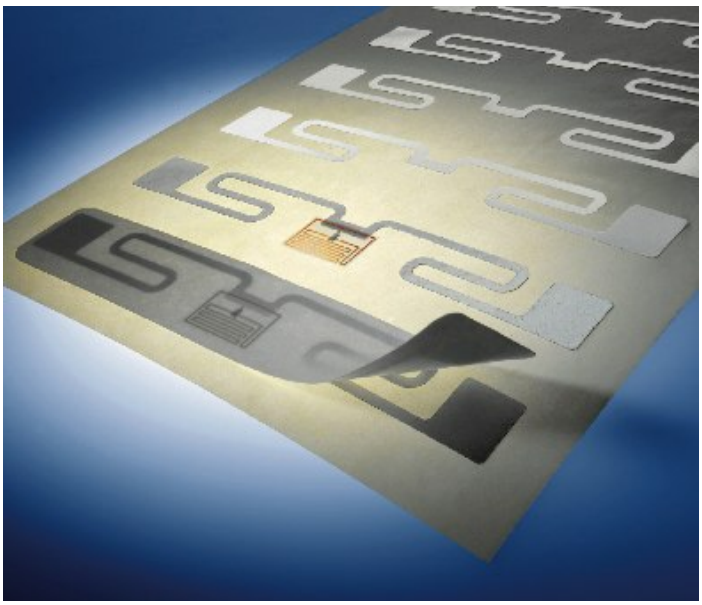
'Aluminum is cheaper than copper,' explained service engineer Jochen Hartmann. 'It acts as a conductor so the near field range is extended to a five meter read capability.'

## Edale

UK press manufacturer Edale received a great deal of interest in its Lambda press, which was first launched at Labelexpo Americas last year.

The Lambda – a bespoke but flexible machine – has 'plug and play' technology to allow specification of many configurations and open-architecture design to enable easy adjustment, reconfiguration and upgrade. The Lambda can be configured to any single or multiple web paths, thus enabling the running of multiple jobs simultaneously. Typical solutions range from coating to RFID insertion and simple die-cutting and laminating operations to complex multi-web applications.

The Lambda RFID machine on the stand included Tamarack Products' P500 RFID unit and capable of removal and replacement of defective inlays. The Lambda can be upgraded to use dry-inlays and to apply more than one inlay across the web.



*Wet UHF inlays with RF-Loop Tag and die cut aluminum antenna*

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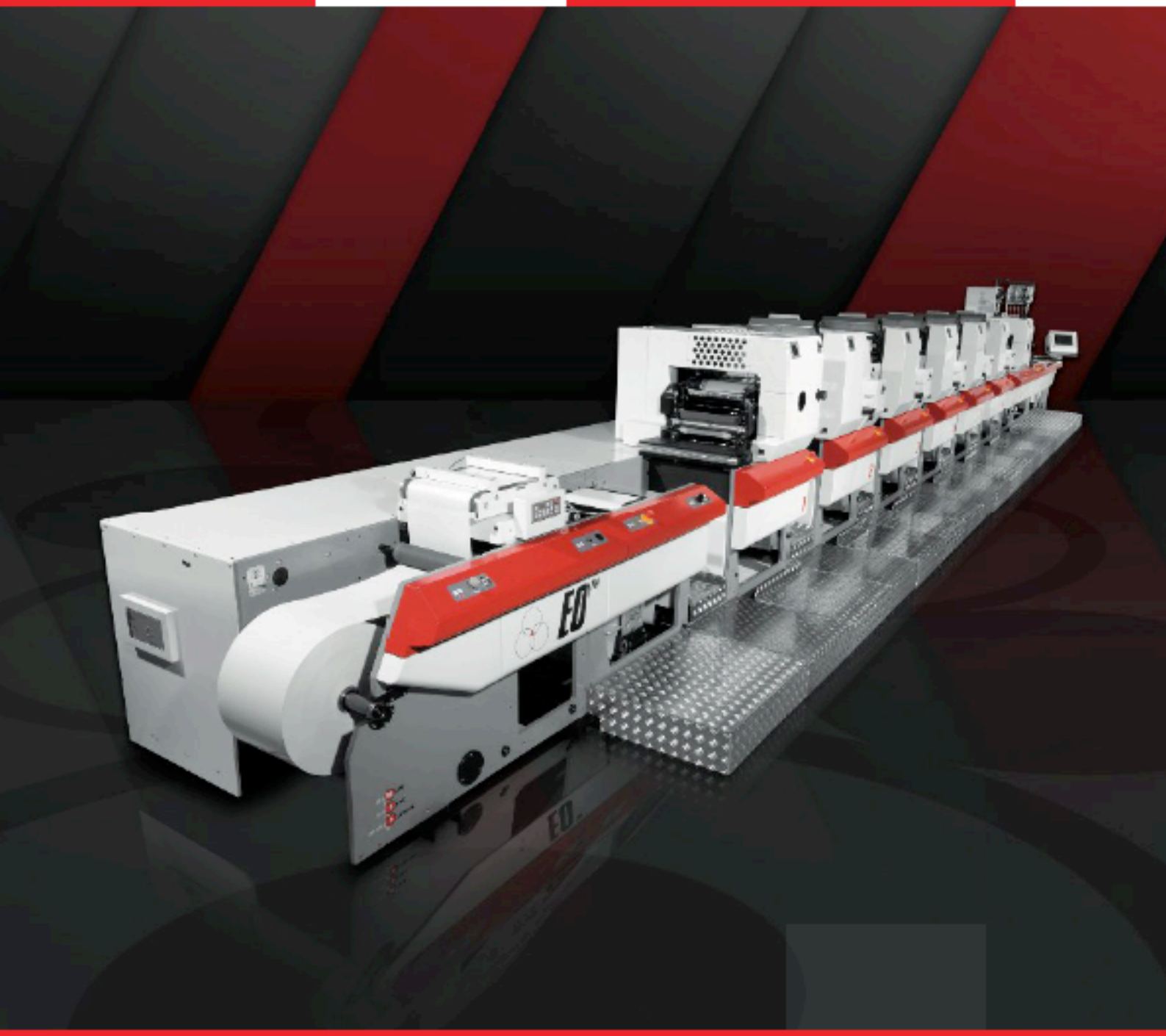


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*L-r: Edale's Adrian Morton, UK sales director, and James Boughton, managing director, stand next to the Gamma print head*

## Graphi Mecc

Italy-based Graphi Mecc displayed two machines at the show, including the new Tiger 180 RFID label and card printer and certifier.

The versatile machine can produce RFID labels and cards and provides 100 percent certification of finished product quality.

'The concept was to create a more flexible machine,' explained Andrea Ranzato, general manager. 'It can create labels and cards with RFID, and often competitors will have two machines to do this. It also automatically removes RFID tags with defects.'

Also showcased was the Domegliara variable data printer and certifier. Available in two sizes, the machine enables users to print different kinds of variable codes in a wide range of formats, while also providing 100 percent monitoring of every label.

The company sells its machines throughout Europe, and is beginning to enter the US market. 'We are also looking to improve our distribution in the developing markets,' said Ranzato. 'We've had a lot of visitors from the US, Russia and Asia – it is a very global show.' Graphi Mecc has already sold its first Tiger 180 in Italy just before the show.

## GRE

GRE demonstrated its Intelligent Converter system, which enables converters to process rolls of printed labels in-line and apply hologram foil and RFID attachments to produce a secure label in register.

The reel fed labels have the hologram attached to the face of the label in

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"We've got a market growing at 50 percent, which is not a bad thing. Our revenues in RFID have tripled, which represents real growth"

precise register to the printed label, the label stock and backing are separated followed by the attachment of the RFID on the adhesive coated back side of the label. The label and backing webs are then rejoined followed by the usual die cutting and matrix unwind.

GRE offers additional options to customize the converting process.

A digital printing device, the VIPColor 2020 ink jet printer with 4-color process capability, can be placed in-line to enable the application of variable data.

The Intelligent Converter system can be installed as an off-line reel-to-reel or reel-to-sheet system or in-line with existing label printing machinery. The option to apply a laminating film or a varnish is also available. A device to authenticate the validity of the RFID attachment is available from GRE for in-line inspection.

**Avery Dennison expert gives RFID update**

The expected surge in the RFID industry may have not yet materialized, writes *James Quirk*, but Stan Drobac, VP of RFID strategy for Avery Dennison, remains confident in the future of the technology. 'There were unrealistic expectations initially, because lots of things needed to happen for it to become mainstream,' he said. 'We must allow users time to adopt the technology.

'Certain suppliers are more advanced in adoption than others: apparel, airports and media for example. Pharmaceutical sector adoption has been slower than expected, partly because of the lack of government mandates.

'But you can look at it optimistically or pessimistically. We've got a market growing at 50 percent, which is not a bad thing. Our revenues in RFID have tripled, which represents real growth. We are totally behind the technology and expect it to be very big both for Avery Dennison and the industry as a whole.'


*Graphi Mecc displayed the new Tiger 180 RFID label and card printer and certifier*

### Extended formats

The manufacture of complex, multi-layer label constructions is a key added value concept for label converters. LeoMat exhibited its LeoMat Booklabel machine for the production of various types of multi-layer labels. Equipment is fully automated and can be custom ordered to suit individual needs.

Longford, provider of booklet affixing systems for the creation of extended content labels (ECL), demonstrated its OS700 booklet affixing feeder designed for integration with most label presses. Applications include: pharmaceutical, food, promotional and instruction leaflets. For the creation of RFID labels, Longford displayed its newly designed RFID100 tag affixing feeder.

## Hanita Coatings

Hanita Coatings promoted its range of RFID antennas, which director of business development Gal Wollach reported had received 'a great deal of enthusiasm' during the show.

## KSW Microtec

KSW Microtec launched its Amberwing UHF inlay, as well as its 200-plus range of inlay designs. The company has also created a luggage tag that can be used all over the world, as it operates between 860-950MHz, meaning that European, US and Japanese frequencies are all covered. The luggage tag was being converted during the show on the SL-400LT machine from Melzer.

## Melzer

The SL-400LT high speed four-track machine with an output of up to 24,000 e-luggage tags an hour was equipped with the Melzer inline selection system for 100 percent controlled products.

## Muhlbauer

Muhlbauer promoted its IL 15000 smart label insertion line for the insertion of wet RFID inlays into existing standard labels. 'The machine allows us to offer our customers a complete "smart label factory",' said Martin Müller.

The machine is aimed at recent-entry RFID label manufacturers, and its key benefits are said to be its high process stability, ease of operation and a maximum processing speed of 60m/min.

Combined with the company's CL 15000 converting line, which converts dry inlays into RFID labels; and its Test Line TL 15000, which provides electrical and optical testing of RFID labels, the IL 15000 completes the company's portfolio for the converting industry.

## Schober

Schober displayed a wide range of products – including the redesigned RFID Tag-Inserter. The machine is a solution for the production of smart labels for applications such as automatic product recognition and inventory management of palletized and bundled products.

Amongst other equipment, the company also showcased its RSM rotary converting machine for pre-printed OPP roll stock, PP coated paper and laminated materials; and the PBO off-line rotary converting system for folding carton and packaging blanks.

## Timestrip

Timestrip brought its smart TTI technology to the showfloor and introduced the iStrip, a freeze indicator label used for applications including frozen food and vaccine monitoring through the supply chain.


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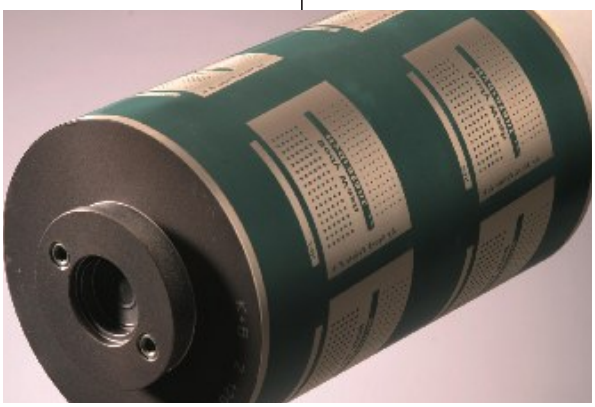

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# LABELEXPO EUROPE REVIEW

## Materials

### Ahlstrom

Ahlstrom widened its product range with a new liner for film die-cutting called Silca Evolution.

'It can handle the most demanding die-cutting jobs,' said Marco Martinez. 'There is improvement in the cleanliness of the liner and even and regular thickness control, which is important for die-cutting films.'

The company also promoted its Silca Speed liner, which ensures good anchorage of the silicon during high-speed coating.

'We hadn't exhibited at Labelexpo for the last three shows, because we were concentrating on promoting ourselves in Asia,' said Martinez, 'but coming back has been a great success.'

### Avery Dennison

The new Fasson Lean Film thinner-gauge self-adhesive film labelstocks range was launched by Avery Dennison.

Jan 't Hart, senior product manager, Avery Dennison Roll Materials Europe, said: 'The key feature of Lean Film is the thinness of the facestock, which delivers significant improvement in the number of printed labels per converted reel of labelstock. With reels nearly 30 percent longer, converters can benefit from fewer reel changes on the press. Based on customer trials, we see estimated average savings of around 22 percent less downtime – which creates real improvements in production efficiency.'

Developed specifically for long-run label applications in key areas such as the personal and home care markets, Fasson Lean Film has been optimized for primary product labels in a range of typical label sizes, applied to smooth container surfaces. Available in transparent and white, both topcoated and non-topcoated, Fasson Lean Film is supplied with Fasson S692N permanent, multi-purpose adhesive, and BG40 White glassine release liner.

### Bluestar Silicones

Bluestar Silicones, formerly Rhodia Silicones, announced it is investing up to 7 million Euro during the next two years to double its upstream capacity for MQ resins and specialty raw materials at its St. Fons production facility in France.

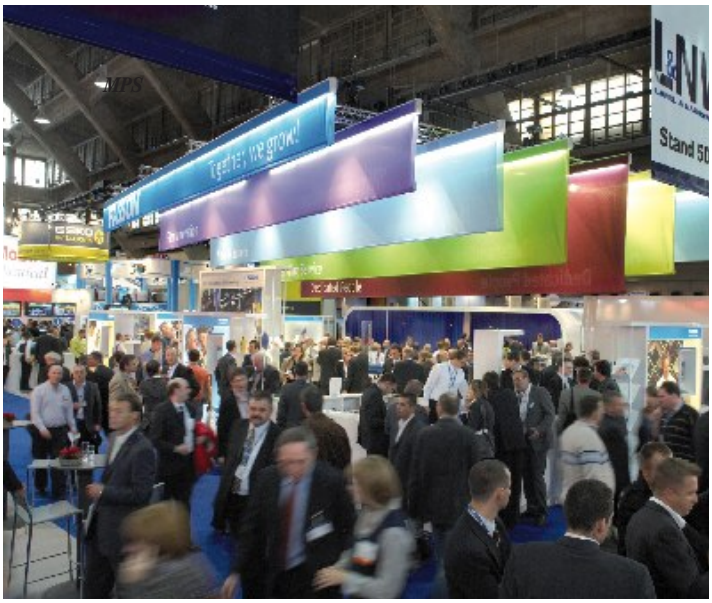
The company successfully completed the first phase of the capacity expansion in September 2007, providing an additional 25 percent capacity of resins. The additional capacity will be used to accelerate the growth of Bluestar Silicones' Silcolease brand systems for the release coatings and pressure sensitive labels and textile coating markets.

The significant new additional capacity is expected to be on line during 2008 with the completion of the expansion planned for early 2009.

### Boise Paper

Recently SFC certified Boise Paper brought its new AvantEdge Auto Applying (AA) Label Release liners to Europe. Notably, AdvantEdge can be used as an alternative to Glassine, CCK and SCK. 'With the recent acquisition of the Wallula Mill, we are positioning ourselves to be a strong international player in the PS label market,' explains Daniel Brown, director of marketing and strategic planning. 'Our main focus at the show is our release liner and we have seen a lot of interest from Asia in our products.' The company also showed its C1S FlexPack and C1S Flexbag for various flexible packaging needs.


*The new Fasson Lean Film aims to bring longer label reels and shorter downtime. Right: The Fasson booth*




*Gombau's brightly colored stand*

## Dow Corning

Dow Corning Corporation introduced a new emulsion release coating – extending its proven Advantage Series solventless line to emulsion release coating operations.

The company says that Syl-Off 7990 Emulsion Coating enables users to reduce their application costs through increased platinum catalyst efficiency, reduced coat weight, and faster line speeds. Additional cost savings result from the coating's high coverage levels, which permits the use of less costly base papers.

## ExxonMobil

ExxonMobil demonstrated two new films in its Label-Lyte range. 60XH537 is a 62 micron, coated white BOPP film designed for beverage, HBA and pharma applications.

LL537 is a 51 micron, clear 2-side coated BOPP film aimed particularly at clear-on-clear applications.

Both films use a new coating technology developed by ExxonMobil which resists pasteurisation, improves ink anchorage and forms a barrier against the migration of oil-based additives from hot-melt adhesives which can cause labels to curl.

## Gombau

Spanish self-adhesive labelstock manufacturer Gombau stood out from the crowd with a bright orange booth with a picture of the cathedral of Girona, where the company is based.

Gombau used the show to launch its IE08 adhesive and 'Digital Opportunity' range of HP-certified papers. The digital range is made up of ten standard and seven non-standard products. While focused on wine labeling, the materials are also suitable for sectors such as cosmetics.

The IE08 adhesive has been developed specifically for glass bottle labeling, and offers long-term resistance and avoidance of label creasing when in an ice-bucket. The company says that its resistance to ageing and its clarity also allows its use in combination with clear films.

The IE08 adhesive was being put to the test during the show – on a bottle of wine submerged on the stand for the duration of the event. When *L&L* spoke to the company on the afternoon of the final day, the label was still sticking fast.

'The adhesive responds to the demands of the wine label market,' said marketing director Luca Pettinelli. 'We have crossed the limits of water emulsion and rubber-based adhesives.'

## Hanita Coatings

As well as showcasing its range of top-coated polyester films, the company launched a tamper evident material that is completely transparent, which director of business development Gal Wollach calls 'very difficult to achieve'. It is also available in silver.

Hanita also announced that two of its white label face films are now available with flame retardant properties.

## Innovia Films

Innovia Films expanded its range of 'squeezable' label facestock films by launching two new grades. Rayoface CZDI is a high performance clear high gloss film and Rayoface WZDI a white high gloss non-cavitated film.

### First labelstock producer in Eastern Europe

Eastern Europe is not normally regarded as a manufacturing base for self-adhesive materials, *writes Mike Fairley,* yet this year's Labelexpo show in Brussels provided an opportunity for Aerotac, the first self-adhesive labelstock producer in Eastern Europe, to participate for the first time and show its range of water acrylic coatings, self-stick notes, self-adhesive papers and films and special ultra-removable adhesives.

With more than 60 years experience in adhering, coating and laminating from a background in carbonless copy paper manufacture, Aerotac has moved to become a speciality added-value producer of self-adhesive materials and has a target aim of becoming a pan-European niche supplier over the next few years.

As a traditional supplier of products to the business forms industry the company already has a sales network for its products in printing houses and has been involved in the development of form/label combination solutions and other forms-related label applications.

Another product that Aerotac is proud of is a high gloss photo-jet paper with ultra-removable adhesive which enables printing, peeling and repositioning of self-adhesive ink-jet printed photographs which are ready to be stuck into albums or can be used for point-of-sale or promotional material, advertising and mailers.

Aerotac is based in Celje, Slovenia.

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# TOMORROW'S LABELS AVAILABLE TODAY

Both BOPP films have a new top coating which has full HP certification for WS2000 and WS4000/4050 digital presses.

Rayoface CZDI and WZDI are designed for demanding applications requiring resilient conformability on flexible containers such as squeezable shampoo bottles and shower products, lotions and cream tubes, as well as condiments and packaging containers.

The films' balanced orientation means sophisticated shapes can be evenly die-cut without feathering around the edges and corners of the label and matrix stripping is trouble-free, says Innovia.

## Intercoat

Intercoat presented a new glassine liner, K5d, with a thickness of 55$\mu$m and a weight of 62gsm, the thinnest glassine liner in the company's range. The liner has a tensile strength in the machine direction over twice that in the cross direction.

Also on the Intercoat stand was its new range of HP Indigo-qualified self adhesive print media, including PE, PP, PET and PVC films.

Other new products include a white polyolefin film with high gas permeability and a highly conformable film – 50$\mu$m polyolefin 7752 – with a pronounced 'no memory effect' making it a good choice for tube labels or for complex substrate surfaces where products are hot filled in-line following the labeling process.

## Klockner Pentaplast

Klockner Pentaplast presented its thinnest calendared film with a thickness of 20my. Additionally, Klockner demonstrated its range of matt and embossed film surfaces, providing ideal converting properties for printing, lamination and coating.

## Mactac

The Belgium-headquartered Mactac Europe, a subsidiary of the Bemis Corporation located in Neenah, Wisconsin, celebrated its 40th anniversary at the show. Mactac brought its new high-performance hotmelt adhesive, MP201, and announced that the uncoated EN13432 grade now conforms to EU biodegradability and compostability directives.

## Manter

Spanish specialty materials supplier Manter and parent company Arconvert, part of the Fedrigoni Group, caught the eye of many visitors with a booth styled as a Mediterranean square, complete with boutique shops and a sea view.

### UPM Raflatac Seminar

Speaking at the Labelexpo Europe 2007 seminar on 'Challenging our business – today's RFID and environmental opportunities', UPM Raflatac president Heikki Pikkarainen called for urgent industry collaboration in sustainability issues: 'Tackling the key challenges of the labeling industry – ensuring that the products come from sustainable managed forests, reduction of greenhouse gas emissions, environmentally sound production and distribution and turning waste efficiently into a resource – requires that the whole industry works together. By combining the efforts of the entire labeling sector we can make a difference to our industry and our environment.'

'A new wood-plastic composite manufactured from self-adhesive waste, UPM ProFi, is a great example of our eco-friendly innovations,' he continued. 'We believe that UPM ProFi can offer the labeling industry an easier path to a more environmentally sustainable future.'

Pikkarainen concluded by emphasizing that the labeling industry should not view environmental responsibility as a burden but rather as an opportunity. 'Labeling is the superior method for branding. Promoting a sustainable future represents an opportunity to excel, innovate and enhance efficiency in this important business sector.'

*Lesley Hide, director of the EFTA and Paul Brauss, Mark Andy president*

*Federico d'Annunzio, Gidue, and Mike Fairley, Labels & Labeling*

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# LABELEXPO EUROPE REVIEW


*Manter promoted its new Wine & Gourmet Label Collection on its mediterranean-style stand*

'We want to attract clients and make them feel comfortable,' said Juan Gil, marketing and national sales director. 'Lots of people have been talking about the stand and taking pictures of it.'

The impressive setting provided the platform for the launch of Manter's Savile Row, Sirio Pearl and Ultra US lines of specialty papers, which feature in the company's latest Wine & Gourmet Label Collection. The collection comprises over 30 new papers.

'The paper forms part of the design,' explained Gil. 'The label is like a painting – it is a work of art.'

The new range formed the basis of an article in Issue 4 of *Labels & Labeling*.

## Neenah Paper

Formerly the technical paper division of Kimberly-Clark, Neenah Paper recently purchased three paper mills throughout Germany in October in order to expand into a more global company. Neenah showed a line of synthetic and coated label stocks including the Kimdura UV and Kimdura Multi-Task synthetic papers. Both products are compatible with a variety of thermal transfer ribbons and can be used in a range of environmental conditions including the outdoors. Additionally they offer high chemical and extreme tear resistance.

## Novamelt

Novamelt showed Novarad RCL 6015, a newly developed UV-printable liquid pressure sensitive adhesive with higher tack and peel values and new hotmelt PSA grades for permanent and removable no-label constructions. 'The trend of the 'no label look' is very popular right now in the beverage and cosmetics markets and we want to be sure our products will allow converters to make this sort of label,' said Harald Braun, president. Novamelt has expanded its market presence significantly in 2007; it now has a sales representation network in Eastern Europe, Russia and the Baltic States with plans in place to expand into the SE Asian and Australasian markets in 2008.

## Polinas

The Turkish company showed its full range of BOPP label films, including roll-fed cut&stack, metalized, pearlized, white and transparent PS face stocks, patch and injection molding films.

## Polyonics

Polyonics introduced the XF 804 lead-free polyimide, part of the Metalgard line of products resistant up to 1,000 degC. XF 804 is 2mm thick with a heat activated adhesive for a minimum application temperature of 260 degrees C (500 F) and a service temperature of 600 degrees C (1112 F).

And in compliance with EU RoHS and WEEE directives, Polyonics now offers a list of certified lead-free polyester and anti-static polyimide films. Other products displayed at the show meet UL, ESD resistance, MIL-STDs, ASTM and other standards and specifications. Dave Gaouette, technical marketing manager, told L&L that Polyonics is now searching for distribution partners in Europe and China.

## Radici

Radici introduced a range of BOPP in-mold label films. Radil EML 45my and 65my are white voided films developed for in-mold applications including ice cream, butter and margarine containers, yogurt pots, and more. It can be used with all printing processes including rotogravure, flexo and rotary offset. Also on show will be its transparent version, the Radil S526 55my.

In addition to conventional wrap-around labels, Radici Film has a strong presence in the 'no-label look' market and will exhibit its high transparent films Radil LC30-40my and LB30/50my made for reel fed and cut & stack labels.

## Ricoh

Ricoh brought two new products to Labelexpo: the chemical-resistant B110CU thermal transfer ribbon and 150 LHB thermal paper line, claimed to offer sharp resolution and excellent preservation properties.

## Ritrama

Ritrama showed its wine range, HP Indigo range, seal and reseal products, oil canister/drum labelling, clear on clear films, conformable polypropylenes, matt films, overlaminating films, durable range, security products, transfer and double side adhesive tapes, plus its well-known range of standard films and papers.

## Torraspapel

Torraspapel showcased its range of label papers: one-side coated, metalized, high-gloss and self-adhesives. The company launched its new Metalvac metalized paper catalogue – a range of high-vacuum recyclable papers.

Torraspapel's Adestor range of self-adhesive papers and films was also promoted – a line suitable for segments such as VIP printing, wine and beverage markets and personal care and household items, which marketing projects coordinator Carmen Burgo revealed created the most interest during the show.

The company also showcased its latest environmental report, which tracks the progress made towards accomplishing the commitments it set out to fulfill in its first report in 2004, as well as setting new challenges for the future.

Environmental initiatives covered in the report include: sustainable forest management and obtaining chain-of-custody certifications; minimizing water use and discharge in manufacturing processes; and reducing solid waste sent to waste disposal sites.

'The show seems more dynamic than two years ago,' said Burgo. 'We're upgrading to a bigger stand for 2009 – it is the best show to do business.'

## Treofan

Treofan launched a white film, EUT, for thermoformed in-mold labeling applications. The technology for applying thermoformed IML is now starting to come to to market, opening up the possibility for photo-quality graphics and allowing thermoformers to save up to 20 percent in resin cost by using the strengthening properties of the label to lightweight containers. The company also demonstrated an IML film for blow-molded, UNB, – primarily intended for the US market.

Treofan has also developed a shrinkable wraparound polyolefin film, LST 40 OPP, which shrinks up to 23 percent in the machine direction. The film is 40 micron thick.

*Edale hot melt unit on Lambda*

## Doing it for themselves

Several companies demonstrated systems which allow label converters to manufacture their own specialist substrates, *writes Andy Thomas*.

ETI Converting Equipment took the decision to exhibit a Cohesio line, which enables label printers to manufacture PS stock in house. The line was shown converting pre-printed face stock into a finished label, including in-line coating of silicone and adhesive, die-cutting and finishing.Although the Cohesio line was seen at Labelexpo Americas, this was the first time the machine has been demonstrated producing clear-on-clear labels, along with a new system for in-line siliconizing.

ETI recently entered into a global pricing agreement with base paper supplier Ahlstrom for ETI users worldwide, and announced the opening of a plant in China for the manufacture of its Metronome presses.

On the Edale stand the Lambda converting machine concept received a tremendous amount of interest from narrow-web printers and converters. One of its major advantages is the ability to offer many different applications from the same, one machine. The machine can be configured for RFID, adhesive coating, peel and reveal labels or a host of other applications. Any number of these processes can be incorporated into one machine and any machine can be upgraded or re-configured at a later date for an alternative application.

Off and in-line adhesive coating, and RFID applications appear to have been ranking high on converters' shopping list at Labelexpo. 'Adhesive coating makes commercial sense,' said Bernhard Grob, export director of Edale. 'It also creates a major, competitive advantage. The Lambda Coater is ideal for short to medium production volumes and capable of coating speciality materials, metallic foils, holograms and tapes.'

Hotmelt application systems specialist Nordson demonstrated equipment 'designed for specialty uses such as booklet labels and clear on clear production,' explained Goerg Gillessen, sales manager, web coating systems group. Nordson demonstrated the cantilevered CT4000 series coater aimed at applications with a coating width of up to 15 inches (380 mm).

Italian manufacturer Hip Mitsu promoted machinery for the application of hotmelt and UV curable adhesives. Both off-line and in-line solutions are available for testing at the Hip Mitsu Italian Competence Center. The system was demonstrated in-line on an Omet Flexy press.

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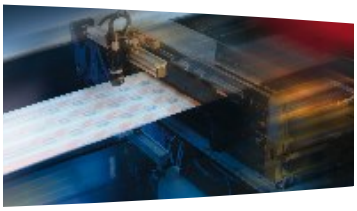

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# TOMORROW'S LABELS
## AVAILABLE TODAY

### UPM Raflatac
During a press conference at Labelexpo Europe, UPM Raflatac president Heikki Pikkarainen announced that during 2007-2008 the company will implement its 'largest ever investment program'.

The company's new factory and logistics hub in south-western Poland is due to open in late 2008 and will serve both the Western European and growing Eastern European markets. The 90 million euro factory will house two high speed coating lines with a capacity of around one billion square meters. 'It is a significant addition to the marketplace,' said Pikkarainen.

The investment in Poland is part of an program which will see eight new coating lines built and slitting and finishing operations expanded worldwide over a four-year period.

UPM Raflatac also showcased its filmic labelstock portfolio created especially for the home and personal care, beverage, and oil industries. New products in this area include the Raflex Plus film label material, aimed at high-quality personal care applications requiring good conformability; and Raflatube, a labelstock for squeezable tubes

### Wacker
Munich-based Wacker Chemie showcased its line of low platinum Dehesive silicone solutions available in three product groups: solventless silicones, silicone emulsions, and solvent-based silicones. All product groups are formulated for high speed production at up to 1,000m/min. For applications that demand higher release forces, Wacker offers CRA (control release additive) modifiers to customize any Dehesive silicone. Wacker says that its Dehesive products are stable, have flexibility of formulation, short crosslinking times, outstanding release properties and excellent leveling.

### Wausau Paper
Wisconsin-based Wausau Paper introduced its ExperTec Ultra and ExperTec Plateau release liners. Ultra is a smooth, super-calendar kraft hybrid liner designed to compete against plastics and ideal for clear on clear labels. 'We see clear on clear becoming more popular and wanted to ensure we had a suitable product to support the market,' said Rolf Hennigton, VP, international sales, specialty products. The Plateau is a lb./3000 ft2 silicone receptive lay flat product compatible with laser printers, and designed as a sheetable alternative to clay- and poly-coated liners

### Weldon Celloplast
Leading Indian laminate manufacturer Weldon Celloplast launched a range of digital pressure sensitive substrates, DigiGloss(S) 75 semi-gloss paper and DigiPet 50 white polyester-based stock. The company is currently engaged in qualification trials with HP Indigo and aims to extend its digital range.

Weldon also demonstrated substrates for a wide range of applications including pharma, lube oil, VIP, direct thermal, thermal transfer, fluorescent and PET/BOPP, tamper evident and security labels as well as silicone release papers and specialty tapes. Company MD Harveer Sahni says he was involved in discussions with major European converters, and is aiming to set up a European warehouse and distribution network with partner flexible die specialist Lartec, for whom Weldon distributes in India.

Sahni's strategy is to become a one-stop distributor of all narrow web consumables as well as expanding substrate penetration.

*Gidue's double-level stand had its Xpannd, Athena and Combat presses on display*

# Inks and varnishes

## Eckhart

Eckhart displayed a range of pearlescent and metallic inks for a visually stimulating alternative to hot and cold foil and metallic substrates. New was Topstar Aqua 46 0104 silver, a water-based coater ink with low foaming properties. Eckhart Ultrastar inks, providing mirror-like effects, and Prismastar, giving a rainbow effect, were also shown mainly for use on gravure and screen, and water-based, solvent and UV flexo printing.

## FujiFilm Sericol

There is a growing debate in the narrow web industry as to whether flexo whites might match the opacity of a screen white for some clear film applications, and FujiFilm Sericol presented its own flexo solution at the show, UVivid JD Supernova White. The UV ink system is optimized for high volume anilox rolls and has been tested at printing speeds up to 80 meters/min (262 ft/min) using 160w/cm UV curing power – around twice the speed of most rotary screen units.

FujiFilm Sericol's Ian Isherwood presented figures which showed total annual savings against screen whites of up to $126,000, based largely on lower plate costs and lower ink consumption, on a 2,000 sq/m (6,500 sq/ft) job at 50 percent coverage.

The company was also demonstrating its latest product for shrink sleeves, Uvisleeve 360, which will adhere at over 70 percent film shrinkage with high slip to allow seaming at speeds of over 500 m/min.

## Siegwerk

The Siegwerk highlights at Labelexpo were new UV ink series as well as solutions for the printing of sleeves and in-mold labels. Among the products presented were the new silicone-free UV flexographic printing series Sicura Flex 39-9P-SF, formulated with the latest generation of polymeric photoinitiators. Thanks to its low migration formulation, it is specially well suited for labels in the food sector and lends itself to overprinting and embossing. Equally low migration characteristics and negligible odor are also hallmarks of the new UV offset series SICURA LM 100, which can also be used for substrates to be processed using in-mold labeling.

## Xsys Print Solutions

XSYS Print Solutions launched a range of low-odor UV flexo inks suitable for various applications in the narrow web packaging field, providing converters with insights into ways to address stringent end-user concerns surrounding the potential risk of photo-initiator migration.

Also new was the company's CombiWhite XL white UV screen ink – an upgrade of the existing CombiWhite – which has enhanced properties such as flow-out at higher speeds and no drip-through when standing idle.

At the other end of the color spectrum, new Flexocure Ebony is a super-black, high-density UV flexo ink suitable for a wide range

of substrates using fine-to-medium anilox rollers.

Visitors could also preview new white low-odor, high-slip Flexocure XS ink; an upgrade of the Flexocure Ivory flexo opaque white base; and the eye-catching effects that can be achieved with the latest metallic inks.

Niklas Olsson, global brand manager, said: 'We improved the opacity, flow out and created a cleaner crisper white color still be able to over print this with any type of UV inks. Providing printers use the correct anilox engravings and a tested combination of plates and tapes, it is possible to print certain labels which previously required a screen white, with one hit of Flexocure Ivory.'

Flexocure Ivory can be used in any UV flexo unit and works with all types of anilox engravings and plate materials available in the market.

'This creates opportunities for converters to create no-label look labels, without the need for using rotary screen units. Flexocure Ivory inks have undergone extensive pre-launch trials, and are proven to work in combination with UV flexo, UV offset and UV letterpress inks from XSYS Print Solutions.'

Xsys also announced that it has developed a UV curable varnish via a close partnership with machine producer Convertec AB, suitable for the recently introduced digital Braille printer – Braille Maker One.

The new Braille Maker Varnish 1.0A is developed to meet highest possible requirements set by Braille print standards, and the requirements from quality label printers printing. The Braille Maker Varnish 1.0 A is tested and approved to be used for a range self adhesive materials, such as coated and uncoated paper, TC PE, PE and TC PP.

'It was a very innovative and interesting new idea that Convertec had come up with,' said Niklas Olsson. 'We definitely have discovered some new phenomena about how UV varnish cures under these conditions. It is a true "press ready" varnish, as there is no need for any additives – all parameters are easily changed on the press.'

Braillemaker One is claimed by Convertec to print Braille dots from a single text line.


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# LABELEXPO EUROPE REVIEW

### Zeller+Gmelin

Zeller+Gmelin displayed a variety of new products amongst its range of UV and energy curable printing inks.

The company has developed its Uvaflex series of UV flexo low migration inks for the printing of food packaging. Esalux is a new electro beam curable offset ink, specially developed for printing on flexible packaging substrates. The inks are designed to give the lowest possible taint, odor and migration when printed on packaging for food and other sensitive products.

Zeller+Gmelin Labelcure U5 is a new UV letterpress and offset printing ink series optimized for printing on film.

Finally, the company displayed a range of special effect printing ink introduced by its subsidiary Intercolor. The range includes visual effects for promotional and security printing, such as pearlescent inks, bright metallic effects and fluorescent inks through to functional systems with tactile and texture lacquers. To arouse the senses there is a range of fragrance coatings and a range of inks which react to light or temperature.

Zeller+Gmelin also displayed personalized promotional flight tickets at the show which featured an impressive array of security solutions. Each ticket was personalized with a $Co^2$ laser from KBA-Metronic. The tickets contained transparent photo chrome inks on the reverse side, which light in red and green under day-light, while on the front a luminescence lacquer lights up in red under black light.

## Rotary tools and dies

### Gerhardt

Gerhardt International had three new products to show. The DropSetter is an improved version of the adjustable anvil, with seamless adjustment, which is easy to drop into a die station.

A new Hot-Foil system, Econofoil, is claimed inexpensive, lightweight and addresses issues of cross web registration while keeping the quality of an engraved brass foiling die.

Gerhardt also showed a male/female flexible die system for the conversion of light carton board up to 600 micron. This system is non-contact between dies providing cut, crease, simple emboss and glue assist elements.

### Kocher + Beck

Kocher + Beck introduced a new light-weight flexo plate cylinder, which the company says offers a 60 percent saving in weight. Also shown was a new version of the company's Gap Master system – the IC, which can be inserted directly into the cutting unit. Kocher + Beck also displayed a new sheet cutter – offering rotary die cutting for small run printed sheets. Benefits are said to include adjustment of sheet angle to compensate for possible print error; cutting and creasing in one step; and quick set-up times due to use of magnetic cylinder and flexible dies.

'Our stand was always crowded,' reported Martin Stierle. 'Labelexpo is the perfect platform to meet both existing and new customers.'

### Lartec

Spanish company Lartec launched a flexible cutting die for sheetfed offset presses, which it developed in cooperation with various offset press manufacturers.

The new die represents the company's first foray into offset, and it generated a great deal of interest at the show, according to Raul Silvestre: 'In the first morning alone we received a lot of interest and made many contacts particularly from visitors from Asia, of whom there seems to be a big increase.'

### RotoMetrics

RotoMetrics displayed its RD200 machine finished solid dies, best suited for thin film liners and extensible films. 'It offers tight tolerances and gives improved precision,' said Steve Lee, VP and director of technical support. 'The RD200s optional Yellow Jacket surface treatment offers die life of up to double or more when compared to conventional dies.'

Additionally, RotoMetrics showed a new hot stamp system, featuring a mandrel with encapsulated oil that heats the brass or magnetic cylinder for hot stamping. This technology provides a more even distribution of heat, finer detail and less clean-up.

### Wink

Wink, manufacturer of flat and rotary tools, promoted its detailed guidebook 'ABC of Cutting Tools' at this year's show.

The guide is packed full of suggestions and tips to help improve daily practice, combining Wink's industry experience and technical knowledge with that of other label printers and machine manufacturers. Published in German, English, Dutch, Spanish, Italian, Portuguese and Polish, it lets international label printing houses analyze, localize and solve the most frequent cutting problems.

***In the next issue, part two of the review will include ancillary equipment, finishing equipment, inspection systems, MIS systems and pre-press equipment.***

# ‘Packaging’ PDF put to the test

For the last four years global brands and their repro house partners have been testing PDF-Plus – the packaging-specific version of PDF. **Andy Thomas** summarizes the results

A version of PDF developed specifically for the packaging and labels industry has undergone a tough, 4-years trial by leading US and European production companies, designers, brand owners and printers.

The PDF Specification for Packaging, presently known as PDF-Plus, was developed by the Ghent Workgroup (GWG), which represents leading players from all parts of the supply chain. In close to a four-year process, these companies – household names in their respective countries – assessed the viability, challenges and benefits of a PDF workflow for packaging. Nestlé and Square, in France; De Schutter’Neroc, headquartered in Belgium, with offices in The Netherlands and Germany; and Southern Graphics and Kraft Foods in the US, used real production files in real-world environments in a collaborative effort to develop ‘best practices’ specifications for packaging.

## ■ bleu process/McCann-Erikson/Nestlé

Christian Blaise, owner of bleu process, a specialist graphic arts packaging consultancy, was graphic chain manager at Nestlé France during the initial testing in 2003 to develop the GWG Packaging Specification. He also serves as co-chair of the GWG Packaging Subcommittee.

‘We used the fact that a brand owner was in the loop to work on the upstream part of the workflow as the (design) agencies were difficult to address directly,’ Blaise recalls. ‘The project was difficult to start, as the agencies were not convinced about the benefits and were expecting the process to be more complex for them and to be a constraint on their creativity.’

After two months of tests, leading design agency McCann-Erickson SiteCom took the lead on the project. ‘They understood that the benefits were not only for Nestlé but for them as well,’ says Blaise. ‘Thanks to the (PDF-Plus) profile, they were finally able to gather information on things they used to do incorrectly, which the repro house always complained about but never explained. Validating their files before sending them to the next stage was also good because they knew they wouldn’t be getting calls asking for corrections or more information.’

Blaise estimates that prior to testing what was then a ‘baseline’ specification, the repro house returned more than 20 percent of all the files from the agency for corrections. With the new PDF workflow, the number dropped to less than five percent with this agency.

These clean, workable files helped lead to PDF-Plus as a specification – but this was not the only outcome, as Blaise points out: ‘The fact that the agency became a real qualified partner in the chain – instead of just being the ‘artist’ – improved the relationship between the designers and the repro house. They started to exchange information and started to work in the same direction instead of just criticizing one another.’

## ■ Square

Square, the other French company involved in testing, was founded in 1979. Headquartered in Lyon, it is a graphic production company specializing in publishing, packaging, brand design, digital asset management, and cross media and works with customers all over Europe.

‘We produce all kinds of packaging, mostly for the food industry, but the heart of our trade is Graphic Production,

> “Thanks to the (PDF-Plus) profile, they were finally able to gather information on things they used to do incorrectly, which the repro house always complained about but never explained”





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whatever the branch of the industry,' explains US CEO Roland Donzelle.

Square was involved from the very beginning in the initial testing for PDF file exchange in packaging applications. 'Our field of expertise and testing applied mostly to the offset process,' explains Donzelle. 'Within the GWG Committee, we worked on the definition of "best practices" to include settings, rules, guidelines, workflows, and a framework to define PDF as the ultimate exchangeable file format for the packaging industry, based on industry standards and market requirements. These guidelines and settings are 'generic' and suitable for the entire process from design through output. And they cover all printing processes such as flexo, offset, and gravure.'

Donzelle notes that Square has been made up of convinced Adobe Acrobat users for a long time. Since the release of Acrobat 3 in 1996, Square has been using PDF as the file format they send to their printers. Since there were no packaging standards, Square developed its own control profiles.

'We moved toward the GWG as soon as we heard about their projects relating to packaging,' recalls Donzelle. Square's operators are also 'convinced early users' of Adobe's Creative Suite, particularly InDesign for page and packaging layouts.

'The main advantage of using PDF files within the GWG Packaging Specifications is that we can rely on a safe standard,' notes Donzelle. 'As for our clients, they can count on improved exchange of graphic files. In addition, they benefit from a very high level of security through traceability, as well as improved time to market. The main goal in packaging production is to reduce both time-to-market and cost by finding the way to get the job done correctly the first time.'

Getting it right the first time means that the first time becomes the only time the job is processed, resulting in the enormous efficiencies that Square, and others, can attest to. Between January and June last year, for example, Square calculates that 350 production files were pre-flighted using the GWG PDF-Plus Packaging Offset v2 specification. They sent these files to 60 different printers who all printed these files without a single problem.

'The production side of the packaging industry was lacking in workflow standards, in contrast to its business – administrative and operational – side, in which economic and regulatory issue are very important and have been addressed,' says Donzelle. 'Any solution that leads to faster file exchanges while making them more reliable is a significant breakthrough.'

He cites the main challenge to the wider adoption of PDF Packaging Specifications for file exchange as 'the global lack of information among professional users including printers, designers, and decision makers'.

### ■ De Schutter'Neroc n.v

Chris Michiels, technical specialist packaging, De Schutter'Neroc n.v., who also served as head of the group working on the GWG Packaging Specification for Offset, agrees that lack of information is a challenge. A true evangelist for PDF workflow, Michiels says, 'Lack of information is a big problem. People know what PDF is but they don't know what it can do for them. The workflow is there, the software and hardware are there, it's that people are not informed. But this is a train that cannot be stopped.'

De Schutter'Neroc employs some 300 people at its various offices and serves clients globally. The company started out making tools – including gravure cylinders – for packaging printers, but now concentrates on providing a wide range of services to global brand owners, including packaging management, packaging and corporate design, artwork and prepress, photography, color management, and integrated workflow systems. Therefore, although Michiels worked on the offset specification for GWG, the company has extensive expertise in flexo and gravure as well as offset.

'As a repro-production house, we send out files for clients all over the world,' Michiels says. 'We work with printers globally, as well, including companies in Eastern Europe and China. PDF is not widely used for file delivery to many of these printers. In fact, some of the Chinese printers want files in

### The Ghent PDF Workgroup

The Ghent PDF Workgroup (GWG), formed in June 2002, is an international assembly of industry associations and suppliers from across Europe and the United States. The GWG's objective is to establish and disseminate process specifications for best practices in graphic arts workflows.

Members are comprised of graphic arts associations including: CMBO (The Netherlands); CITAGM (Spain); DDPFF (Denmark); ERA (Germany); Febelgra (Belgium); FESPA (UK); FICG (France); FTA (USA); IDP Group (The Netherlands); IPA (USA); Medibel+ (Belgium); Nederlands Uitgeversverbond (The Netherlands); PDFX-ready (Switzerland); PPA (UK); SICOGIF (France); Taga Italia (Italy); VFG (Austria); VIGC (Belgium); VISKOM (Norway); and VSD (Switzerland).

Vendor members are to date: Adobe Systems Incorporated, Adstream, Agfa, Apago, Esko Artwork, Callas, CGS Publishing Technologies, Dalim Software, Enfocus Software, Global Graphics, GMG, Gradual Software, Heidelberg, HP, Kodak, OneVision, pub-specs, Quark, and Screen Europe.

For more information about the GWG, including a full list of its members and objectives, visit www.gwg.org.

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***Steve Carter, co-chair of the GWG packaging subcommittee, created this PDF file to test almost all of the problems that may be encountered when printing from a PDF. This file helps printers troubleshoot printing issues such as transparencies, indexed colors, blend modes and more.***

Illustrator 5. I believe we're now on Illustrator 13. But these are challenges only for the moment.'

According to Michiels, the greatest advantage of PDF as a file format is that you can put everything in it – even videos and music. He notes that capability is also the downside to the file. 'That's why you have to profile PDF to certain specifications. You have to make sure there are no extra things in it.'

Currently, De Schutter'Neroc uses PDF 1.5 (produced by Adobe CS) in its workflow. This is also the PDF level supported in PDF-Plus for Packaging. Transparencies created in Illustrator files can be kept 'live' in this specification, and Michiels says that the packaging workflow applications ArtPro and Nexus from Artwork Systems (now EskoArtwork) can now import 'almost' all of the forms of transparency that are created in Adobe products. 'We work in PDF from beginning to end,' he says. 'In addition, if a design agency makes the PDF, they have to be able to open the same information from beginning to end.'

That's one reason live transparency is significant in the packaging world. As an example, if a file has been flattened to make the PDF, then has to be returned and opened in Illustrator for corrections, Illustrator functions can't be used. Michiels does note, however, that at this stage designers still need to include original files with their submissions even though the PDFs are created according to PDF-Plus for Packaging, which allows layers. That's in case files that linked to Illustrator, or layered Photoshop files, for example, have to be edited.

## Southern Graphic Systems/Kraft Foods

Steven Carter, director of technology, St Louis, for Southern Graphic Systems (SGS), and Christian Blaise agree with Square's Donzelle. They cite a shorter cycle time and reduced cost as a brand owner's primary objective in asking their vendors to adopt a PDF workflow based on PDF-Plus. Carter and Blaise co-chair the GWG Packaging Subcommittee.

SGS claims to be the world's largest packaging-specific prepress service company and continues to grow organically and through acquisitions. This year alone, the company has acquired three package design/production firms. Like De Schutter'Neroc in Europe, the company started as a gravure cylinder engraver, albeit in 1946 in the US.

SGS labels its client services as 'Design-2-Print' solutions that enhance brand identity and improve its clients' 'Speed-to-Market' demands. Today SGS offers on-site project management, conceptual design and production art development, and digital asset management.

Given that list, it's not surprising that SGS and its


***The French graphic production company Square has been committed to PDF printing for brands and packaging for over ten years. Square was instrumental in developing best practices for packaging in the early days of the Ghent Workgroup.***

customers, like Kraft Foods, would be interested in a common file format with agreed specifications. Kraft Foods, with its 61 brands, has over 159 facilities worldwide and last year had net revenues of over $34.3 billion.

Kraft worked with SGS on the specification for the PDF file exchange between designers and brand owners. Kraft's associate director for prepress and print technology, Gary Vogt, says that Kraft tends to use and receive highly complex files. Therefore, for the testing process, they used files from eight of the company's design partners. SGS processed all the files for output. 'The GWG is delivering on PDF's promise of truly portable, reliable, file exchange, even for the most complex application,' he says.

Carter points out that Kraft and other brand owners have no interest in being arbitrators for their vendors. They want their designers, prepress houses, and printers to agree on a standard file format and use it. He says that Kraft intends eventually to require that all its vendors use PDFPlus from design to print – possibly before the end of this year. However, at this stage, the company is a little reluctant to dictate to printers when it might involve expensive upgrades, and believes the market needs more education.

Kraft is not the only US consumer giant considering this workflow. Carter says that a Nestlé division in the US, Purina, and the Sara Lee Food Group are all in the early stages of testing PDF-Plus.

'Until recently, the infrastructure has not been there to use in the packaging industry,' Carter says. 'For example, at drupa 2004, Kodak, Esko Graphics, and other big equipment and workflow vendors announced that they were switching to an internal file format based on PDF for their packaging workflows, but it took until last year to ship these products. Much of the installed base still needs to upgrade.' One consequence is that many RIPs still in the field cannot process live transparency, although with the introduction of newer RIP technology this can be addressed with upgrades.

In addition to infrastructure, Carter also notes that the cost of design and prepress is sometimes insignificant to large brand owners in comparison to the cost of substrates for their packages. 'If Anheuser-Busch, for example, can save $1 million by redesigning their Budweiser box, they will. A $2,000 extra charge because of a design mistake is not as much of a big deal when they could save a million dollars elsewhere. However to a catalog company, $2,000 could make or break their postage. That will change as the market moves to PDF and adopts the new standards. It will bleed over quickly.'

'The writing is on the wall, that's where everything is going,' Carter concludes. 'Packaging is a lot like commercial printing was regarding the Internet and collaboration ten years ago. Now it's all internet and PDF. Packaging is going through a Renaissance.' ■

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# Flexo investment bears fruit

Edale and IST have joined forces to enable GSH group to print UV flexo on heat-sensitive filmic substrates without chill rolls. **Andy Thomas** reports

*Edale's Beta 8-colour Flexo Press*

The core business of privately owned GSH group is the supply of packaging machines and consumables – providing complete packaging solutions for a wide range of food producers and manufacturing companies throughout Europe.

The group consists of Easiweigh for automated weighing solutions, Infia, supplying the fresh produce market with thermoformed punnets, lids and trays and VertiPack, which supplies packaging machinery and a range of consumable materials. The consumables supplied by VertiPack include printed wine glass labels and ribbons that are used for labeling fresh produce packed in nets, when they also serve as carry handles. The narrow end of the label is held fast within a wire ring net closure, while the wide end offers a good area for marketing and product information.

Last year a decision was made to bring the printing and conversion of these labels and ribbons in house with the formation of Fieldpax Ltd, instead of outsourcing them.

This was a bold move, because at that time there was no flexo printing in the group and the substrate used for these labels is more challenging to print than pressure sensitive stock. The wine glass labels are printed in up to eight colors on foamed monoaxially oriented polypropylene (MOPP) film laminated to thermal paper and the ribbons are printed in up to five colors on MOPP. The thermal backing paper is printed during the packing operation with variable information such as best before date.

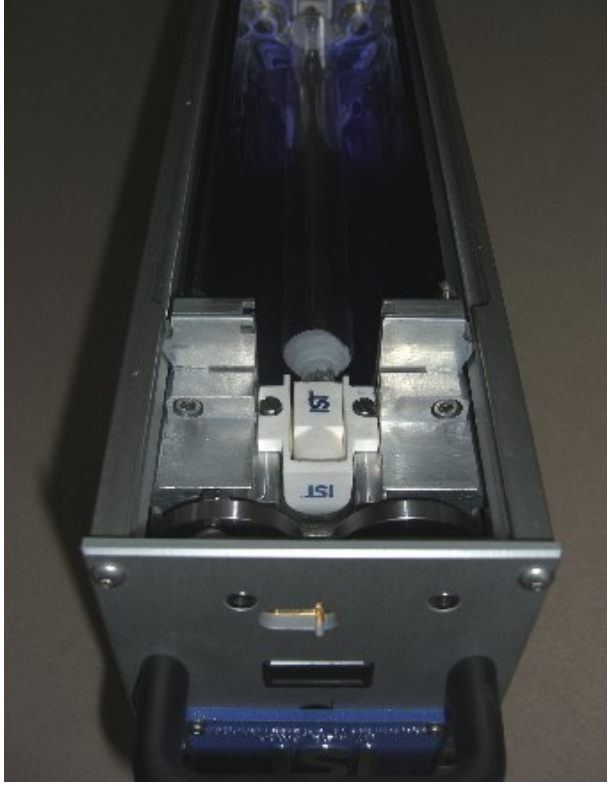

GSH recruited John McCluskey, who has many years experience in the printing industry, to head up the project. Just before Christmas last year McCluskey placed an order for a 5-color Edale Alpha press and an 8-color Edale Beta press. Both are 330mm flexo presses equipped with IST MBS-5 UV systems.

As the wine glass labels and ribbons are long narrow labels running in the direction of the press, this gave more scope regarding press width. A web width of 330 mm was chosen, as this minimized substrate waste when using stock roll sizes and was identified as an optimum for the average run length, when running time, set up time and origination costs were all taken into account.

The Alpha was installed in May of this year and the Beta shortly after. Commented John McCluskey: 'the main reason for choosing Edale presses fitted with IST UV curing systems was primarily based on the quality being achieved on Edale printing presses elsewhere, secondly the customer service and the after sales service provided by Edale. The decision to fit the IST UV curing system was slightly easier as I have had previous experience with IST systems and had been very impressed at the curing levels achieved at speed.'

Adrian Morton, UK sales director at Edale, points out that the two presses complement each other well. 'The Alpha offered

"The wine glass labels are printed in up to eight colors on foamed monoaxially oriented polypropylene (MOPP) film laminated to thermal paper and the ribbons are printed in up to five colors on MOPP"



*IST's MBS-5 showing UV measuring with fast lamp change above URS reflectors*

speed of changeover with only a small footprint, while the Beta ensured tooling compatibility while offering up to eight colors of high quality flexo printing and die cutting in line with value added converting options and high production speeds.'

For wine glass labels, where MOPP is laminated to thermal paper, effective management of web temperature is of critical importance and for this reason IST's MBS-5 UV curing system was chosen. The MBS-5 is an air-cooled system base around IST's own URS cold mirror reflector technology and aimed specifically at the narrow web market. IST claims that URS technology makes it possible for a 140 W/cm lamp to offer the same level of cure as a 200 W/cm lamp with conventional reflectors, thus limiting the amount of heat in the form of IR energy reaching the web. This is achieved without compromising effectiveness of cure or press speed. Using 140 W/cm lamps instead of 200 W/cm lamps offers the additional benefit of reduced energy consumption, which results in more cost effective operation.

Simon Mitchell, IST (UK) Ltd managing director, says that the electronic power supply (ELC) units used to power the system reduce energy consumption during standby mode to around 20 percent, offering additional protection for the web. 'The ELC enables the lamp output profile to be optimised and steplessly adjusted through an extended range, thus protecting the temperature-sensitive web even at low press speed. With this UV system it has proved possible to effectively control web temperature without going to the additional expense of chill rollers.'

Mitchell says that a key driver working with Edale and GSH on this UV project was energy reduction. 'We have achieved this. The MBS-5 provides extremely efficient curing results using just 140W/cm, reducing running costs and increasing throughput.'

MOPP is a particularly difficult label stock to print. Being filmic it has to offer a suitable surface energy for optimum adhesion of the UV inks and this is achieved by boost-treating the pre- treated material in-line before printing. Also, its textured surface makes it a challenge to achieve accurate, consistent impression and good, even solids without pin holing.

"To achieve the highest print quality, Fieldpax uses sleeves for any continuous colors so that there are no join lines visible on the print"

To achieve the highest print quality, Fieldpax uses sleeves for any continuous colors so that there are no join lines visible on the print. Photopolymer plates of 67 thou are used for other colors of the design and these are registered with the sleeve(s). Spreads and chokes are not applied to any of the colors, so the whole design has to butt register. This eliminates unwanted color fringes around elements of the design but makes register extremely demanding from the repro, plate mounting and printing perspective.

Very accurate plate dispro is required for butt register - especially where plates are run in combination with sleeves. Fieldpax uses York Reprographic for the origination work and John McCluskey is very happy with the service they provide. A Heaford microdot mounter is used to achieve the required register accuracy during plate mounting and then, of course, the press has to hold both print register and die cutter registration during the print run. John McCluskey says that he is 'really impressed with the cutter registration – it never moves.'

The substrate and origination challenges presented to GST's suppliers have been met in a relatively short time frame and McCluskey's operators, who have considerable flexo experience, 'think the quality coming off the press is better than anything that they have worked on before.' ■

*John McCluskey, GSH Group; Simon Mitchell, IST UK and Adrian Morton of Edale Ltd*

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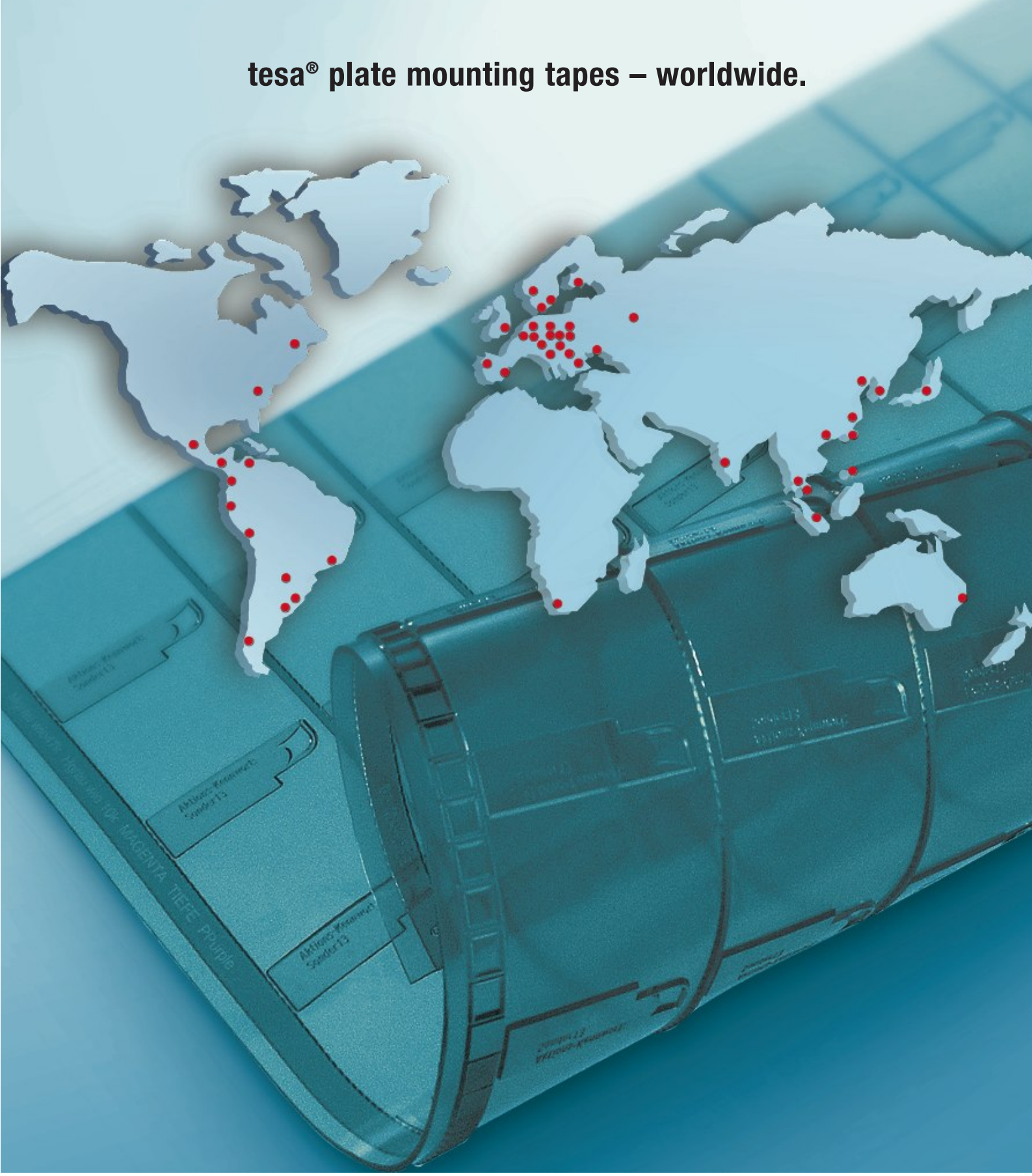

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# Drupa trends

Significant trends at drupa 2008 will include a new JDF standard aimed specifically at packaging, along with solutions to environmental challenges. **John Parsons**, Seybold/USA, reports

Drupa, the quadrennial celebration of print, is upon us once again. As with past versions of the show, the 2008 event will be the most complete representation possible of the state of printed communications – from conception through delivery, and everything in between.

The larger question, of course, is the future of print itself. The business of turning data into mass-produced images on paper (or plastic or whatever) will be with us long into the future – no matter what the individual businesses and workflows look like. The hard task for printers is to discover what changes are really needed to make their businesses truly viable in the long term – and to separate fads from truly significant trends.

## Automation reality

Drupa 2004 was often dubbed the 'JDF drupa', marking the emergence of the CIP4 automation standard as a mature, albeit verbose process automation standard. This time, automation will be an even more pressing issue.

JDF itself has gained increasing respect among printing companies, if not among their customers, over the last four years. According to CIP4 CEO Jim Harvey, 'JDF greatly reduces the cost of integration between systems and companies as each system is designed to work with JDF and not the proprietary interfaces of a zillion other systems. JDF is just a standard language that systems in our industry can share. By itself, JDF does nothing; it's the systems that do the work.'

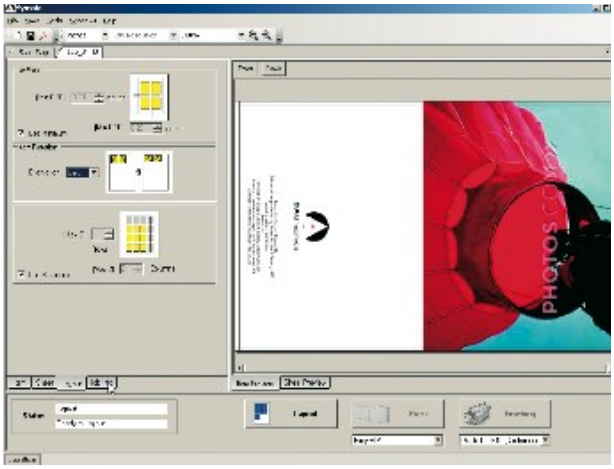
This drupa will mark the debut of JDF 1.4, which will introduce expanded capabilities, including at least four new Interoperability Conformance Specifications (ICS) documents. These include commercial digital printing, packaging, web press and newspaper. Other ICS documents may emerge – notably those affecting print buyers' IT systems – but that may have to wait until version 1.5.

Printing companies should use drupa 2008 as their opportunity to plan their long-term automation strategy, embodied in JDF-enabled products or (if necessary) proprietary solutions. Larger companies in particular need to streamline their manufacturing process, make it transparent to their large corporate customers, and of course improve overall efficiency and lower manual labor costs.

## Web-enabled everything

Until JDF extends beyond the internal automation needs of a plant – or even a multi-site print operation – the connection between print originator and print provider will remain a varied collection of web-based services and processes, loosely described as 'Web-to-print'. Many of these services employ standardized data, such as ICC profiles and PDF/X content, but Web-to-print services themselves are generally proprietary, with no clearly dominant players emerging yet.

Web-to-print has evolved significantly over the past decade, from simple, template-based e-commerce sites to sophisticated editing environments and integration with large,



*Objective Advantage's Symbio Desktop application allows print service providers to import PDF content, apply device-specific output and finishing parameters and output the results as JDF*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automated corporate procurement systems. However, it should not be viewed as a wholesale replacement for the human side of the business. 'Web to print is merely an additional distribution channel for services, capabilities and products,' says industry analyst Bernd Zipper. 'It's not a replacement for successful business practices, but a "broadening" of the business platform that also optimizes production processes.'

Printers and their customers should not wait for a single approach to emerge. Web-to-print solutions, although still numerous, are for the most part well past the pioneering stage. When looking at the available systems, one should look especially for those that have advanced beyond the template-based approach. The systems to note at drupa 2008 will be those that apply similar principles to more complex challenges – enlisting the customer and his IT system as an active participant in the print workflow process.

## Printers as data managers

Since the beginning of the digital prepress revolution, printers have tended to view customer data as relevant only at the point of output – to a sheet of imagesetter film, a digitally imaged plate, or a digital press. Now that output issues are no longer a mystery (to most), some printers have begun to view their customers' digital data as a business opportunity. Variable data printing on digital presses is only one such opportunity, but it illustrates the point. Owning a digital press does not, by itself, guarantee success. Printing companies who have reinvented themselves as marketing services and data management companies (who also do printing) often succeed, while those who view themselves merely as output providers fail.

Other technologies of this kind include content and asset management, as well as considerations involving rights management and syndication. Whether a customer is willing to entrust a printer with its data will be decided on the basis of that printer's skill and willingness to adopt new tools – becoming more than just an output provider.

Quality management – both in data handling as well as production workflow – still cannot be accomplished by a machine alone. However, with the increase in JDF/JMF automation potential, as well as a plethora of print-specific database technologies, the need for sophisticated quality management controls is greater than ever. Printers at drupa 2008 should pay particular attention to MIS offerings – which will play an increasingly important role in integrating high quality marketing services, data management and other innovative services to the business of print.

## New tools, RFID, inkjet

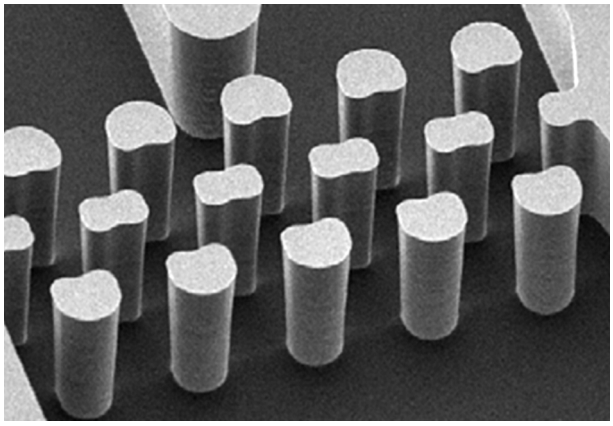
As printing becomes increasingly a modern manufacturing process, the importance of radio frequency identification (RFID) has increased. Previously, IT solutions specific to print production have focused on workflow – which is already digital. For delivery of equipment, physical consumables and the printed final product, however, RFID has emerged as a means of tracking shipments of any kind – including delivery specifics for multi-site distribution and warehousing.

RFID holds particular promise for printers working with large-scale print procurement infrastructures within their major customers. Specific knowledge of print inventory levels will enable printers and their customers to print and distribute at peak efficiency.

Drupa attendees can expect many new developments in the realm of inkjet head technology, including speed and precision advancements from Xaar (Platform 3) and HP. Although inkjet applications are most common today for wide format signage and proofing, expect to see some significant new inkjet applications – possibly even threats to the dominance of toner-based digital printing. Xaar's CEO, Ian Dinwoodie, has predicted that by 2008 high speed (165+ ppm) inkjet digital presses will compete favorably with the fastest toner devices, with inkjet speeds reaching 500 ppm by 2010.

Other vendors to watch include Dimatix, whose recent announcements of inkjet technology based on MicroElectroMechanical Systems (MEMS) have raised the possibility of performance enhancements based on the bizarre worlds of micro machines and nanotechnology – the science of engineered materials on a scale below 100 nanometers (smaller than 1/100,000,000th of a meter). The company is claiming potential benefits in packaging as well as signage and general commercial printing, although the full potential of the technology has yet to be realized. ■

*MIS systems streamline production control*



*Dimatix MicroElectroMechanical Systems (MEMS) technology, promises greater precision and speed than previously possible with conventional inkjet head technology*

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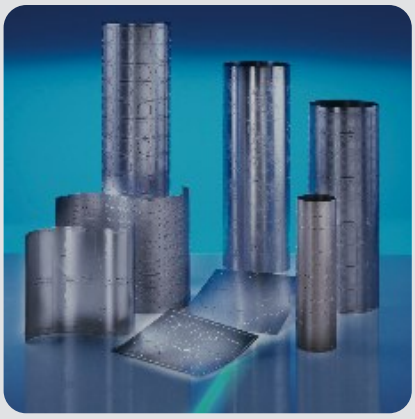


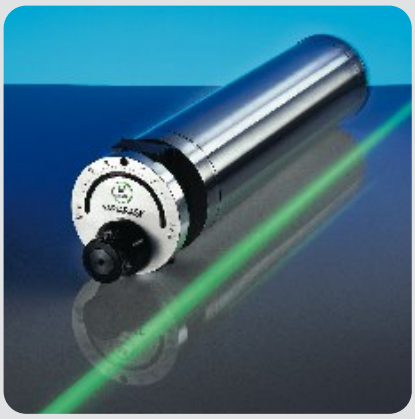

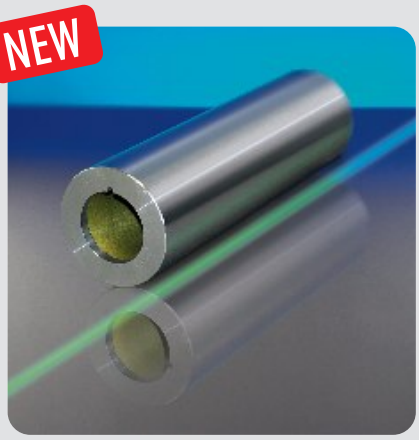


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# The perfect match

The purchase of UK converter ADS Worldwide by Checkpoint Systems last year is proving to be a great match for both companies, as **James Quirk** reports

ADS Worldwide, a Hull, UK-based converter of labels for the apparel market, is reaping the benefits of its acquisition in November last year by US security specialist Checkpoint Systems.

The two companies have a product portfolio and international presence that seem to perfectly compliment one another. ADS is part of Checkpoint's CheckNet division, which specializes in garment and EAS labeling and is the fastest-growing part of its parent company's business.

ADS, which employs 120 people at the Hull site, was founded in 1988 to exploit the demand for short runs of barcode labels, though for the last decade the company's primary focus has been on apparel labeling. It supplies garment labels and tickets, plastic seals, and care, woven, transit, hanger and self-adhesive labels. Leading UK retailer Marks & Spencer's Per Una brand and Wal-Mart-owned supermarket Asda's George brand are two of its major customers.

For ADS managing director Richard Lorimer, the advantages of the acquisition have been numerous: 'There have been both financial and technological benefits – giving us huge scope to invest and grow in the future, not forgetting that Checkpoint is also the global leader in RF tagging. Added to this there has also been a large increase in our global coverage since Checkpoint took over and we have gained access to new production technologies and the latest web-based data management systems.'

*The iGen 3 digital press from Xerox*

> "There have been both financial and technological benefits – giving us huge scope to invest and grow in the future"

Prior to the acquisition, ADS already boasted an impressive global presence, with overseas factories in China, Hong Kong, Turkey and India, and partners in Bangladesh, Cyprus and Mauritius – a spread that compliments Checkpoint's extensive international portfolio. Indeed, the only country where there was any major overlap was Hong Kong, though both operations are now consolidated onto a single site.

Checkpoint's RFID expertise is also well-suited to the garment labeling sector in which ADS operates, as Lorimer explains: 'We had been closely monitoring developments in the industry, researching possible solutions so that we'd be prepared if a customer wanted to launch an RFID program, but that doesn't compare to being part of a company like Checkpoint, which is able invest millions in RFID technology.'

If the two companies' product portfolio and global presence compliment each other, so does their printing technologies. Lorimer explains that while Checkpoint is predominantly a flexo company (with offset capabilities in the US) ADS offers offset printing in all key locations – so the acquisition has provided both companies with additional production capabilities.

ADS was one of the first businesses of its kind to invest in a Xerox iGen 3 digital press for the production of labels and swing tickets. A streamlined workflow enables retailers' variable data to be transferred into the company's Adnet production system, which can then feed through to the iGen 3 with the minimum of human intervention.



*(Left) Wal-Mart-owned Asda's George brand is one of ADS' major clients. (Above) ADS' facility in Hull*

"Digital allows us to get the best out of our offset presses, as we can stop clogging them up with small jobs that aren't really suited"

'Historically, digital printing quality and cost were the major issues for us, as well as the grammages some of the presses could handle,' admits Lorimer, 'because hang tags require up to 400 grams capability. But the print quality of the iGen 3 is unlike anything we'd seen before. The density of the black that the press can achieve was also a key selling point because a large number of the price tickets that we supply are printed with solid blacks.

'Lead times are shortening,' he continues. 'With fast fashion, you have to get programs up and running quickly. New ticket designs are being turned around with increasing speed and frequency, so a design that might have lasted for two years in the past may now only last for six months. Digital's added value capabilities are also a bonus in terms of what we can offer our clients. It is undoubtedly the way the industry is going. Also, it is an environmentally friendly method of printing – as there is less waste and we are making fewer stock shipments around the world.'

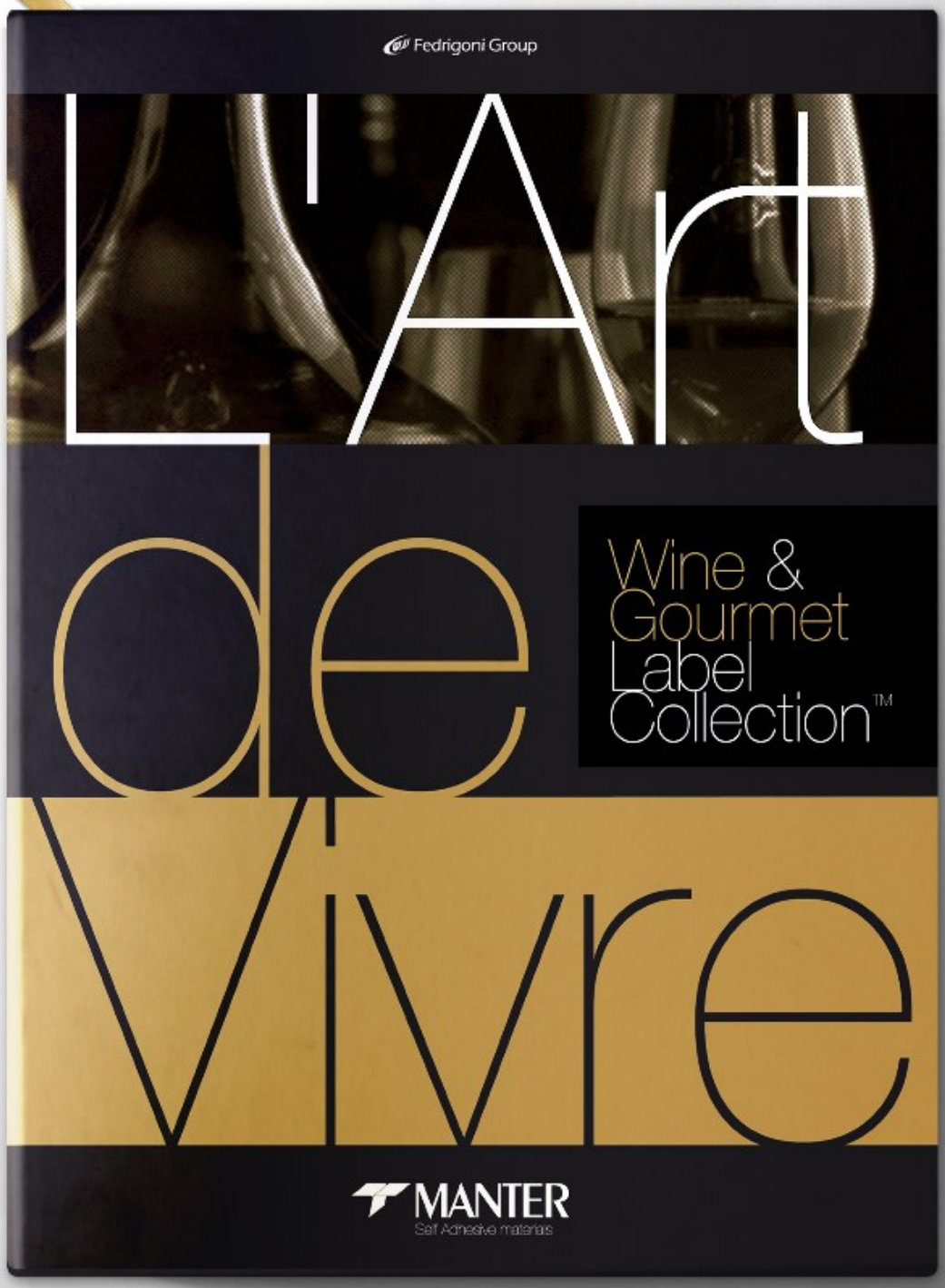
Lorimer admits that there are limitations – 'it will not print metallic inks for example' – but says that it has provided ADS with great benefits as a complimentary technology: 'Big volumes of non-variable hand tags are still often better handled by offset, but for a short run of 5,000 tags, with variable data on both sides, digital is much more efficient. It also allows us to get the best out of our offset presses, as we can stop clogging them up with small jobs that aren't really suited. Added to which we also save a lot of time when overprinting large numbers of small jobs, which would have previously required multiple plate changes.'

An iGen 3 is also installed in the company's factory in Hong Kong, while the same site houses an HP Indigo digital press, installed to meet the particular needs of some of Checkpoint's customers. Checkpoint also installed a further Indigo press at its factory in Houston, creating a digital capability on three different continents and the basis for a global production network.

As well as the iGen 3, ADS' 40,000 square foot factory in Hull also boasts an array of offset, flexo, and thermal transfer printing equipment. As part of the company's ambitious expansion plans, Checkpoint is also investing Millions of dollars in new production equipment at all ADS sites around the world.

Lorimer explains that the short term focus is on ensuring that all the companies' respective products are available at all major sites around the world. 'The ultimate intention is a full global service offering encompassing a range different printing technologies,' he says.

'The acquisition of ADS by Checkpoint has created a larger infrastructure to invest in and increased the range of products and service which we can offer to customers. Prior to the acquisition both companies were growing at around 20 per cent per annum. 'There is even greater potential now that we are combined,' says Lorimer. ■

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# Digital shift

Dutch converter Eshuis has demonstrated the effectiveness of a digital-to-digital workflow in handling work which is not cost-effective on conventional presses. **Andy Thomas** reports

Dutch labels and flexible packaging converter Eshuis has co-operated with Hewlett Packard to demonstrate the high levels of productivity achievable from a well-organized, fully digital workflow.

The workflow – first demonstrated to *L&L* at Eshuis' plant in the Netherlands, then repeated at Labelexpo Europe on the HP stand – involved the printing and converting of 15 label orders, or a total of 20 jobs in one 8-hour shift.

These were commercial jobs already sold by Eshuis, representing a range of 'typical' digital end use markets including household, industrial, food & beverage, horticultural, healthcare, petfood and nutraceutical. Label sizes and impositions ranged from 55 x 41mm up to 302 x 203.2mm and while the majority of jobs were CMYK, there were seven 6-color jobs, two using 7-colors and 1 x 8-color (with a simulated gold).

Print quantities ranged from 100,000 2-color 55 x 41mm labels to 1,000 59.5 x 265mm labels, with the majority of jobs under 7,500 and an average run length of just 460 linear meters. Four jobs involved variants of the same design. The first 14 jobs were printed on PE, with two changes of substrate – to MPE, then to clear PE for a shower gel label.

In all, *L&L* observed 163,755 labels being printed with a total press time of 405 minutes out of a total possible of 480 minutes. 'Label printers should be very impressed by how easy and productive digital production is,' commented Peter Overbeek, managing director of Eshuis. 'During an eight-hour shift, the productivity of the HP Indigo press ws4500 is 85 percent – printing time only – which is a great performance.'

HP calculates that to produce these jobs conventionally would have taken 99 plates and generated 4,500 meters of waste. Total press time saved was 524 minutes compared to conventional make-readies, representing an average time saving of 26.20 minutes per job. Put another way, while makeready on the HP Indigo totaled 1.25 hours across an 8-hour shift, a flexo press operator would have spent 12.25 hours making ready and 5.25 hours printing (assuming an average press speed of 45 m/min and 7.5 minutes make-ready per color).

Finishing was carried out off-line on an AB Graphic Omega Digicon HS fitted out with a Stork rotary screen unit, semi-rotary hot foil, varnish and lamination stations, die cut and slitter/rewinding. The Stork screen unit is an interesting addition to the Digicon line. An infeed nip, dancer arm and web buffer assembly allow the Digicon to run from rotary to semi-rotary while an eye mark reader and servo motor register the screen head to the digital print. Stork has developed a semi-rotary screen head, but this is currently licensed exclusively to Codimag.

Eshuis utilizes an Esko (now EskoArtwork) pre-press system to integrate its conventional and digital workflows. Particularly important is the Kaleidoscope color management engine, which creates the 7-color Indichrome separations and manages special colors.

Hans Poortinga, product specialist at Eshuis, says the easy changeover system on the ws4500 makes special colors much easier to handle. 'Where our ws4050 and ws4000 digital presses took between 45 minutes and one hour to change colors, the 4500 reduces this to just 15 minutes'.

## Mixed workflow

Eshuis' HP Indigo presses are fully integrated with its conventional machines – two Drent UV offset presses and three 7-color Gallus UV flexo EM280s. Jobs can go down any of these routes, as Hans Poortinga explains:

'The decision is made at the point of order entry. We calculate on the basis of run length first, and our system calculates the best cost price. But then you look at the material. For example our flexo presses can't do shrink sleeves, so they will go offset or digital. Or where we print labels glue-side or with metallic inks, we will choose flexo. Other factors include quality. If there are white-out reverses and vignettes which require digital, that becomes part of a discussion with the customer, since digital is more expensive.'

Unsupported film – flexible packaging and shrink sleeve labels – are a major part of Eshuis' output. While most of these jobs go offset, Eshuis has pioneered the digital printing of shrink sleeve labels on the ws4050/4500 – mainly for marketing mock-ups – and has now moved into the digital printing of laminated films, with reverse printing.

To handle these extensible films a soft tension rewinder was specially built by Danish company GM. 'There was too much tension with the vacuum box pulling the web through the press,' notes Poortinga. 'We must have the same tension as in the press. If the tension is too high the inks move with the softer material and this can cause blocking.'

Poortinga would like to see HP Indigo develop a more opaque white, as most clear film jobs require a double white hit, slowing the press down.

To support its move into digital film work, Eshuis has installed AB Graphics' first narrow web laminator developed specifically for flexible packaging. The Digilam consists of two unwinds, a gravure station for applying heat activated adhesive, a driven spreading roller, a 4-stage hot air dryer and heated lamination roller. Eshuis is experimenting with different gravure cylinder engraving patterns and coating weights.

The Digilam will help Eshuis target new markets for short run flexible packaging in the food industry, according to managing director Peter Overbeek. 'Our aim is small quantities, for example

50 meters of high quality, 6-color over-laminated film. For gravure you need run lengths of at least 500,000 meters, you would wait eight weeks and pay a lot for the gravure cylinder engraving. Many flexible packaging customers have demands for short runs and the big converters do not have this capacity.'

Overbeek uses cheese packaging as an example, where Eshuis can economically produce flexible packs of just a few slices. 'In digital there is no run limitation or register problems handling thin films.'

For the future, Peter Overbeek has visionary plans to connect end users to Eshuis' digital press facility via a fully automated 'digital highway'. 'Customers will be able to order directly from the web,' explains Overbeek. 'We want to be able to take orders directly into our production planning system for dynamic job allocation. You give us your order on Monday, and next Monday we will deliver it – and without manual intervention.' End users will have password-protected internet access to a 'model book' of the latest version of their product files.

Ideally Overbeek would like electronic access to his customers' production forecasts to link in with Eshuis' new EDP system. 'We need to ensure the protocols are correct and we must ask who would pay for the interface and to maintain it, but such a system is the future.' ■

| File | Job | Description | Size | Quantity | Substrate | Start time | Stop time | Elapse time | Product note |
|---|---|---|---|---|---|---|---|---|---|
|  <br>  | 1<br>+<br>2 | Curver outdoor box<br>Curver outdoor box | 147x110<br>147x110 | 3,000<br>3,000 | PE<br>PE | 09:00 | 09.27 | 00.27 | Start production |
|  | 3 | Pet foods - MultiFit | 93x93 | 6,250 | PE | 09.30 | 09.46 | 00.46 | |
|  | 4 | Pet foods - Yarrah Chicken | 93x93 | 6,250 | PE | 09.46 | 10.01 | 01.01 | |
|  | 5 | Pet foods - Espino | 93x93 | 6,250 | PE | 10.01 | 10.16 | 01.16 | Roll change (5mins) |
|  | 6 | Polycell - no sanding | 147x153 | 2,060 | PE | 10.21 | 10.42 | 01.42 | |
|  <br>  | 7<br>+<br>8 | Albastine - Masilla Flexible<br>Polyfilla - one fill | 147x153<br>147x153 | 1,030<br>1,030 | PE<br>PE | 11.07 | 11.29 | 02.29 | Blanket change + Machine LUT (25 mins |
|  <br>  | 9<br>+<br>10 | Pokon - Geranium<br>M&S plant food | 136x56<br>136x56 | 7,500<br>7,500 | PE<br>PE | 11.32 | 12.03 | 03.03 | PIP change + LUT (10mins) |
|  | 11 | Fanofine food | 55x41 | 100,000 | PE | 12.13 | 12.39 | 03.39 | |
|  | 12 | Honig - Fond de Poulet | 90x330 | 1,350 | PE | 12.42 | 13.02 | 04.02 | |
|  | 13 | Honig - Consomme de Bouef | 90x330 | 2,060 | PE | 13.02 | 13.22 | 04.22 | |
|  | 14 | Honig - Bouillon de Poulet | 90x330 | 1,625 | PE | 13.22 | 13.42 | 04.42 | Machine LUT (5mins) Change substrates (5mins) |
|  <br>  <br>  | 15<br>+<br>16<br>+<br>17 | Moccona - Expresso<br>Moccona - Continental gold<br>Moccono - Decaffinated | 265x59.5<br>265x59.5<br>265x59.5 | 1,800<br>1,800<br>1,800 | MPP<br>MPP<br>MPP | 13.52 | 14.37 | 05.37 | Blanket change (20mins) |
|  | 18 | Ogrod | 97x440 | 4,600 | MPP | 14.57 | 15.42 | 06.42 | Change substrate (5mins) machine LUT and colour adjust (10mins) |
|  | 19 | Weight Watchers | 130x200 | 2,750 | PE Clear | 15.57 | 16.27 | 07.27 | |
|  | 20 | Pirates - Bath & Shower Gel | 302x203.2 | 1,350 | PE Clear | 16.30 | 17.00 | 08.00 | |

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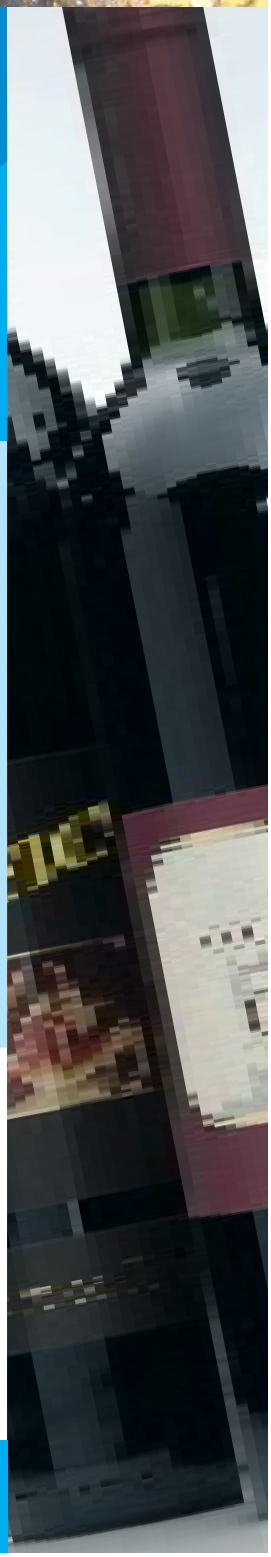

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# Finger on the Pulse

With a new adhesive, an impressive environmental strategy and a deal with Paxar Avery Dennison, these are exciting times for Pulse Roll Label Products, as **James Quirk** reports

How do you define the size of a company? Just seven years old and with 11 employees, Bristol, UK-based Pulse Roll Label Products may seem like a small enterprise. Indeed, it will be better known by some as the UK distributor for Xsys, a role it has carried out for the last five years. And yet a series of recent initiatives are catapulting it to the forefront of the inks, coatings and adhesives markets.

Pulse Roll Label Products is one of three companies under the Pulse umbrella; litho specialists Pulse Printing Products was the original company from which Pulse Roll Label Products broke away two years ago, and Pulse Speciality Products – formed in April this year – completes the trio.

In these last two years, seven new employees have joined the company, five of whom work in the laboratory. Managing director Gary Seward, who used to work for Xsys, explains that technology and R&D are of the utmost importance to Pulse: 'We are a very technology-orientated business,' he says. 'The new arrivals have allowed us to look at many different areas, and have made a huge difference to the business. For example, we are now looking into the development of biodegradable inks.'

The development of environmentally friendly products is an important part of the company's strategy for the near future. With supermarkets under increasing pressure to package goods in sustainable or biodegradable materials, Pulse Roll Label Products is using its considerable technical expertise to pre-empt the legislation it believes will affect the way packaging is disposed of.

'Biodegradable inks are very important for the future, as is sustainable sourcing of raw materials,' explains Martin Addicot, who joined the company from Mirage Inks. 'But there are no truly biodegradable inks at the moment, because of the pigments and additives. Ink suppliers are not chemical companies, and they are reliant on the raw material suppliers.

'The rules are going to change, so a cereal box, for example, may have to be disposed of differently in the near future as a result of its inks. It is therefore necessary for the industry to create inks that are 100 percent biodegradable. We are working on it, and are hopeful that we will get grants from the EU to help us create a team dedicated to it.'

> "The development of environmentally friendly products is an important part of the company's strategy for the near future"

'We can see a potentially huge increase in UV raw material costs because of their reliance on oil,' says MD Gary Seward.

In other environmental initiatives, Pulse has set up a contract with Cambridge, UK-based recycling company Saxon to remove its customers' waste. 'We are having more and more requests from customers wanting to have their waste taken away, and there is an increasing question as to whose responsibility it is,' says Seward.

Pulse has also created another company – GNB Environmental – to sell polypropylene cores to be used by label printers in place of cardboard cores. Dubbed the 'E-Core', it can

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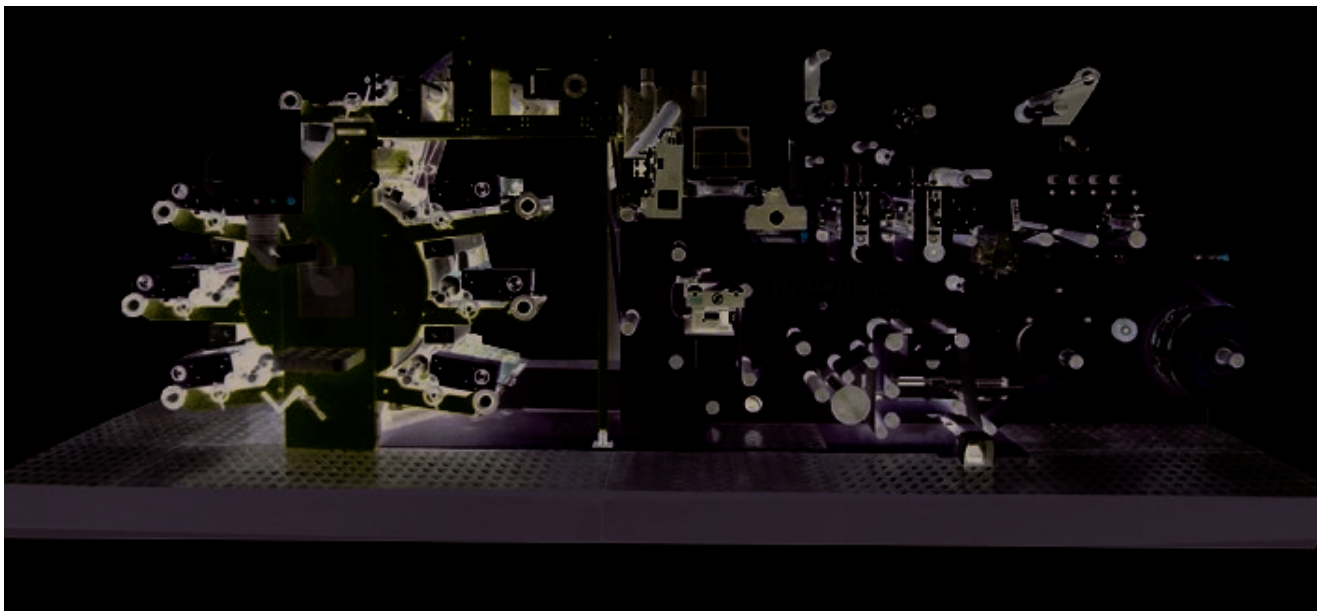

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*L-r: Alan Day, sales manager, and Gary Seward, managing director*

be reused up to 20 times.

As well as its local market, Pulse supplies various countries in Europe – such as Ireland, Sweden, Poland and Greece. It has also supplied products to countries as far a field as Kenya. A recent deal with Paxar, since bought by Avery Dennison, means that Pulse's inks are being supplied to the company in Dubai, Germany, France, Morocco, Turkey and Poland, with China also on the horizon. Sales manager Alan Day also reveals that the company is 'actively looking to further expand into Europe.'

Pulse prides itself on its flexibility – over 50 percent of its products are tailor-made to meet specific customer demands – and it is well-positioned as a small, highly technical supplier in an industry increasingly dominated by a few key names. This position and expertise also allows Pulse to bridge the gap that it believes is growing between converter and end user.

'Because print runs, in general, have come down, more and more small converters are printing things that before they were not able to,' explains Seward. 'This spread means that information about the specifics of the job is increasingly being lost en route. People are printing without asking their customers for the specifications. We can help keep an eye on the situation, to make sure nothing dangerous happens.'

'We understand the reasons why a customer might need slight variations of products,' continues Seward. 'We are happy to create them, which makes us quite unique. We are even getting raw material suppliers to create what we are looking for, which is unusual for a small company.'

'We have developed many solutions for individual companies which we are going to start to market on a larger scale. If a solution is valuable to one printer, often it will also be for many others.'

'We are a different type of ink supplier,' echoes sales manager Day, who joined Pulse a year ago after working for Siegwerk and

"Pulse is well-positioned as a small, highly technical supplier in an industry increasingly dominated by a few key names"

ExxonMobil. 'We can focus on a product and formulate different versions.'

The latest product the company has created is TurboLam – a speciality formulated UV curable adhesive for laminating a wide range of substrates. It is widely approved for the production of labels for milk and juice packaging where protection from scuffing and tearing during handling and transport are critical. 'It is formulated to provide a strong bond with minimum lay-down of adhesive,' says Day, 'and it has properties that maintain a high level of flexibility in the packaging material for onward processing.'

Other recent projects include a new cold foil adhesive, working on inks for shrink sleeves, a scratch and sniff job done for Dove, and the creation of varnishes for digital ink. 'This is a difficult, technical job which will change with each different press digital press manufacturer,' says Seward. 'Difficult, but we don't let this kind of problem beat us.'

Production is done on-site, and Seward reveals that Pulse is looking to employ three or four more people this year: 'A couple of them will be in the laboratory, because development in the lab is a key part of the company.' Such is the current success of the company that Seward expects Pulse Roll Label Products to grow by 30 percent next year. ■

# Screen with impact

Gallus' Screeny product manager **Dario S. Schmidhauser** looks at where screen can most effectively be used in added value label converting

Creating a unique label is an excellent way of enhancing and customizing products.

Screen printing is ideally suited to this purpose, enabling printers to combine strong colors, fine lines and dense color areas. Applying a coating allows special relief and other effects to be created. When combined with hot foil embossing, the options are virtually unlimited.

Scented coatings, thermochromatic inks and glitters are just a few examples of new screen printing applications. For instance, it is now possible to use thermochromatic labels to indicate when beverages are at the ideal drinking temperature.

One particular feature of screen printing is its ability to produce what is known as the no-label look. Transparent labels are applied to the packaging, creating the impression that the design has been printed directly onto the product. In conjunction with other methods, the resultant impression of superior quality has been proven to give products an edge over the competition. Screen printed labels also feature color applications with impressive optical effects and are of a quality that would be impossible to achieve using direct printing.

In addition, screen printing enables Braille to be applied to any label. A number of national and international guidelines stipulate that products damaging to health or pharmaceuticals that are intended for public use must be labeled in Braille. This can be done using screen printing because of the thick coating required.

Other effects can, of course, also be produced using this technology.

A product is much better placed to attract customers if it employs what is known as the touch & feel effect. 3D label designs (high builds) help a product to stand out from the many other items vying for their attention. It is a proven fact that customers are far more likely to make an impulse buy if visual appeal is combined with a tactile effect. This can only be achieved using screen printing.


*Opaque screen whites have revolutionized clear film labels on beer*

## Screen versus flexography

After subsiding for quite a while, the debate as to whether screen printing should be replaced by flexographic printing has taken off again. A close look at the current state of the art in flexographic printing indicates that it does not represent a workable alternative to screen printing for the reasons set out below.

- It is not yet possible to calculate how much of the theoretical volume of ink on the flexographic anilox roller is actually transferred to the substrate. The amount of ink actually transferred depends on various factors – the type of anilox roller engraving, the engraving image and angle, and whether the engraving cells are open or separated by walls.
- The properties of the ink also play a key role. Its flow characteristics, film formation tendency, viscosity and blistering are difficult to assess in terms of the end result, as are the pigment size, concentration and type.

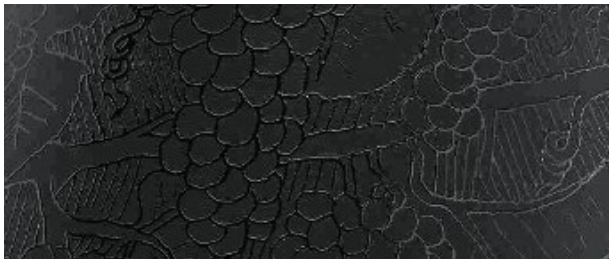
Practical tests demonstrate the substitutability limits. For each job, all the above-mentioned attributes have to be perfectly coordinated. The print result obtained with flexographic printing is not on a par with that achieved using screen printing. In concrete terms, this means numerous tests with different anilox rollers and ink types.

Process reliability is also limited. The enormous amount of testing and setup work required is disproportionately high in terms of the resultant return.

Screen printing clearly offers a greater number of surface finishing and customizing options.

As screen manufacturers, we are naturally also affected by the tougher packaging demands of end users. It goes without saying that we will help our

customers remain successful by giving them the means to continue producing unique labels of excellent quality that satisfy all the latest requirements of the market. ■



*An example of a high build relief pattern*

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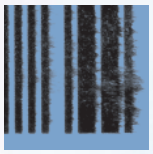

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- **Better Security, Easier Privacy Compliance**
  Spent ribbons carry all printed information with them. This is a serious issue for operations that must comply with privacy regulations. With Ribbonless Thermal, there's no such problem.

### About Appleton

Appleton is North America's largest producer and the original innovator of Ribbonless (Direct) Thermal. Our papers and films are at the heart of millions of consistently reliable labels worldwide, so you can trust that they provide the highest levels of reliability and performance — whether they're in RFID labels, pharmaceutical labels, warehouse labels or any other type of label.

**For assistance in implementing Ribbonless Thermal into your operation, e-mail tatp@appletonideas.com.**

### It's Easy to Switch to Ribbonless Thermal

Just about all thermal transfer printers — including RFID printers — are also designed to run Direct Thermal. So, if your operation currently uses thermal transfer, you can most likely run direct thermal labels without purchasing new printers.

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3. Printing Direct Thermal labels.

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*The conference highlighted the growing need for pharmaceutical products to be equipped with security technologies*

# Security issues

With pharmaceutical counterfeiting reaching alarming levels, CCL recently organized a conference to educate end users about security technologies set to impact the industry. **James Quirk** reports

Around 60 delegates from some of Europe's leading pharmaceutical companies gathered in Copenhagen, Denmark, for CCL's 'Conference on Security Issues'.

Counterfeit medicines are becoming increasingly prevalent, particularly in developing countries. The World Health Organization estimates that in areas of Africa, Asia and Latin America up to 30 percent of pharmaceutical products on sale can be fake, while the US-based Center for Medicines in the Public Interest predicts that counterfeit drug sales will reach 75 billion US dollars globally in 2010 – an increase of more than 90 percent since 2005.

"The World Health Organization estimates that in areas of Africa, Asia and Latin America up to 30 percent of pharmaceutical products on sale can be fake"

It was in this context that the conference highlighted the growing need for pharmaceutical products to be equipped with security technologies – some of the world's leading providers of which gave presentations at the event.

The conference was opened by economist Axel Olesen, managing director of the Copenhagen Institute for Future Studies – a cross-disciplinary think tank with 30 employees and 170 members.

Olesen provided delegates with an insight as to how current global trends will affect society and business in the future – specifying their possible effects on the healthcare industry. He identified 15 'megatrends' that influence our daily lives: knowledge, new technology, acceleration, hypercomplexity, globalization, commercialization, affluence, democratization, polarization, immaterialism, individualism, networks, health, environment and ageing.

'Through these trends it is possible to judge the impact on,

for example, healthcare, over the next few years,' he said. 'With ageing populations in many developed countries, and the current trend of individualism, healthcare is set to grow a great deal in the future and pharmaceuticals will be much more personalized and reveal more about the patient.'

Rob Ryckman, VP sales, Healthcare Group, of CCL Label, provided an overview of CCL's security business. 'We have nine sites around the world dedicated to security products,' he said, 'and they represent one fifth of the company's business.'

In the healthcare sector, Ryckman told how CCL provides packaging solutions for prescription drugs, generic drugs, eye care, biotechnology, medical devices, animal health and nutraceuticals products. Security products that the company provides include holograms, color shifting inks, RFID and traceless taggants.

'Counterfeiting, piracy and diversion crimes can affect your brand value,' he said, 'but there is confusion as to which technology to implement. Various concerns have hindered adoption of security technologies, including cost and ROI issues, internal resources, and misleading information from companies at trade shows.'

Ryckman also discussed the trend towards multi-layered security solutions – stating that three-to-five features are common. 'There are a lot of reliable technologies out there: you have to make a choice.'

Michael J. Ryan, strategic account manager at Avery Dennison, provided an introduction to RFID technology, saying that there were estimated to be 10 million RFID tags in the pharmaceutical market in 2006.

He discussed RFID adoption drivers – operational efficiencies; anti-counterfeiting – and barriers – cost; uncertainty related to frequency; and the FDA's reluctance to mandate RFID in pharmaceutical packaging.

Ryan also unveiled Avery Dennison's new near-field UHF technology. 'UHF had problems with interference in reading through water and metal,' he said. 'Near-field UHF writes to the tag up to 500 times faster than UHF and can be read through these barriers.'

Twan Timmermans, director of sales, EMEA, Verify Brand Inc., discussed his company's digital authentication and track and trace solutions. 'We believe in a multi-layered security approach,' he said. 'One large pharmaceutical company told us that in some African countries, up to 50 percent of anti-malaria medicines are counterfeit.'

"One large pharmaceutical company told us that in some African countries, up to 50 percent of anti-malaria medicines are counterfeit"

*Ole Gade, director and general manager of CCL's Pharma Division Scandinavia and global coordinator, Healthcare Europe*

Andrew Bonnell, European account manager for JDSU, told how the company's Optically Variable Pigment protects over 25 billion banknotes in nearly 100 countries – representing around 80 percent of the total value of the world's currency.

'The Secret Service says that color shifting is one of the only security solutions that counterfeiters have not yet been able to replicate,' he said. JDSU's SecureShift technology is currently used by seven of the top 20 R&D-based pharmaceutical companies.

Jamie Assaf, general manager at Inksure, discussed the company's covert, machine-readable authentication solutions. 'If a security technology is overt,' he said, 'it gives the counterfeiter a head start. Covert machine-readable technology (CMRT) provides a forensic layer of authentication in the field.'

Inksure offers security solutions to both converters and end-users. Founded in 1996, it focuses on taggant systems and is headquartered in Florida, USA, with an R&D center based in Israel.

A former attorney, Assaf warned that liability is becoming an increasingly important issue – particularly in counterfeit pharmaceuticals. 'If someone dies after taking a counterfeit medicine, it is possible that questions will be asked about whether the pharmaceutical company took all possible precautions to prevent that medicine from entering the supply chain,' he said.

The conference was closed by Joachim Koemer, area sales manager for Leonhard Kurz –manufacturer of hot stamping foils. He discussed holographic solutions and brand protection, and told delegates that counterfeit or pirated goods now represent 5-7 percent of world trade, according to EU-backed website 4ipr.com – For Intellectual Property Rights.

Ole Gade, director and general manager of CCL's Pharma Division Scandinavia and global coordinator, Healthcare Europe, said: 'Liability will become more of an issue in the future as the rise in counterfeiting continues. This recent conference gave our customers, sales force and partners a comprehensive insight into the reality of the future and a presentation of our collective capabilities to fight counterfeiters and protect brands through innovative security solutions.' ■

# True colors

A 'true dot' digital proofing system popular with commercial offset printers is making the move to narrow web flexo, as **Andy Thomas** reports

JFM Plates in Manchester, UK, a specialist flexo plate maker for narrow web printers, has become one of the first companies in its field to adopt the Star Proof digital proofing system developed by Compose Systems. Star Proof can produce 200 lpi contract proofs on inkjet printers with the dots that will print on press.

'Continuous tone proofing might produce a proof that looks good, but you can't do basic adjustment,' says Mark McKee, owner of JFM Plates. 'Ultimately, you can't really trust what you are seeing and you can't guarantee the final results. Star Proof has provided a dramatic difference in the quality and reliability of our proofs. The accuracy and sharpness of the dots, the ability to physically see the dot structure or rosette on the proof, is exactly the same on the print. We get 100 percent accuracy every time.'

Star Proof's analytical engine, Actual Dot, analyzes the CMYK dot patterns and screen angles of high resolution separations and reproduces these by creating arrangements of hard dots on the proofer, down to rosettes, fine line art, text down to 1pt, and defects such as moire patterns.

Star Proof incorporates a range of features of particular use to flexo printers. The Extreme Dot Gain feature, for example, reproduces the minimum and maximum dots that the press can hold, and predicts the halo effect on solid areas - where ink is forced to the edges and away from the centers as the flexible plate goes through the nip of the press.

Also importantly for flexo, Extreme Dot Gain predicts the possible appearance of hard line on vignettes, where, for example, the designer has created vignettes fading to zero but the press can only hold 2 or 3 percent minimum dots.

> "The accuracy and sharpness of the dots is exactly the same on the print. We get 100 percent accuracy every time"

Star Proof's ICS (ICC) incorporates a suite of color matching tools offering traditional color calibration along with fine controls for matching inks via color shade, calibration curve and dot gain compensation.

Inkjet printers lay down all their colors in the same pass of the print-head, but Star Proof will calculate how the separate press inks will interact so that it can simulate the final appearance. This even works for inks that will print as special colors on the press, but are simulated from CMYK mixes on the inkjet. For example, a special orange separation will be converted to magenta and yellow for the inkjet. But Star Proof retains the information that this will be a separate color on the press, and takes this info into account when it simulates the color order and ink trapping. Mark McKee from JFM Plates affirms that Star Proof has taken the guesswork out of his spot color proofing. 'We've particularly benefited from Star Proof's ability to proof special spot colors – the crisp whiteness is incredible.'

McKee points out that depending on the age of the equipment and the efficiency of the operation, in flexo you are always faced with the need to compensate at the repro stage. 'For example, if you have an apprentice printer who is running a label job on an old printing press that has seen better days, the results are going to be sloppy. Using old proofing methods, you got a proof that looked good but didn't even resemble the finished product. Star Proof has the ability to mimic hindrance or problems with old equipment or printers, and deliver a proof that is fully realistic.' ■

**Open systems**

The Star Proof system is based on the 1 Bit TIFF file format and is designed to be open to a wide range of inkjet and offset/flexo CTP devices. Mark McKee's set up at JFM Plates consists of an Apple G5 and an Epson 4800 inkjet printer with eight ink cartridges, three of which are black – dense black, gray/black and a light black.

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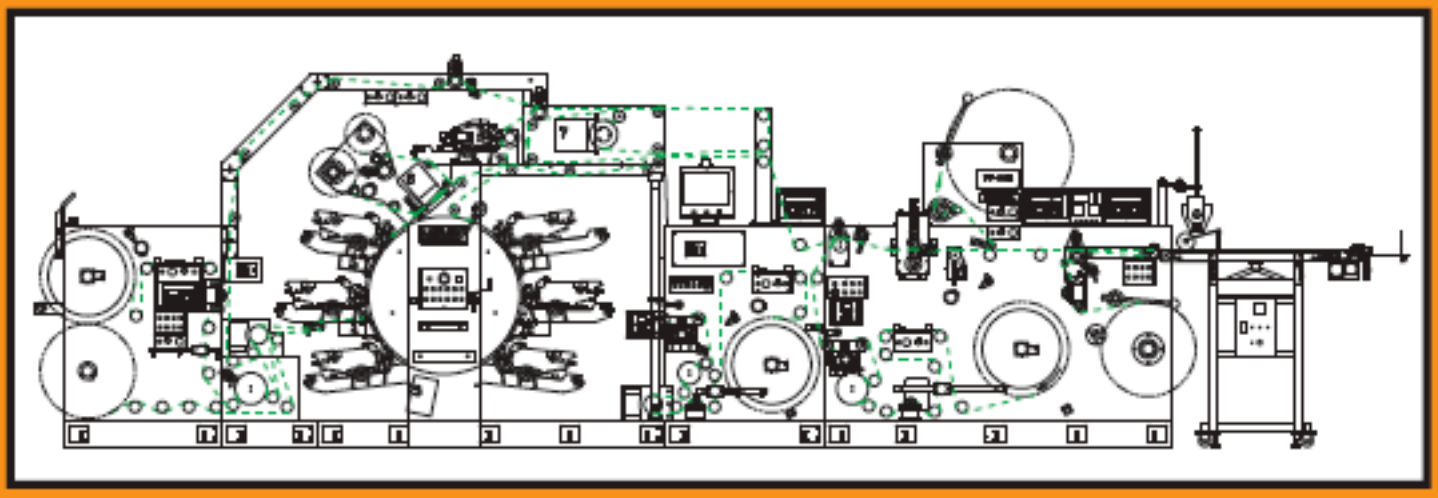

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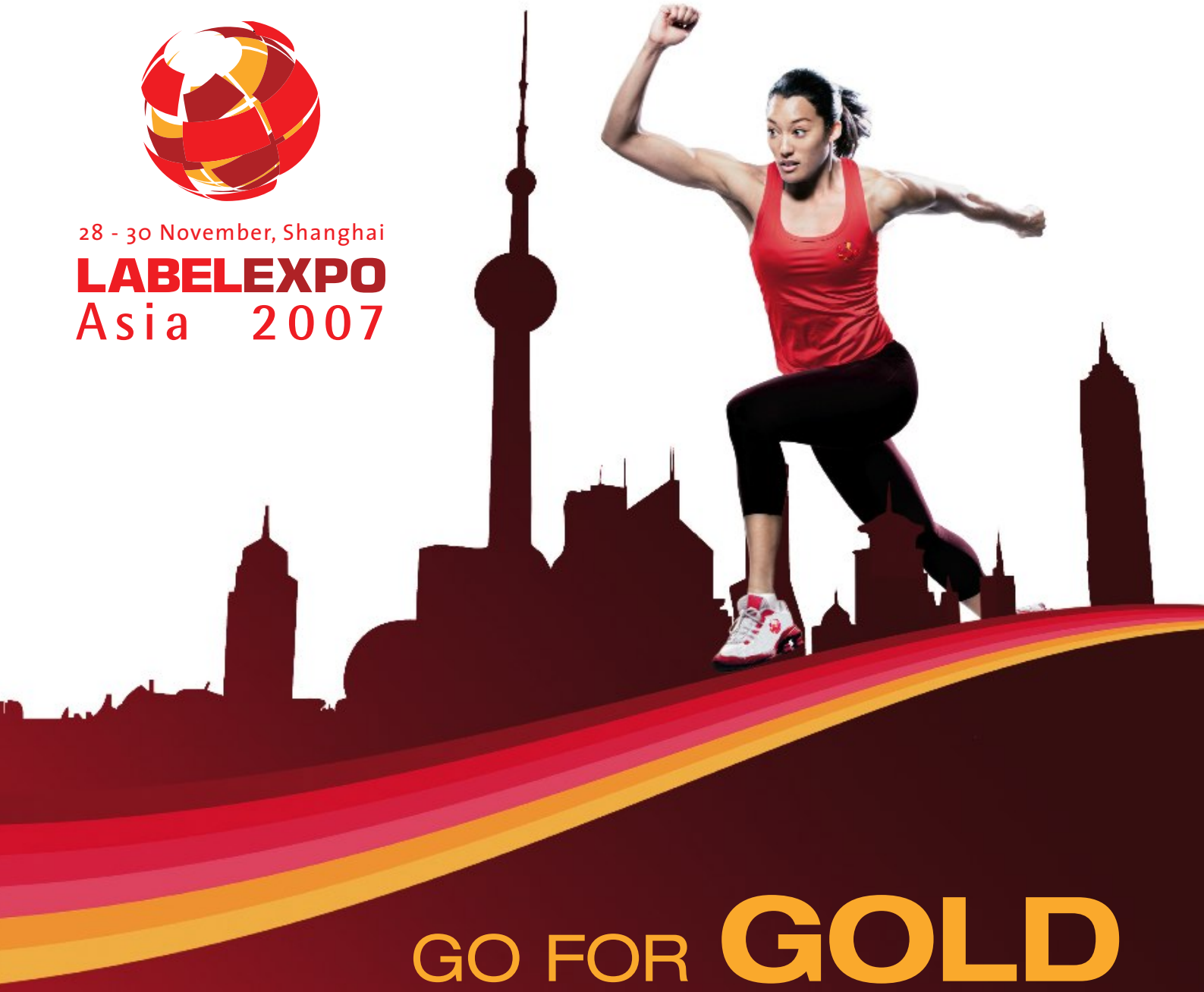

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# Green Bay getting Greener

With the launch of a recycling-compatible adhesive, Green Bay is looking to raise its Green profile. **Danielle Jerschefske** reports on the company's program and the wider question of environmental standards for paper labels

As end user demands for more 'environmentally friendly' packaging grow more strident, Green Bay Packaging is seeking to position itself as a key supplier of 'green' materials. Its most recent development is a line of Recycling Compatible Adhesives (RCAs).

Standard, or non-RCA adhesives, can create big problems for paper recyclers. They cannot be broken down like paper, and have a chemical makeup which causes a gooey mess to build up on the recycling machinery, leaving defects in the paper product.

The Tag and Label Manufacturers Institute (TLMI) has established a testing protocol for more recycle-friendly adhesives, known as RCA LRP 2v5. Both of the RCA adhesives in Green Bay's product line meet these TLMI standards. The general purpose, permanent RCA adhesive 760S, and the hard, repositionable RCA adhesive 548S can be used on a variety of substrates for use in flexography, letterpress, inkjet, laser, and thermal transfer printing.

In addition to this new product line, Green Bay Packaging has created a Green link on its webpage to better help its concerned customers navigate through the company's other eco-friendlier offerings. 'We are getting ourselves into position for the Green product demand', says Patricia Mulvey, marketing manager. 'We are certainly getting more interest and receiving more phone inquiries than ever before.'

> "We are getting ourselves into position for the Green product demand"

Mulvey says that customers want to know if their paper is SFI or FSC certified –Sustainable Forestry Initiative, Forestry Stewardship Council, respectively. Consumer product companies ask for this information from their printers, so the responsibility is, in effect, trickling down the supply chain. Many of Green Bay's suppliers are in the process of certification with one or both of these regulation authorities.

Although certified paper costs more, Green Bay feels it is seeing a paradigm change in the industry. 'People are becoming conscious enough about it that they are willing to spend more,' she says. The company is even anticipating a demand for future environmental audits; it is in the process of figuring out how to mitigate the environmental effects of its manufacturing processes.

For label converters, the higher costs of 'Green' products do pose a dilemma. They must find a way to deal with increasing price pressure from suppliers, while responding to CPC's who want more eco-friendly products - but at the same low cost.

If converters are to survive this squeeze, they must come up

## "The label may allude to SFI certification, but cannot explicitly use SFI anywhere on the label"

with a solution for themselves that is also a valuable, cost-saving solution for their customers. In Issue 6, L&L will speak to a converter who has fashioned just such a solution.

### How do the regulation authorities work?

To help understand this critical subject, let's use a hypothetical scenario to describe the process, as explained by Jason Metnick, director, market access and product labeling, SFI:

P&G (let's say) calls its printer, PrintPlus – which is not an SFI-certified print house – to inform them that they would like to have their shampoo labels printed on SFI-certified paper. So, PrintPlus now calls its paper supplier, Tree Me, to find out what they have available that is SFI certified. Once PrintPlus establishes that Tree Me can fulfill an order for SFI certified paper, they place that order for the quantity required to meet P&G's request.

Now for an important point to remember: PrintPlus can certainly assure P&G that the paper is SFI certified; however, the shampoo label itself may not be printed with the SFI certified logo because PrintPlus is not an SFI certified company. This is what is known as the Chain of Custody (CoC). Because PrintPlus is not SFI certified, it is not included in the CoC, and therefore may not legally make this claim.

PrintPlus does have a 'loophole' it may legally use until certification is obtained: it may print what percentage of the label paper is produced from a certified source. For example, if the label is made with 40 percent SFI certified paper, the shampoo bottle labels may read: 'This label is made with 40 percent certified paper'. In other words, the label may allude to SFI certification, but cannot explicitly use SFI anywhere on the label.

There must also be a CoC in order to claim SFC certification; the above scenario is applicable for the use of the SFC logo, initials and title as well. ■

### Change is on the horizon: environmental paper revolution has begun

The Environmental Paper Network released a report detailing the environmental impacts of the paper industry. The State of the Paper Industry is a comprehensive report addressing fiber sourcing, recycling, consumption, and paper production.

A Green wave is sweeping North America - from Victoria's Secret to FedEx-Kinkos, companies are increasing their recycled paper usage, scrutinizing forest practices, and examining their impact on the global climate.

**The report finds:**

- The paper industry is the 4th largest contributor to CO2 emissions among US manufacturing industries
- Paper accounts for 25 percent of landfill waste
- Paper production is one of the world's largest consumers and polluters of fresh water
- Growing market demand for environmentally responsible paper products
- Growing acreage of Forest Stewardship Council certified forestry

### Bio-buzz words

- Sustainable Forestry Initiative (SFI) – a North American-based forest certification program that is governed by an 18 member Board of Directors. SFI was founded on the premise that responsible environmental behavior and sound business decisions can co-exist. It developed a set of standards and measures for the growing and harvesting of trees, including the long-term protection of wildlife, plants and water supplies.

- SFI Standard – reviewed every five years, it spells out the requirements for SFI compliance based on nine principles 'that address economic, environmental and legal issues'. The current Standard is effective 2005 – 2009.

- Chain of Custody (CoC) – offers an accounting system for tracking and communicating the content of the wood harvested on certified lands straight through to the end product. The goal of CoC is to eliminate illegal, controversial, or unknown sources of wood in a company's procurement system.

- Forest Stewardship Council (FSC) – an international organization that brings people together to find solutions which promote responsible exploitation of the world's forests. Its product label allows consumers worldwide to recognize products that support the growth of responsible forest management.

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# If you can't complete this crossword...

**DOWN**

1 The individual element in the halftone printing process (3).

2 The contact point between two driven rollers (3).

3 The image transferred from the printing plate or cylinder to the label substrate (10).

4 Occurs when the adhesive squeezes out from under the backing in a pressure-sensitive laminate (4).

5 The process of raising a design or image above the label surface using a set of matched male and female dies (9).

6 Estimated time of arrival (3).

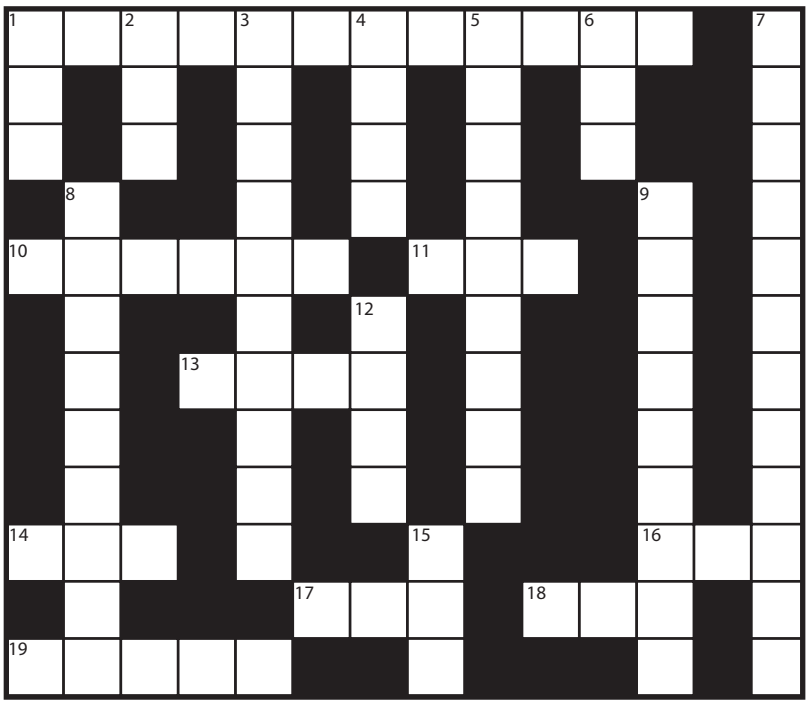
7 A set of characters or bars in a bar code which represents both alphabetic and numeric characters as well as symbols (12).

8 The areas of a printed image which are nearest to white (9).

9 Metal roller or drum that is cooled internally with water (5 and 4).

12 Abbreviation commonly used for capital letters (4).

15 Label placed inside the mold before a plastic bottle is blown (3).



**ACROSS**

1 A photoelectric instrument that measures reflected or transmitted light on colors or printed products (12).

10 A term used to describe various printing defects, such as spots or imperfections in the printing (6).

11 International Organisation for Standards (3).

13 The administration in the US Department of Labor that ensures a safe and healthy workplace (4).

14 The acronym or abbreviation used for primary colors of light (3).

16 A method of reading (scanning) printed text copy with software capable of recognizing and converting the scanned images into an electronic equivalent (3).

17 Original equipment manufacturer (3).

18 Thickness measurement of thin materials used in some countries (3).

19 Material to be printed or converted. Also referred to as the substrate (5)

# You are what you ship

**Andreas Sasinski,** general manager marketing and sales for Melzer, advises converters how to achieve 100 percent functional RFID labels

As a machinery vendor, we must ship 100 percent perfect products every time to every customer. No re-runs, no over-runs, no acceptable defect margin, no 'we'll catch you next time'. We do get more time to get an order right and a lot more money than a RFID label converter does for their products, so our perspective is different.

Nonetheless, when a converter adds to its capabilities by becoming an RFID product supplier, a key guiding principle must be assuring that they secure methods that guarantee they manufacture 100 percent functional RFID products. Early on, we heard statements such as 'I'll offer two price levels – non-inspected and inspected RFID products'. Competitors who had efficient systems to remove defects before integration would match the pricing of these Walter Mittys and they were finished.

The RFID web page of a leading supplier of RF tags to the pharmaceutical and airline bag tag markets illustrates this. It is completely dedicated to a discussion of 100 percent functionality. No mention of great price, great service, extraordinary design or delivery – they just work. And they get the contracts.

While this may be obvious for some, market conditions exist which may lead many to believe that there is an acceptable margin for error when shipping finished product.

First, every major encoder/applicator machine has provisions for recognizing a low or non-performing RFID product and eliminating it from the downstream process. However, consecutive or frequent defects will slow a high-speed line to unacceptable levels. There will also be the headache of reconciliation of product paid for but defective.

"Many believe that there is an acceptable margin for error when shipping finished products"

Second, is the difficulty most RFID product and integration machinery will have recognizing and dealing with defective transponders in the process of adding them to an RFID product. While former abysmal UHF transponder defect rates of 1-30 percent have improved with Gen2, these are essentially electronic components and will always contain a certain level of defects in a supply roll. Dry (non-adhesive) inlays are always integrated onto the carrier substrate of a roll and cannot be doctored out of the roll if defective. RFID inlay suppliers can identify and mark bad tags, but it is left to the converter to remove them from the production stream.

**So, hopefully, we now agree that:**

- The product you ship to your customers must be 100 percent tested and functional
- The raw inlay materials you obtain will obtain a certain level of defects
- You as a converter must establish an efficient way to eliminate these defects from your final product

The various ways to accomplish step three follow. The right choices made here separate the winners from the money pits.

**In order of preference, one could:**

- Inspect and select only good inlays to apply to pre-printed or blank RFID products on an off-line dedicated machine. As an offline unit, this machine is built to handle sensitive electronics. It will have capabilities to choose only functional inlays of any frequency and apply them in precise register to every RFID product, regardless of how many defects occur consecutively. A true one-step process that provides the 100 percent inspected quality required with the lowest cost per unit. Very high outputs can be achieved through the use of this machinery running up to four RFID products wide.

- Read and sort inlays on-press and add good inlays on-press. The ability of this method to add tested inlays to every RFID product is predicated on the amount of consecutive defects

and the repeat between RFID products. While most bad inlays are pulled from the production stream, good RFID product web keeps on feeding. This limits your ability to assure all RFID products get an inlay, so an additional inspection and doctoring step is needed. Additionally, RFID product print has not yet been inspected and good inlays may be applied to bad RFID products.

- Add every inlay to every RFID product on dedicated, purpose built RFID integration machinery. Promoted as a high output process, certainly an improvement over the every RFID product on-press solution. Again, to meet the first basic fact requirement you'll need an additional inspection and doctoring step afterward with all of the associated labor and costs.

- Add every inlay to every RFID product on-press, then run through a second off-line process to weed out defects. A press not designed and engineered to run electronic components is likely only to add to the defect rate. There will be lots of extra processing time and you now have the unique privilege of duplicating the waste rate of the inlays in your good printed substrate. With a really good yield of 95 percent good inlays, this may not a big deal at 100,000 RFID products but at 100,000,000 RFID products, that's five million good, printed RFID products in the trash.

- Pre-sort the inlays on a dedicated read and splice machine, then insert. Quite complex, slow, and expensive machinery to do so and one still has no assurance that the inlays will work when they actually are ready to be joined to a RFID product. Again, a lot of extra time and labor.

RFID products continue to be a strong new market with many niches existing besides the 4" x 6" supply chain RFID product. Profits go to those who choose the most efficient and flexible conversion method to handle the next new configuration right around the corner. ■


## Installations

**Labeltronix**
**Omega Digicon HSE**

AB Graphic International, Inc. has supplied Orange, California-based Labeltronix with an Omega Digicon HSE converting line for the production of high quality labels with foil and embossing decoration.

Commenting on the reasons for the purchase, John Trail, president of Labeltronix said: 'The Omega Digicon enables us to hot stamp, varnish, emboss and die cut digital and flexo printed webs producing elegant labels that really make a bold presence on store shelves. Our customers in the wine, cosmetic and coffee industries are going to love the results. We can minimize waste and set-up time resulting in lower prices and shorter lead times for them.'

**Doran & Ward**
**DiMS! organizing print**

Doran & Ward Printing Company, located in Burlington, Iowa, has implemented a complete DiMS! management information system, including Direct Machine Interface (DMI) on all presses. DiMS! will be used at the company's two facilities by over 40 users to enhance workflow and increase productivity.

'Our objective was to invest in a system that would quickly allow us to apply lean concepts to our administrative processes, enhance shop floor communications to increase quality and deliver previously untapped performance data to the management team which would allow us to drive the business forward versus reacting to conditions after the fact,' said Jamie Wymer, VP sales and plant operations. 'Included with these lofty expectations was a focus on ROI, time to market, long term total cost of ownership and technology investment safety.'

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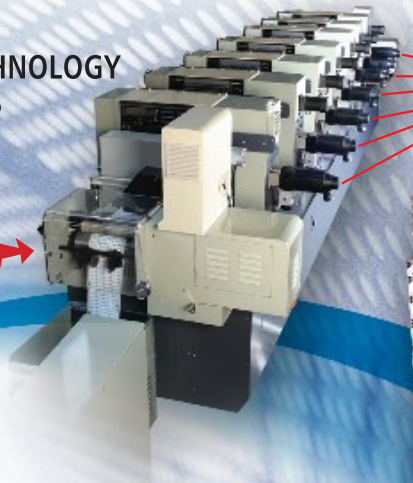

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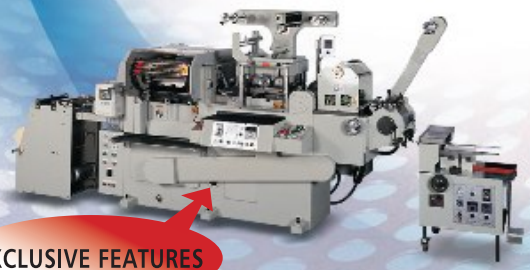

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# Global workflow

Servicing the label requirements of global garment brands has led a UK converter to a radical workflow solution which has reduced lead times and virtually eliminated errors from manual data entry. **Andy Thomas** reports

Britannia Labels, based in Leicester, UK, has a long tradition in label and packaging printing for the garment industry, supplying labels that go in or on the garment, including wash care labels, tickets, self-adhesive labels and outer packaging labels.

The company was founded in 1976 by Robert Brownhill, who is still actively involved in the day-to-day running of the business. In those days, the vast majority of UK garment production was based around the British Midlands, encouraging the growth of a local labels industry. 'Label printing back then was like having a license to print money,' recalls Brownhill. By the mid-80s the company was experiencing exceptional growth as well as the beginning of increased competition.

Brownhill realized that garment production would eventually move offshore as a result of intensified competition between retailers and the resulting pressure to reduce manufacturing costs. Inevitable globalization meant his business would no longer be about putting ink on paper or fabric, but about managing the process of transferring image, information and structure.

By the early 1990s, Britannia was well into the process of building the infrastructure to be a global player in garment packaging and labeling. It first moved into Hong Kong and Sri Lanka, followed by another ten countries across the world, Egypt being the most recent venture. Britannia now has a turnover of £20 million ($40M) and in the last two years has experienced a sales growth rate of 20 percent year on year.

In 2002 Robert's son Paul took a more active role in Britannia, bringing invaluable insights from his previous job in the retail industry. 'To stay competitive, garment retailers are constantly looking to reduce expense,' says Paul, now MD at Britannia. 'Having cut labor costs by moving offshore, they are now embracing lean 'just-in-time manufacturing' which means garment labels have got to arrive on time and they have got to be right first time, every time. The average cost of the packaging we supply per garment is around 0.5 pence – rather minimal compared to the average cost of the garment they go in or on, which is between £10 and £20 ($20-30). However, the implications of the garment not selling because the packaging was late or wrong are huge.'

Paul points out that retailers are faced with an ever-growing administrative burden of checking on manufacturing status and progress as cycle times reduce. In addition, as global brands, they are looking for consistency across countries and need to make sure that the latest designs are being used. It is estimated that on average 4-5 percent of labels arrive late or with the wrong information, while in some countries this can reach up to 10-15 percent. Britannia is currently working with a one percent chance of error and aiming to hit zero defects.

To achieve this ambitious goal, Britannia formed a technology partnership with Esko. Esko engineers integrated their BackStage and WebCenter systems with Britannia's own online ordering database and a Shuttleworth MIS to create a seamless workflow from order placement through approval to finished output.

Paul Brownhill comments: 'We use Esko WebCenter to collaborate with retailers and internally amongst the different subsidiaries of the group around the world. It has nicely slotted

***Paul Brownhill, Jane Hislop and Danny Seager***


into our online ordering system and allows us to work on and store label design templates created in Esko BackStage DesignWizard. The artwork then becomes available for all stakeholders to view, amend or download depending on their user rights. And the system is on 24 hours a day, seven days a week, which works brilliantly when you operate across different time zones. One of our retailer clients has actually saved an amazing £20,000 ($40K) a year just on distribution costs of CDs and printed manuals.'

The Esko WebCenter viewer allows fast access to the high resolution files, providing a wide range of tools including switching separations and layers on and off, measuring widths, lengths, distances and ink densities. The notes tool tracks individual corrections and documents every step of the process, which helps eliminate misunderstandings and makes the workflow fully transparent.

Danny Seager, IT manager and the architect of Britannia's online ordering system, comments: 'Clients and colleagues love being able to access high resolution visuals so fast and our global partners can easily download final artwork ready for plate output.'

## New ways for old

Britannia was previously working on lead times ranging between 5-7 days and 10-15 days. Orders were faxed, then scanned and input onto the Shuttleworth MIS. The label info would be entered manually on the MIS system and then re-entered on the design system for further processing. After the necessary approvals and checks, the files would be ready for output to film or plate before going to press.

> "For me the real wow factor is the integration we have been able to achieve between our online ordering database and the Esko BackStage workflow"

With the Esko BackStage/WebCenter workflow, the order is received electronically through Britannia's online ordering system and is automatically transferred to the Shuttleworth MIS using open standards such as XML. At the same time JDF and XML data is sent to Esko BackStage, which produces PDFs and JPEG visuals for approval by the relevant stakeholders. Plate output data is automatically generated along with the JPEG visuals. Printing happens locally in close proximity to garment manufacturing.

Britannia is already using this workflow for George, the successful clothes range owned by the Wal-Mart/Asda supermarket chain. George garment suppliers around the world access Britannia's online ordering system via the web, enter a purchase order number and a label reference and choose a delivery date. The packaging team at George has already entered generic data such as identification code, barcode, color and sizes. The garment supplier enters the quantities required as well as choosing the wash care codes, copyright statements and fiber content. The artwork is then generated in PDF format in real-time using the DesignWizard templates stored in the Esko BackStage workflow server.

'The process runs very fast. It can populate and generate ten labels in approximately five seconds,' says Paul Brownhill. 'This means no data has been entered by Britannia Labels personnel, which limits the possibility for mistakes. The layout of the file and format of the data on each individual label – such as font size and weight – gets defined and transferred around the workflow in JDF form, which means we only need to create one template for each product in Esko BackStage.'

Brownhill believes this system represents a real revolution. 'For me the real wow factor is the integration we have been able to achieve between our online ordering database and the Esko BackStage workflow. This new fully integrated way of working is helping us improve our service levels by reducing the time to process orders and allowing us to potentially eliminate errors completely. It helps us minimize bottle necks and improve global consistency by allowing us to output plates fingerprinted to a specific press.' ■

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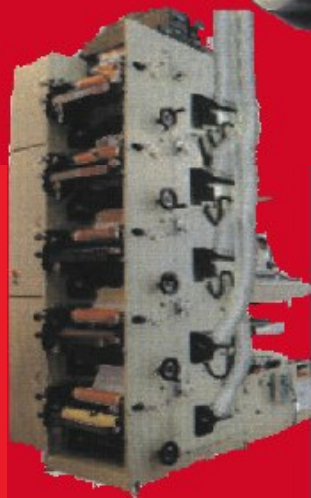

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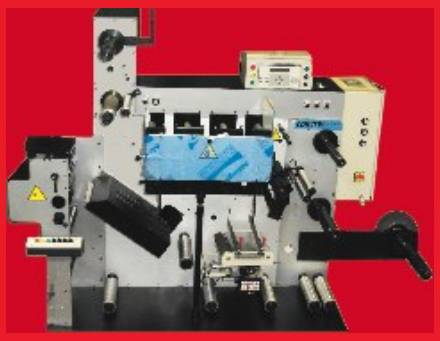

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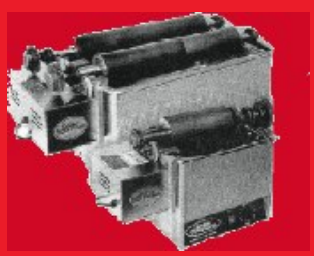

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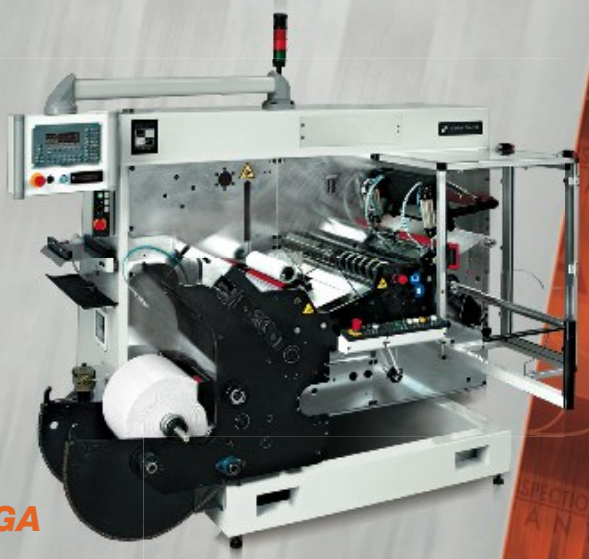

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# Plates and processors

With new developments in hybrid imaging systems, water-wash processing and both conventional and digital plates, **Andy Thomas** looks at what the major manufacturers are offering

Label converting places uniquely complex demands on printers, who often have to handle a range of different print processes on the same press – particularly combinations of letterpress, flexo (solvent, waterbase or UV), rotary offset plus screen, hot foil, embossing and the rest of the value-added in-line converting processes.

On the pre-press side, this means converters are often faced with multiple plate-making workflows, mixing fully digital CTP (computer to plate) workflows with CTF (computer to film) followed by analogue plate making, plus all the associated processing steps for each print process.

Now there is a possible solution in the recent development of hybrid systems, which allow the imaging of multiple plate types on the same machine within a fully digital workflow.

Luescher, for example, has developed the FlexPose! hybrid CTP thermal imagesetter, which can process varying sizes of flexo, letterpress and offset printing plates. The company has now launched its own water-washable plate materials for imaging on the FlexPose! under the brand names FlexPlate!, LetterPlate! and SteelPlate! (sic).

Plates do not require accurate positioning on Lüscher's internal/external drum and therefore can be easily and quickly placed in the imaging unit. There are no centrifugal forces caused by different plate thicknesses and sizes.

Printing plates for flexo and letterpress are imaged, washed, dried and ready for use in five steps, and both the water and the plate remain free of solvents during the entire washout process. Offset plates are made in the usual way.

Stork Prints has meanwhile launched its Hybrid Helios laser engraver, a system suited for the filmless engraving of flexo, offset, RotaMesh and, for the first time, RotaPlate meshes. The unit accommodates the latter by means of a magnetic mandrel.

AV Flexologic has developed water-wash processing systems which cater for both flexo and letterpress digital plates. Its latest developments include the Aquasupreme XL plate processor along with the Cosmolight DS water-wash digital flexo plate (CTP), and Printight DF/DM water-wash digital letterpress plate (CTP). At Labelexpo Europe, the Cosmolight and Printight plates were both processed live on the Aquasupreme.

> "Now there is a possible solution in the recent development of hybrid systems, which allow the imaging of multiple plate types on the same machine within a fully digital workflow"

### Water everywhere

AV Flexologic is certainly not alone in promoting the quality and environmental benefits of the most modern water-wash systems. Toray has launched the Torelief RapidoFlex, a hybrid UV flexo water wash printing plate which can be processed in

**DuPont expands digital plate portfolio**

DuPont Packaging Graphics has added to its digital solvent photopolymer plate product line. The Cyrel DPR is a medium-high durometer digital solvent plate that can stand up to a long print run and still produce consistent results. The plate has been designed to perform with a wide array of substrates and inks. The work we have seen printed with DPR demonstrates excellent reproduction of both halftone and linework elements,' said Ray Bodwell, North American marketing manager, Packaging Graphics. 'And, as with all digital Cyrel plates, the uniform LAMs layer means users can switch easily from one DuPont digital product to another without readjusting their laser power.'

*Jetline 700 CTP*

existing letterpress plate processing equipment. RapidoFlex is also available in black mask CTP format.

On the processor front, the company has launched the Aquaflex AQF 660 with a patented plate transportation system. Plates placed in the processor after exposure receive brush action wash out, rinsing, post exposure and de-tack treatment. The manufacturer claims that AquaFlex processors combined with the new RapidoFlex water wash plates can deliver a dry-to-dry press-ready plate in less than 20 minutes.

The Toreflex series of flexo plates are all water wash systems, and are now available for water-based inks systems, UV and co-solvent ink and for use with either aqueous or UV-based flexo varnish coating stations on offset printing presses. All the plates have a resolution capability up to 175lpi.

Degraf has pushed hard its fully automated water-based polymer processing systems, as well as systems for other ink chemistries. Its latest processor, the Concept 201 HTD, is a complete production line for solvent flexographic plates.

## Digital letterpress

Digital letterpress plates are growing in popularity among top-of-the line label converters, particularly in Europe and Asia, where the installed base of letterpress machines remains high. Alongside the launch by AV Flexologic of its Printight digital letterpress plate, Jet Europe has launched its Jet Line 700 CTP compact letterpress plate processor, which integrates all post-exposure plate processing steps into a modern in-line format. An in-line pre-rinsing station removes the black CTP layer before the actual washing of the plate. Jet Line 700 CTP is compatible with plates up to 700 mm width, while the Jet Line 500 processes plates up to 500 mm width. Jet is also offering water wash digital letterpress plates, along with digital UV-flexo and dry-offset plates.

## Seamless sleeves

Seamless polymer sleeves imaged and processed in-the-round have up to now been thought of as the preserve of wider format flexible packaging converters. But DuPont has targeted its Cyrel round Thin continuous polymer sleeve specifically at tag and PS label printers, as well as for shrink film labels and flexible packaging. Combined with a compressible adapter, the sleeves are intended for both line and half tone printing and are suitable for use with alcohol, water-based and UV inks.

In terms of processing, no back exposure is required. Imaging is carried out by ablating the LAMS mask on the sleeve, with the main exposure forming the image. The unexposed photopolymer is removed from the non-image areas, followed by hot air drying.

## Analogue strong

Despite the push to digital workflows across all printing processes, the quality of analogue flexo plates continues to develop. Asahi recently launched its AFP-SF medium-hard flexo plate, designed to print on a wide range of substrates – and especially on rough surfaces. Its balance of surface tension, plate hardness and recovery behavior produces good area coverage with low dot gain in the middle tones and well defined highlight areas, says the company. As is increasingly the case, the plate available in both digital and analogue versions.

MacDermid Printing Solutions is now selling its new MAC medium-hardness analogue uncapped flexographic printing plate, claimed to show exceptional chemical resistance to solvents, inks and environmental constraints such as ozone and high temperatures. Also new from MacDermid is the Digital Rave hard plate – designed for CTP applications – and ROK, a hard analogue plate.

## Kodak back

An interesting recent development has been the entry of Kodak into the flexo CTP fray. Spurred on by its acquisition of Creo – a long time player in this market with its Thermoflex fCTP systems – Kodak has launched an fCTP system which images a carrier sheet before lamination to a plate, followed by conventional UV exposure and post-processing. Kodak claims its Flexcel NX Digital Flexographic System halves current fCTP imaging times and is capable of forming dots as small as 10 microns.

"Heafords has developed a new microscope inspection system based on white light interferometry"

The integrated Flexcel system consists of the NX 830 Thermal Imaging Layer, a choice of Trendsetter NX Narrow or Mid imagers, a laminator, digital flexo plates, and the Prinergy packaging workflow system.

The Thermal Imaging Layer is imaged by Squarespot technology to provide high resolution images with highlight dots down to 10 microns.

'The improved resolution allows flexographic printers to reproduce on press subtle gradations in highlights and use all levels of gray,' says Vic Stalam, director of market segments and VP packaging products at Kodak's Graphic Communications Group.

The Trendsetter images at up to 9.5 sq meters/hour, and includes TIFF-based front end software which allows operators to check files before imaging and optimize media usage for both plate imaging and proofing applications.

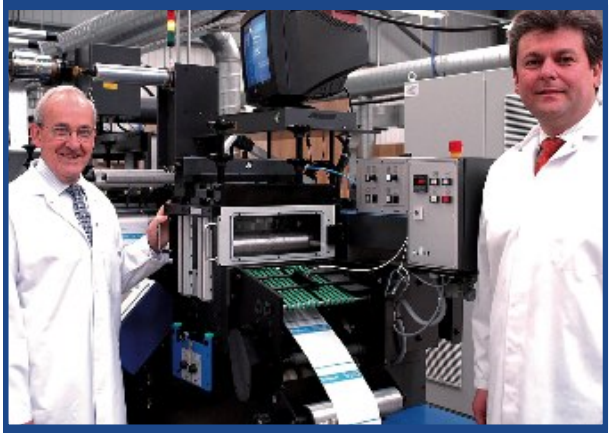
Post imaging, the Thermal Imaging Layer is laminated to the NX digital plate – manufactured by MacDermid Printing Solutions. The lamination ensures intimate contact between the layer and the plate, eliminating all oxygen and allowing full amplitude, flat top highlight dots to form during UV exposure, according to Vic Stalam. 'Dot gain is extremely consistent even with over-impression. In addition, plates resist plugging with ink, decreasing costly downtime for cleaning, which often destroys highlight dots.'

### Plate mounting

Faultless flexo platemaking must be followed by accurate mounting, and long time specialist Heafords has developed a new microscope inspection system based on white light interferometry. This very precise measuring instrument has a range of applications in flexo, gravure and offset. The company is also selling more of its TT Cobra plate mounters for sleeves as well as cylinders, as more narrow/mid-web presses are built to handle sleeve workflows.

Systec Converting's new Midi Serie plate mounting unit, meanwhile, features a patented manual or motorized reading system for camera position. The company's established Virtual Image system has been integrated with new functions including print proof simulation on screen (Virtual Proof), allowing users to verify correct alignment of all plates. All the company's plate mounters are equipped with the Photosplit system and the Virtual Image system, which allow the operator to align plates without crosses or microdots. ■

## Installations



*Barry Pettit, MD (left) and Francis Milne, sales director at the Gallus EM 280*

### Abbey Labels Gallus EM 280

Abbey Labels, based in East Anglia, UK, has installed a fourth Gallus EM 280 press to meet the requirement for extra capacity and to produce added value labels. The company has grown by 20 percent since last summer and was at full capacity before the new press arrived.

Abbey's EM 280 prints up to nine colors in one pass and can add cold foil or laminate. It also has 'delam-relam' ability, which allows it to print onto the adhesive side of a label so that information, such as cooking instructions, can be read on the reverse side. An over laminate film can be added to give labels a protective coating and extra strength, ensuring that the print is not lost due to liquid contamination. The press is also fitted with equipment which allows Abbey Labels to produce 'peel & reveal' labels.

'We are most excited about having the ability to produce peel & reveal because this type of label, already popular in the food industry, is spreading to other markets,' says Barry Pettit, managing director of Abbey Labels. 'It is also great to be able to add foil as designers love it.'

Pettit says the new press' capabilities have already won Abbey new business. 'We won our new US-based client, which has moved into the UK market, because we have an excellent facility here but having the new laminating and peel & reveal capability definitely encouraged them to come to us.'

Certified by the British Retail Consortium (BRC) for food labels, Abbey Labels also provides labels for customers in a range of other industries including cosmetics, pharmaceuticals, FMCG, industrial and chemical, sports, finance and banking, publishing, manufacturing, promotions, transport, waste recycle management and security.

# Training – a vital need

**Mike Fairley** suggests a program for formalizing an education and training program for the worldwide label industry

Over the past thirty years the label industry has expanded rapidly as new label materials and technologies are developed and globalization accelerates.

However, education and training has not evolved as fast as the industry itself. There are limited international education and training standards, poor availability of relevant training modules, or few organized global resources to meet the growth in label industry personnel, their knowledge and skill requirements, or their ongoing development.

For the past three years *Labels & Labeling* has undertaken industry surveys in all the key markets where Labelexpo Global Series organizes exhibitions, summits or conferences. In virtually every market surveyed to date, 'education and training' is identified as one of the main industry needs required to stimulate further growth and development of the industry for the future – whether it is for an existing and well established label market such as Europe or North America, or in the newer, emerging markets of the world such as India, China, Latin America, Eastern Europe or South East Asia.

Interestingly, this need for education and training does not come from a lack of knowledge in the industry, but more from a lack of any formalized international education and training programs or systems that label companies can easily adopt, follow and implement so as to have a global education and training system.

Such a system would enable any label-related company – whether an industry supplier or converter – to follow, say, a series of education and training modules that would formalize and track the development of every employee in the industry, wherever they are employed and in any country. Modules like this would utilize internal company personal to pass on knowledge and skills, monitor and sign off stages of training, so enabling every person entering the industry to have a logbook that records and monitors their development and progress. These logbooks would be transferable between companies and sections of the industry and could follow each employee throughout his working life if required.

Existing external training resources such as schools and

## Reaction from L&L.com

"This is a great idea, particularly for smaller west coast companies. As most of the training programs are focused in the eastern part of the US, it is cost-prohibitive for us to send many personnel"

**Cammie Smith**

colleges, industry training centers, supplier training and technology facilities, conferences, seminars and workshops, can all still be utilized with the logbook scheme, signing of modules as education and training takes place. Visits to paper mills, film extruding plants, adhesive coaters, ink makers, packaging companies, label users, etc, can also be incorporated into the training program – but now in a more formalized manner.

It is to provide this global education resource, with a standardized system of modules, encompassed into an employee's individual training logbook, that an outline industry training program is being developed. Designed by renowned label industry expert Mike Fairley, it is based on his near 40 years of experience in education, industrial training, courses, seminars, workshops and in-house presentations, visits to converters and suppliers, and from undertaking all the survey analysis. This initial basic program being created is being based on 20 identified modules.

### The basic module approach

In order to create a global approach to education and training, the main basic level knowledge and skills needed to grow the industry and develop individuals has initially been proposed as being divided into 20 modules, each covering a particular aspect of knowledge requirement or industry sector; for example, label materials, label printing processes, inks, pre-press and plates, etc. Not all employees will follow all modules; only those most relevant to their particular job or department, but these can be added to as training or responsibilities grow.

On joining a company the new employee would sit with the person or persons allocated the responsibility for their development and go through the modules to build up a specific training program. This might commence with just one module, or even one part of a module. The responsible human resources or training manager, department manager, supervisor, etc, would then monitor and sign off the training topics and modules as the employee progresses.

### The range of basic modules currently identified is:

| | |
|---|---|
| **Module 1** | Label history, label types and label technology solutions |
| **Module 2** | Labels substrates, adhesives, liners and coatings |
| **Module 3** | Origination, pre-press, plates and proofing |
| **Module 4** | Mechanical label printing process and techniques |
| **Module 5** | Inks, coatings, varnishes and ink drying technologies |

| | |
|---|---|
| **Module 6** | Dies, die-cutting, tooling and web finishing technologies |
| **Module 7** | Tension, register and other print quality and web inspection systems |
| **Module 8** | Label application technology, labeling systems and print apply solutions |
| **Module 9** | Methods and techniques of electronic printing using impact and non-impact systems |
| **Module 10** | Codes and coding technology |
| **Module 11** | Digital printing technology and applications |
| **Module 12** | Label properties, terminology, testing, test equipment and procedures |
| **Module 13** | Security, smart and intelligent materials, techniques and procedures |
| **Module 14** | Global organizations, standards and regulations |
| **Module 15** | International measurement systems and conversion |
| **Module 16** | Computer terminology and applications used in the label industry |
| **Module 17** | Management issues, techniques and procedures |
| **Module 18** | Label end-user applications and markets |
| **Module 19** | Special label, ticket and tag constructions |
| **Module 20** | Training and training organization |

## Reaction from L&L.com

"I like the idea of any standardization when it is related to training and education in our industry. The module format as presented could cover every element required in more detail and could be used for small one hour sessions that would incorporate not only the necessary target audience but also a diverse crowd that would use various segments depending on the group and area of interest required."

**H Cowie**

It is to be hoped that industry suppliers, current industry training organizations and associations would consider sponsoring individual modules to enable them to be kept to low cost so that all sizes of converters can afford to encompass the training scheme.

At a later stage, or maybe in tandem, a more advanced series of modules could be developed and introduced, with perhaps a more practical, operator level, content. For example, the basic module on mechanical label printing processes might be divided into more advanced and more intense modules separately covering: flexography, letterpress, offset, screen process, hot foil, etc. Indeed, individual press manufacturers might create modules for their own specific technology and build this into the overall system.

Similarly, the main labelstock suppliers might consider developing advanced modules which specifically cover filmic materials, synthetic materials, paper-based materials or VIP materials. These should be easy to integrate into the global education and training scheme.

## How to use the training modules

Once a module or modules have been allocated, the employer should review the specific topics or subjects within each individual module with the specific employee. Much of the initial knowledge content can be found within the label industry's key reference source – the *Encyclopedia of Labels and Label Technology.* This can be supplemented by other industry publications and books, through supplier literature, through internet searching, and through talking, discussion and training briefings with senior or other specific experienced company employees.

It is suggested that each topic or subject could take at least one to four weeks of study before any testing and signing off of the knowledge takes place. Re-testing may sometimes be necessary if the employee does not appear to have attained a sufficient knowledge level. Where external training, courses, workshops, supplier activities are incorporated, then the appropriate course tutor or presenter may wish to sign off attendance at these events.

It is anticipated that the module program would be integrated into existing company recruitment, development and appraisal systems.

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- Steady print quality
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## How would the program be administered?

Within the development of a global education and training program for the industry it is proposed that, because of its international resources, Tarsus should write, publish and make available the initial sets of 20 training modules – possibly sponsored by some of the leading global international supplier organizations to keep module costs for user companies to a manageable level. This would ideally be in co-operation with FINAT, TLMI, LATMA, LMAI, SALMA, JFLP and other associations and whose education and training committees would advise on subject coverage, review module content and approve completed modules for publication.

Modules would be supplied in some form of long-lasting loose leaf binder that trainees would be able to add to, collect notes or samples in, etc. Marketing of the modules to the industry would be through the Tarsus global website, Labelexpo shows and Summits and Labels and Labeling.

The role of the various association education and training bodies would be to act as overall administrators of the scheme in their respective region(s) of the world, including the accreditation of training individuals, training organizations, colleges or schools, supplier company trainers and approved instructors, and the issuing of accreditation certificates and logos that training bodies could use in their own material, promotion, marketing, etc. A modest fee might be payable to the association by each relevant organization seeking accreditation for this approval, accreditation and certification process.

Each association may also consider the issuing of certification to industry trainees that complete the basic course of industry education and training modules, together with a handbook of accredited training organizations, individuals, colleges, etc, which could be compiled an issued by the associations each year.

As a second, later, stage, it is suggested that an advanced set of education and training modules should be developed for trainees that wish to progress to more senior levels in the industry. Sales, management and other specialist areas might also be incorporated into the global scheme. In all cases, the associations would act as the accreditation and certification bodies.

A further area of consideration for associations is the possible establishment and running of short courses, workshops, etc, to meet the objectives of specific modules. In practice, to become one of the accredited training organizations and be able to run short courses and charge fees for these courses.

### The end result of developing a global training scheme would be:

- To create a total global industry scheme adopted by all the main industry associations
- To develop and raise industry education and training standards
- To approve and accredit trainers and training organizations in each region
- To raise the profile and membership of the associations through their role in industry training
- To enhance association income through administration and accreditation processes and the running of short courses
- To aid the industry in having a greater knowledge of methods and techniques for enhancing quality, performance, and added value
- To improve job satisfaction and self-worth of employees through improved job training

Feedback on this concept of a global education and training scheme for the label industry would be welcomed. It is something that appears to be badly needed, would be of considerable benefit to the industry and would raise standards for the future. If the industry really wants such a scheme it can be up a running in under a year. Let's have your thoughts and comments on the proposal. ■

## Reaction from L&L.com

"One has to have a detailed knowledge because of the many permutations and combinations that come into consideration when producing a label. This platform will help us to understand the subject in a better and more definite manner"

**Parvindar G Nauityal**

# Let the debate begin

## Ink specialist **Mark McNulty** gives his reaction to Mike Fairley's training proposal

In response to the interesting debate concerning 'Formalizing an education and training program for the worldwide label industry' I would like to offer my own observations and suggestions to this important and worthwhile initiative.

The other week I was talking to an engineer from a well-known press manufacturer at an equally well-known label converter. 'You seem to spend as much time here as me,' I joked. 'If they knew what they were doing I'd probably be out of a job,' he replied. Thinking about it afterwards I realized that there was a certain amount of truth in both our observations.

As presses have become more sophisticated and materials more diverse, ink systems have had to adapt to work in a myriad of applications whilst not falling foul of a seemingly endless stream of legal directives. But, as our industry becomes increasingly complex in terms of application processes - some machines combine four or five different applications in-line - the amount of training undertaken to support this technical progression is seldom identified as a priority.

I can remember a comment in the late 1980s from a well-known and respected owner of a UK label manufacturer suggesting that printing presses had become so sophisticated that he questioned the need for having 'printers' at all and the salaries they commanded.

In a way he was right – you can teach anybody to operate a printing machine, the same way as you can teach anybody the controls on a racing car, but how far would they get in a race armed with only this information? A case in point here: as Formula 1 cars become more sophisticated I don't remember anybody suggesting that the need for highly-skilled and experienced drivers would diminish?

Somewhere along the line our industry has lost its vision and direction with regards to training and development. As pressures increased throughout the 1980s and 1990s to cut costs in an overcrowded and competitive market it is understandable that one of the first budgets to suffer was training. This has carried on into the new millennium and is very rarely mentioned or discussed as a priority anymore. It is almost impossible to find any staff now that have undergone any sort of structured and quantifiable training – let alone somebody that has served an apprenticeship – and it shows.

It is often easier to 'poach' an experienced printer from another company than it is to train somebody from scratch. This, in part, has led to salaries in our industry that reflect the lack of experienced operators rather than the true value of the task they perform and level of skill required to contribute effectively to the whole production process. It is not uncommon here in the UK to find printers out-earning university graduates and experienced managers – is it any wonder that so many converters are looking at opening operations in other countries?

I find it both alarming and frustrating to see companies

### Reaction from L&L.com

"Working and label converting in South Africa, the above is greatly needed. It is imperative that ones objective is at educating and ensuring learners gain competence in the industry, rather than just attaining the certificate at the end of the day. Yes, Mike Fairley's initiative is a brilliant one!"

**Joseph Beattie**

**What knowledge means**

'You can know the name of a bird in all the languages of the world, but when you're finished, you'll know absolutely nothing about the bird. So let's look at the bird and see what it's doing – that's what counts. I learned very early the difference between knowing the name of something and knowing something.' Richard Feynman, US educator & physicist (1918 – 1988).

investing millions in new presses and equipment with very little thought or consideration to the training required, not just to operate the machinery, but to maximize its potential and maintain it properly.

In fairness to the converters themselves the availability of affordable quality training to a recognized standard is difficult to source. From my own experience most of what is on offer lacks value and fails to address the key issues that continually add cost to any company – big or small;

- Understanding color and ink mixing
- Understanding ink and ink management
- The use of additives and their implications
- Choice of anilox, anilox care and storage
- Lamp/reflector maintenance
- Troubleshooting – process of elimination
- Waste management
- Trial management

Let me take one suggestion in the list – choice of anilox. In a lot of cases whenever you ask a press operator why he uses a particular anilox for a varnish he will invariably answer: 'I use whatever is available', 'the cleanest', or, 'we always use that one'. The difference between, for example, a 6 or 7 volume anilox is only 1 gram – surely hardly worth thinking about? Wrong, the difference between these two aniloxes is that one lays down more than 15 percent more varnish than the other. Now, imagine that your ink supplier came in and told you that he was going to increase the price of your varnishes by 15 percent – no doubt it would be quite a short conversation!

Has anybody bothered to try an even lighter anilox? Could it be that on some jobs a 5.5 or 5 volume would be sufficient?

This is where proper and relevant training can have an immediate and noticeable effect. If a company is spending £50,000 a year on varnish when really he should only be spending £42,500 then any investment in training would be instantly repaid.

Having worked on 'both sides of the fence', I can look at problems from a number of angles. The points I identified earlier probably account for 50-75 percent of all downtime and excess cost. By addressing these issues and their root causes - lack of information, general ignorance - a label producer will see an immediate impact in terms of reduced downtime and wastage.

I understand that the average label producer may not have the luxury of being able to cover for somebody that is attending college. Equally, the average employee may not have the time to attend a college or institution when he is already working 10-12 hours a day as is common practice in many label houses. Added to this is the eternal conundrum, 'do we invest time, effort and resource into an individual who may well use this experience to leave the company and find another/better paid job?' I would hazard a guess that if a company has shown some sort commitment to an employee's future then that employee is more likely to stay with the company than look elsewhere.

For any training to be effective and popular it has to be tailored to meet the needs and circumstances of both the employer and employee.

Mike Fairley has opened up a very serious and worthwhile debate on the future of our industry and the need to agree on some sort of program that not only addresses the needs and issues of today but where the industry is heading and the skills required to carry it forward. It will be interesting to see where the debate moves to next. ■

**About the author**

Mark McNulty has worked in the narrow web/labeling industry for 25 years, in positions including press manager, applications manager, and UV consultant. He spent six years working for Artes Gráficas Modernas in Argentina; two years at Berry's of Westpoint (now Field Boxmore) and four years at Sicpa UK. Specializing in UV processes and applications, he operates his own consultancy in the UK. He can be contacted at mark@mjmconsulting.co.uk.

# Training in North America

Skilled press operators, along with sales and production staff fluent in narrow web knowledge, are key assets for label converters. **Danielle Jerschefske** investigates training options

There are many options for training in North America. Granted, there is not much time for a press operator to attend training institutions while working full-time, but there are options available that require less commitment.

A skilled operator is one of a printer's best assets. It is astonishing to think that in such a competitive marketplace, companies are cutting their training budgets when lack of appropriate skills can threaten a business plan.

Operators must be able to understand the mechanics of the press and be able to make an educated decision when confronted with a complicated situation.

'Look at your printing business like an airplane,' says Art Fields, from the Flexographic Trade School, 'If you purchase an airplane to fly around in you'll hire a trained pilot, because if that plane goes down, you're going down with it.'

Properly trained employees boost production, increase capacity, reduce breakdowns, lessen waste and improve overall revenues. In this global, highly competitive industry, whom do you want flying your airplane?

## 2-year and 4-year schools

There are numerous programs, both 2-year and 4-year, spread throughout the US and Canada, which offer a graphic communications education to students. The average age of students enrolled in a 2-year program is 26-28 years old and in a 4-year program around 20 years old. It is extremely important for both suppliers and printers to establish good relationships with these schools in exchange for highly trained and skilled recruits upon graduation.

## High schools

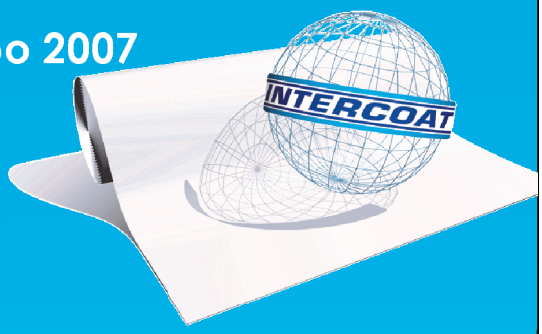
In addition, 21 high schools in North America now offer flexographic training programs to their student body. Each year a handful of these schools compete in the Phoenix Challenge, a rigorous two-day competition where students are tested on various skills ranging from plate making competency to press operating ability. Winners are given scholarships for their effort and many continue their education at the universities mentioned previously.

## Association training

For 2007 and beyond, the Tag and Label Manufacturers Institute (TLMI) scholarship committee will be focused on how to better network TLMI scholarship winners and candidates with employers in the label printing sector. The length of time these

> "Properly trained employees boost production, increase capacity, reduce breakdowns, lessen waste and improve overall revenues"

# INTERCOAT — Highlights at Labelexpo 2007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> "Sustainable printers have a unique opportunity to position themselves as a preferred supplier based on their environmental credentials"

skilled individuals remain in the label industry is currently rather low. The TLMI education committee was newly formed to deliver educational programs to TLMI members pertaining to management issues, technology and other relevant topics that are not covered at the association's regular meetings. These programs will be delivered using webinars, regional meetings and any other means deemed necessary.

In Europe, FINAT plans to create a Young Managers club to provide working exchange visits between label printing companies for the next generation of industry leaders. 'I believe this will have an important role to play in developing the self-adhesives industry in the years to come,' says Jan Frederik Vink, the self-adhesive label association's new president.

'Apart from a dozen or so major label printing companies, most label printers are small to medium sized firms, largely family-run, with up-and-coming people in junior management positions, but with no opportunity to gain wider business experience.' The club will be configured to provide this experience for future leaders.

The Flexographic Technical Association (FTA) created the Skills Standard testing process and certification program to recognize and develop press operators' skills. There are four levels: Basic flexographer (I), Flexo press operator (II), Accomplished flexo press operator (III), Expert flexo press operator (IV).

In addition to the certification program, the FTA provides numerous training seminars covering a range of topics, all across North America and often in conjunction with schools such as the DiTrolio Flexographic Institute and Clemson University.

The Printing Industries of America (PIA) offers year-round, customized courses and webinars at its headquarters in Pittsburgh, Pennsylvania. For example, a recent webinar conducted by Gary Jones, director of EHS affairs at the PIA, was titled 'Becoming a Green, Sustainable Printer'. Jones says, 'Sustainable printers have a unique opportunity to position themselves as a preferred supplier based on their environmental credentials. In addition, going Green can help your company save money as it reduces energy use and conserves resources.' It's crucial for printers to understand the benefits of obtaining training in unfamiliar areas such as the Greening of print, in order to ensure their future profitability.

**National Council for Skill Standards (NCSS)**
The NCSS is non-profit organization taken over by the PIA at the beginning of the year. Founded by a group of industry participants, it has an established set of skill standards for what an operator should know and be able to perform. It is recognized by organizations such as the FTA, GATF, PIA, and NALC (National Association of Litho Clubs).

***(Left) Quadracci Center at WCTC in Wisconsin. (Right) Mark Andy 2200 at FTS with PTS variable data system***


"In the last two shops where we gave the test, two out of 38 passed, in the other, out of 52 total employees, no one passed"

### DiTrolio Flexographic Institute

DiTrolio Flexographic Institute (DFI), located in Chicago, Illinois, offers short-term, hands-on pre press and press operation vocational training. DFI offers consulting services and non-production personnel seminars to provide general knowledge to those in the less technical area of the industry.

The school applies for government funding and was recently approved by the Department of Veteran's Affairs as a post-secondary educational institution for returning veterans. This means that veterans will be able to utilize their military educational benefits to pay for their schooling at DFI.

DFI applies for government grants in order to fund vocational students. 'The government is looking to support institutions that will place people in a job,' explains Vince DiTrolio, VP of DFI. DFI has had a one hundred percent placement rating since 2005.

In addition to grants, DFI recruits students from city, state, and federal unemployment offices. The school is on the first response team list for these government branches, which means that when a local plant closes down or moves to a different locale, DFI is an authorized institution to train displaced employees.

DFI works with the Mayor's Office of Workforce Development, the President's Office of Employee Training (POET) and the Department of Community Economic Opportunity (DCEO) in order to adequately fund the tuitions for trainees. POET is a county branch for funding, whereas, the DCEO is a way for the school to obtain grants directly from an interested company within the industry. However, much of the funding for education is being drastically cut from government budgets, so the school is working hard to uncover other monetary means.

DFI has recently launched an apprenticeship training program which gives students some real life experience. In this new program, students are able to complete real work either at the school's site or on location at the company where they are an apprentice. Work conducted on-site at the school is completed on a per job basis.

Students have an opportunity to earn two types of apprentice certification from DFI. Certification I requires 180 hours. Certification II calls for an additional 600 hours. 'Printers are always asking for someone with more experience, so we have decided to further enhance the training at the school by establishing this program,' DiTrolio says.

Joint seminars are frequently conducted and co-sponsored with the FTA. Students who complete the FTA's Level I and II press operator tests at the DFI facility receive a certificate of completion from both FTA and DFI. 'These joint seminars are not geared just towards people who want to work a press,' he says. 'Sales and marketing professionals have attended to acquire certification because everyone can benefit from proficiency.'

### Flexographic Trade School

The Flexographic Trade School (FTS) located in Fort Mill, South Carolina, is one more option for the industry to gain access to intensive short-term, hands-on pre press and press operator training. It has trained professionals from all around

***Fox Valley Technical College instructors in narrow web lab***

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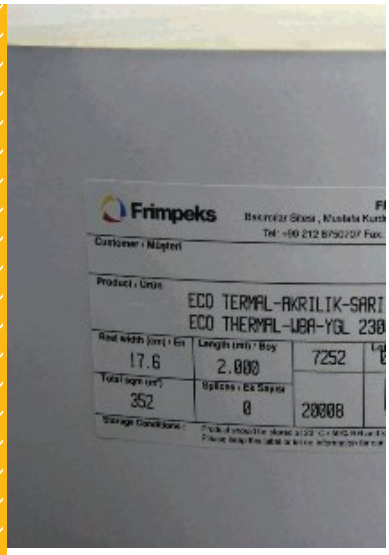


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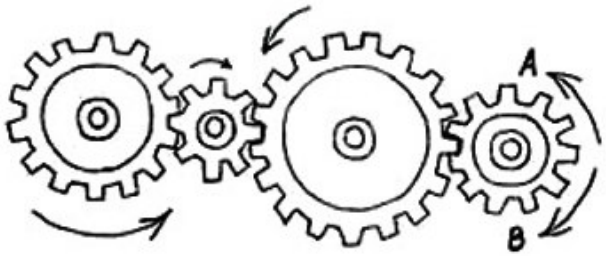


***Mechanical Skills test – When the left-hand gear turns in the direction shown, which way will the right-hand gear turn?***

the world including Mexico, Scotland, India and Trinidad. Additionally, it administers technical and process consultation.

FTS runs its operations in a rather unique fashion compared to other educational institutions. The school is set up as a member-based company, with various levels of membership to choose from for both vendor and converter. Each member company pays annual dues in exchange for specific services. These include press operator/pre press training, the ability to recruit FTS graduates, on-location training, job cost assistance, and the capability to run live work at the school's facility. In addition to these benefits, members can conduct R&D at the school's facility, which means less downtime on their in-house equipment and additional consultancy from the FTS staff.

Rob Smithson, CEO says, 'The benefits of R&D are just astronomical. We give away about 30 hours a week for R&D at about $450-$500 per hour. Members are saving about $15,000 when they take advantage of this benefit.'

The school allocates R&D time into its own training schedule, which is currently each Thursday, usually about three months ahead of time. Needless to say, it is a very popular benefit for members. Oftentimes, members need more than just one day for proper R&D and really need 2-3 days to get the answers they are looking for. 'In that case,' says Art Fields, 'we work the time into our curriculum for the students to complete. It is a win-win situation then. The students really get to learn when they have to figure out a problem and test for different outcomes.'

Most vendors enjoy having students involved in their R&D efforts because it is great exposure for them. When the student graduates, they are familiar with the supplier and vice-versa. Membership also provides a 'printing insurance policy'. For example, Carolina Coatings and Services (CCS) was an offset printer until an important customer switched their product to flexo. Mike Spillers, CEO, had two choices – he could lose the business, or learn how to print flexo. He chose the latter and became a member of FTS. While his facility transitioned through the process of installing a 10-color Mark Andy 13 inch press, Spillers sent his pressman to FTS to train on how to run live CCS flexo work.

Spillers explains, 'It was a lot of help. They trained our operators, taught us to estimate and plan accordingly. We call the school about twice a month, usually for some technical advice. We will always maintain our membership there because they are a great insurance policy. In fact, they recently sent us a skilled operator for a week while ours was on vacation.'

***Students working on a press at FTS***


Another situation Fields recalls is when one member lost electricity due to an atrocious storm on the East coast. FTS allowed the printer to take over one of the presses at the school, working on a night shift to complete all the jobs for its customers. 'They didn't skip a beat,' Fields says.

FTS wants to be sure that any student enrolled in the school is capable of success. It is essential that students are mechanically inclined, explains FTS. They say that 30 percent of the population is not mechanically inclined, so, prior to enrolling students into the program, FTS gives applicants a mechanical skills test that they must pass. 'Fifty percent of veteran pressman cannot pass the test,' Fields tells. 'In the last two shops where we gave the test, 2 out of 38 passed, in the other, out of 52 total employees, no one passed.' FTS members can purchase the mechanical skills test from the school for a one-time fee so the test can be administered to any applicant vying for a job in a member's plant. Corrections are charged out on a per test basis. The test is a bit of a 'weed-out course', if you will.

## RFID training

OTA Training, LLC is a vendor-neutral RFID training and certification organization that can provide converters, as well as vendors looking to implement RFID within their company, with both general and detailed knowledge, such as: how RFID labels are constructed, what applications there currently are, and where new markets are evolving and why. Headquartered in Texas, OTA provides training all around the world including Mexico, India, China and Eastern Europe.

OTA offers three types of training: public, private and custom. With each type, sessions include simulation/web-based formats, instructor-led discussions and hands-on training. When enrollees complete a course, typically in about four days, they are prepared to take (and pass) the Comptia RFID + test, a standardized test to establish RFID competency.

## Other options

All Printing Resources (APR) located outside Chicago, Illinois, is a distributor of various products for the flexographic printing industry. As part of its customer support service, APR provides in-house and regional training for printers. The company strongly believes that this offering is a way to increase its customers' bottom line. They have staff with extensive backgrounds in the industry. The director of training, Catherine Haynes, and the director of technical services, Tim Reece, are both expert level press operators, certified by the NCSS, who have spoken at numerous industry association meetings. APR's team of educators travel around the US on a regular basis and provide training at their facility.

> "These joint seminars are not geared just towards people who want to work a press. Sales and marketing professionals have attended to acquire certification because everyone can benefit from proficiency"

Additionally, the technical service division of Harper Corporation of America offers the Harper Flexographic Solutions Tour, a one day free training seminar, six times a year, in various regions throughout the US. The seminars offer anilox, pre press and flexographic press troubleshooting guidance.

And on the campus of Waukesha County Technical College in Wisconsin, local industry players came together to help build an advanced technology center for industry training. The Quadracci Center is set-up with two computer labs, equipped with PC/MAC compatible Apple computers for up to 15 students and an instructor. It also has a large lecture hall that is capable of a 3-way division, a demo center with a six inch concrete floor that can hold up to 4,000 psi, and a color management lab. ■

**Your chance to contribute**

To comment on Mike Fairley's global industry training proposals, please visit the *L&L* website www.labelsandlabeling.com and go to the discussion forum

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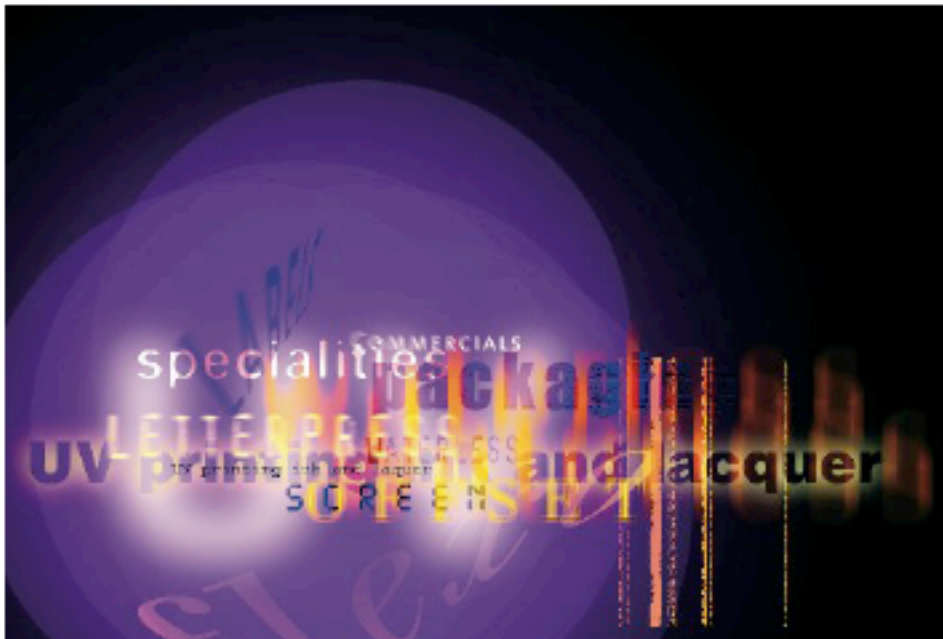


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# Training in Brazil

A highly-developed system in Brazil is training thousands of students every year on first-class machinery. And, as **James Quirk** reports, the locals aren't the only ones benefiting

There can be no denying that training is crucial to any industry. A company can only maintain success in the long term if future generations of employees can step up to the mark.

To witness an existing institution that seamlessly combines financial support from the industry as well as tangible benefits to the companies involved, head to Brazil. Here SENAI – the National Service for Industrial Apprenticeship – is currently educating two million students in 700 campuses across a wide range of industries.

The system was created in 1942, by federal law, as a private institution of Brazilian industries devoted to the education and training of youngsters and adult workers for industrial sectors. Part of Brazil's National Confederation of Industry, SENAI now supports 28 different sectors through training services, and has graduated a staggering 33 million students since its foundation. It is the largest professional training organization in Latin America, and offers courses at all educational levels: from apprentices and technicians to managers.

Crucially, companies in a given industry are required by law to support SENAI financially – with compulsory contributions set at one percent of the company's wage bill. This support allows the company to participate in the training at the school – whether it be through the donation or loaning of machinery or other training tools (which the company can then use to train its own staff) or through training the school's teachers. Despite this compulsory support, SENAI remains an independent institution.

## Organizational structure

Operating nationwide, the system is comprised of normative bodies (National Council and Regional Councils) and administrative bodies (including the National Department and 26 Regional Departments).

The Regional Department of São Paulo State (SENAI-SP) alone boasts 61 Professional Education Centers, three of which are for the graphic arts industry.

> "The school is very complete. It is rare in the world to find so many different courses in one place"

The need for formal graphic arts training in Brazil became evident as early as 1945 when more than half the printing establishments in the country were in the state of São Paulo. These businesses employed approximately 12,000 workers.

Despite the large number of laborers, few were qualified professionals. In most cases, the companies were obliged to hire foreign professionals who passed on their knowledge while carrying out their work. To address the problem, SENAI-SP established its first graphic arts school in the district of Belém in 1945.

In subsequent years, SENAI-SP increased the number of graphic arts courses and training programs. In 1962, the school acquired a patron and changed its name to SENAI School 'Felicio Lanzara' in honor of this important figure in the field of printing.

In 1971, a new school was created – in the district of Moóca – in order to offer a higher level of professional education. This was SENAI School Theobaldo De Nigris, designed and started up with the cooperation of ACIMGA – the Italian Manufacturers Association for the Graphic, Converting and Paper Industry.

In 1978, both schools were joined at a single address. The resultant education center occupies a 34,000 square meter site and 16,000 square meters of buildings and is referred to as Theobaldo De Nigris.

In the 1980s, Theobaldo De Nigris initiated a new program designed for graduating professionals for pulp and paper industries. In 1998 it became the first institution in Latin America to offer a degree in graphic technology. In 2005, the school began offering postgraduate programs.

'The school is very complete,' says Manoel Manteigas de Oliveira, director of SENAI Theobaldo De Nigris. 'It is rare in the world to find so many different courses in one place.'

The majority of courses at Theobaldo De Nigris are free; while those that do require payment are, according to Manteigas de Oliveira, 'accessible'.

Technical manager and teacher Elcio de Sousa tells *L&L* that the school can accommodate 1,300 students on courses at a time. A further 5,000 students take part in shorter, part-time studies.

**Graphic arts professional education**

Courses offered at SENAI School Theobaldo De Nigris include industrial learning – offset printing; technician in graphic arts and technician in pulp and paper; degree technology in graphic production; post graduate programs (MBA); continuing education and on-demand training. For more information visit www.sp.senai.br.

## Facilities

The Theobaldo De Nigris school has the following graphic arts and printing departments:

- Pre-press, including graphic design; desktop publishing; color management, CTF and CTP
- Offset printing
- Silkscreen and letterpress machines
- Gravure printing and electronic engraving
- Flexographic printing (narrow and wide web) and CDI
- Binding and finishing (books, magazines and packaging)
- Digital printing
- Chemical laboratory
- Laboratories of paper and ink quality control
- Pulp and paper laboratories
- Printability laboratory


*L-r: Manoel Manteigas de Oliveira, director of SENAI Theobaldo De Nigris, technical manager and teacher Elcio de Sousa, and Antonio Carneiro of Regmed*

*The school can accommodate 1,300 students on courses at a time. A further 5,000 take part in shorter, part-time studies*

## Partnerships

This impressive list of technical equipment is kept up to date through partnerships with local and foreign companies and associations, who donate and loan materials, equipment and software and train teachers.

In 2000, for example, an agreement with Heidelberg bought the school into the Print Media Academy network. The PMA Latin America is at the Theobaldo De Nigris school and is fully equipped with the latest technology for pre-press, offset and finishing. A partnership with Xerox led to the creation of the school's Digital Print Education Center. 'Both Heidelberg and Xerox use their areas at the school as regional training centers for their staff,' says teacher Elcio de Sousa.

In a partnership with ABTG – the Brazilian Association of Printing Technology – the school publishes a technical magazine and promotes innumerable other activities aiming at capturing and spreading technological knowledge.

Sun Chemical supplies 100 percent of ink used at the school, while EskoArtwork (formerly Esko Graphics) and Flint have their Latin American centers based at Theobaldo De Nigris. The respective companies send staff from around the world to train – sometimes for up to one year.

SENAI Theobaldo de Nigris is an icon in the sector,' says Luiz Lucietto, managing director, Sun Chemical Brazil. 'The main benefit of being involved with SENAI, besides the fact that we are helping to develop the abilities of the professionals in this field, is that we are seen by future professionals, customers and suppliers as the leader in the industry. We donated inks for all printing jobs and classes of the school, so all of them know the quality of our products, and we have a strong channel for spreading our image in the Brazilian graphic market.'

> "It's not easy to find good flexo press operators, and it is very positive for us that they get used to our name and know our machine – they're the future of this market"

Other partnerships are set up with Dupont, Agfa, HP, Kodak, Xsys, Man Roland and Komori, to name a few. Some companies donate machinery; others have their own branded rooms in the school where they can send their own staff for training.

One company that has its own branded room at the school is Spanish press manufacturer Rotatek. The company installed its Ecoflex 330 UV flexo press at SENAI in 2004, since when the cooperation between company and school has been 'very interesting for both sides', reports marketing manager Bibiana Rodríguez: 'It is a great opportunity to have students trained on our machine. It's not easy to find good flexo press operators, and it is very positive for us that they get used to our name and know

*Spanish press manufacturer Rotatek installed its Ecoflex 330 UV flexo press at SENAI Theobaldo De Nigris in 2004*


*Students working in Esko Graphics' (now EskoArtwork) room at the school*

our machine – they are the future of this market.'

'We made a great effort to set up this cooperation with SENAI,' continues Rodríguez, 'SENAI is a respected organization in Brazil: it has good teachers who are always in contact with the market so they can learn about new technologies. The Theobaldo De Nigris school is a very impressive place – it has modern equipment to train students and it covers all the materials related to the graphic arts industry.'

Rotatek has an office in São Paulo – Rotatek do Brasil – and Rodríguez reveals that the company frequently sends staff to Theobaldo De Nigris for training: 'Whenever we need to train our staff or make any kinds of tests, we just have to book it with the school and then we can use the press.'

UK-based RK Print has a Flexiproof 100 testing machine installed at Theobaldo De Nigris. Managing director Tom Kerchiss visited the school while in Brazil for Label Summit Latin America, and was impressed with what he saw: 'It seems like an excellent system,' he says. 'I was very impressed with the training facilities I saw there. They rival anything that I have seen previously, especially if you look at all the technologies that are covered – not only pre-press and printing equipment, but also paper making too. I wish that I had such facilities when I was studying printing.'

RK Print has reached agreements with the school so that the company's distributor for the region can take potential customers to see the Flexiproof 100, and RK Print can borrow back the machine for use in exhibitions in the region. 'This is a great advantage when you consider the documentation involved in getting equipment in and out of Brazil,' says Kerchiss.

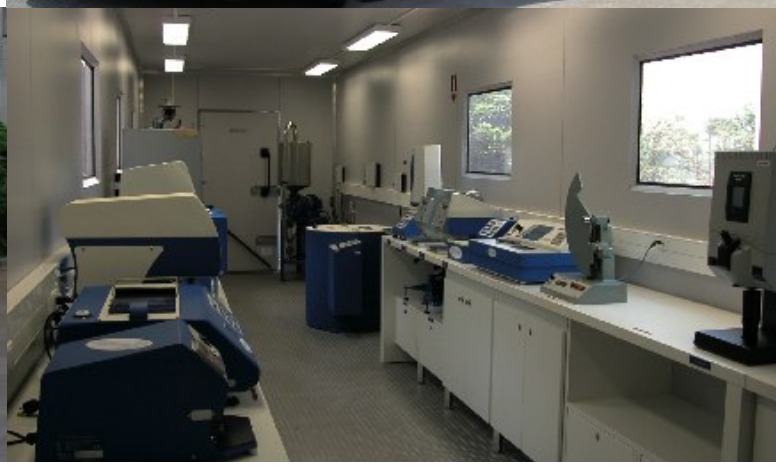
Kerchiss believes that having students working on his machine is also an advantage: 'If the students see the benefits of our equipment, they will be more likely to use it within their organization in the future,' he says. 'I hope that as flexo grows in Brazil, so will the training and expertise at SENAI.'

## Regmed and the mobile schools

One of Theobaldo De Nigris' oldest partnerships is with local company Regmed, a manufacturer, distributor and servicer of equipment for the development and quality control of pulps, paper and packaging.

Regmed was founded in 1958 and initially copied imported testing machines. The company began to manufacture its own machines in the 1980s, and when the Brazilian government opened up the market in 1989, Regmed started to import





*Two mobile schools that have resulted from SENAI's partnership with Regmed, and a view inside*

"The culture in Brazil has always been to test on the press,' he explains. 'But this is changing because of pressure from the end-users"

equipment from abroad. By the end of the 1990s, Regmed had set up distributor deals with a number of foreign companies, including IGT Testing Systems of the Netherlands.

IGT provides testing equipment for flexo, offset, and rotogravure – a 'natural succession', says Afonso Sá Moreira, head of product development at Regmed, whose equipment is dedicated to testing paper and cellulose. IGT's equipment allows a test with a small amount of paper and ink – which saves money – before the job is printed on the press for real.

'The culture in Brazil has always been to test on the press,' he explains. 'But this is changing because of pressure from the end-users. Quality needs are rising in the market – the big multi-national companies have moved into Brazil.

'If you do all the set-up on the press, with materials and inks, and it doesn't come out right – you've lost money and time. With IGT's equipment, you can do it in the lab first to see if there are any problems.'

Part of Regmed's challenge was to educate local printers as to the importance of testing. 'If you don't know how to use the machines,' says Sá Moreira, 'then they are not worth anything. We knew that training was crucial.'

This, of course, is where SENAI stepped in. Aside from its laboratories and workshops, SENAI also runs mobile schools – transportable wagons that are equipped with an array of machinery to offer training around the state.

In 1995, a SENAI school in Southern Brazil installed machinery from Regmed into one of these mobile schools. In 2001, the Theobaldo De Nigris school, which has a greater focus on graphic arts, became interested in the moving laboratory. It purchased Regmed's newest machines and turned a lorry bought by the company into the institution's first moving cellulose and paper training facility. Regmed now also has similar arrangements with two other SENAI schools in different states, while both Regmed and IGT have equipment installed in the Theobaldo De Nigris school.

'With SENAI, we are teaching people to test first,' says Sá Moreira. 'Our partnership has been going for a long time, and it is still evolving.' The next step, he says, is to use IGT's testing equipment to create a mobile flexo training school.

IGT Testing Systems' managing director Wilco de Groot is delighted with the company's association with Regmed: 'Regmed manufacturers its own equipment, so has a greater understanding of the needs of its customers,' he says. 'Customer awareness about IGT's products and their possibilities have improved, resulting in a steady increase in sales.'

'The mentality towards the importance of testing equipment is changing in Brazil,' he continues. 'Institutes like SENAI and its suppliers are providing the market with real information. We at IGT are impressed with the equipment available at SENAI and the various levels of training offered. From our discussions with the trainers and professors we got a very good impression of their capabilities.' ■

*Students at work on Regmed equipment*

*L-r: Regmed's industrial director Antenor Dvorak and Afonso Sá Moreira, head of product development*


# Asian strategy

Label materials manufacturer Thai KK Industry's acquisition by Eternal Group last year has allowed the company to expand its product line and open production facilities in Vietnam. Now it has set its sights on the rest of Asia, as **James Quirk** reports

Thai KK Industry Co. Ltd, headquartered in Bangkok and with a production facility in Samutprakarn in Thailand, is reaping the benefits from its acquisition by Eternal Group last year. Labels are now the company's core business and the recent opening of a production facility in Vietnam, coupled with Thailand's export tax breaks, have allowed the company to increase its influence in the region.

Thai KK, originally called Thai Liang Chi, was founded in 1978 as a manufacturer of fiber-reinforced plastic and chemical tanks and cooling towers. The company diversified into the label and tape business in 1986, supported by KK Converter of Taiwan. At the same time, with technical assistance from Japanese company Daiwa, Thai KK became the first company in Thailand to produce melamine and urea molding compounds.

Today, the company has 500 employees and is divided into three areas – tapes, labels, and melamine. Its label business is made up of four segments: papers – which make up around 50 percent of the label business – variable data, synthetics, release liners, and specialty. The company imports the majority of its materials – Raflatac and Ahlstrom are just two of the European companies from which it sources – while a small amount also comes from local suppliers.

The company's 66,000 square meter facility in Samutprakarn is equipped with three coaters, two laminators and several slitters and sheeting machines. The latest coater – from German manufacturer Kroenert – is described by president Chawaeng Uvimolchai as a 'regional scale machine'. The company's slitters come from Kampf, also from Germany. 'We want our company to run with Western-standard equipment,' says Uvimolchai. 'The new machine enables us to produce high volumes in specialty areas such as clear on clear – a fast-growing sector.'

As well as investment in machinery, the company's

> "If we are successful in Vietnam, we will move into China and the rest of Asia"

acquisition by Eternal Group has enabled the opening of a manufacturing facility in Vietnam. For Uvimolchai, this is the first step in the company's expansion into the rest of the region: 'Our job is to grow in the Asian region. If we are successful in Vietnam, we will move into China and the rest of Asia.'

"In the future it may be difficult for China to compete with the rest of the region"

*Chawaeng Uvimolchai*

Seventy percent of the company's business is in its local market, but Thai KK also supplies Japan, Korea, Indonesia, Malaysia, Singapore, Vietnam, Australia and New Zealand. It supplies a variety of industries, and is prevalent in the food, personal care and electronics sectors.

There has also been heavy investment in streamlining the company's operations. Thai KK has implemented Lean 6 Sigma, which combines the speed of Lean Manufacturing with the quality improvement of 6 Sigma. 'We are one of the pioneers for this in Thailand,' reports Uvimolchai. 'Before, when there was a problem we looked for the solution. Now, we look for the cause.'

Syteline, a software similar to SAP, has also been implemented. 'It means that we run the company with a totally computerized system,' says Uvimolchai. 'If we want to become an international-sized company, this is an important step. The initial investment is big, but results will come.'

'We believe that running the company well will give us a better chance of success,' he continues. 'Oil and raw material costs have been rising and label prices stagnating in recent years, but we are able to survive. Investment in IT, machinery and training the younger generation of employees is a big part of our daily operation. Our investment in R&D, for example, allows us to tailor products to our customers' needs.'

Uvimolchai reports that the next step for the company is film production, to allow it to move into high volume label sectors such as beer. 'We want to produce films, which at the moment are really only coming from Europe,' he says. 'They are imported with high tariffs.' Hot melt adhesive production is also in the pipeline.

Uvimolchai believes that, while it is China currently receiving the most attention as the center of the Asian market, Thailand's export tax breaks give it a competitive advantage. 'China will be a key player in the market, but export tax breaks for several materials have now expired,' he explains. 'For example, export tax breaks for melamines ended on July 1, and prices rose by ten percent immediately. This also happened with paper last year. People are therefore moving to source from India and the rest of Asia. But when you export from Thailand, VAT is zero.'

'Freight, too, is twice as expensive as it used to be,' he continues, 'so in the future it may be difficult for China to compete with the rest of the region.'

Thailand also has the advantage of being part of the ASEAN Free Trade Area (AFTA), an agreement of the Association of Southeast Asian Nations which seeks to increase the region's competitive edge as a production base in the world market through the elimination of trade tariffs. With a population of over 550 million, companies such as Thai KK can now exploit the opportunities presented by an integrated market of increasingly prosperous consumers. ■

## Price increases expected for Chinese chemical goods

China has been employing a number of different strategies to address overheating export growth and to manage its ballooning trade surplus. One of these measures is to revise the value-added tax (VAT) refund rates which are given to companies that export goods out of the country. Effective July 1, China slashed rebates on 2,831 types of products. A lot of them have the potential to significantly impact the cost and/or availability of pigments, pigment intermediates, resins and other chemicals used in printing inks which are exported from China to Europe.

The Chinese VAT rebate has been reduced or eliminated for exported chemicals that contribute to pollution, have high energy consumption or are resource-intensive.

Additionally, in advance of the 2008 Olympic Games in Beijing, more than 3,000 chemical operations, most of them in the organic chemical sector, have been shut down because they are deemed to contribute to pollution. This is likely to result in severe shortage of certain printing ink raw materials. Because both intermediates and finished products are affected, even companies that do not buy directly from China could be impacted through domestic suppliers that use chemicals exported from China.

The British Coatings Federation expects shortages and significant cost increases for all member companies.

## Flint Group to raise prices for all printing inks across Europe

As a consequence of continuously rising raw material prices, Flint Group is raising prices for printing inks in all market segments in Europe with immediate effect. All existing customer supply contracts will be honored, says the company.

Global demand for chemicals and associated derivatives has continued to escalate. As a result, prices for a wide range of raw materials for the production of inks have reached record levels. Most recently, China, one of the world most important producers of pigments and precursors for pigments, announced the discontinuation of VAT refunds for export material effective from July 1, 2007. This alone has caused double digit price increases for pigments, pigment precursors and many other key raw materials.

'Currently, our industry is experiencing extremely tight global supply of chemical feedstocks and continually rising raw material costs,' said Dr Dirk Aulbert, president Flint Group Europe. 'We remain committed to meeting our customer needs for consistent, high-quality products with reliable supply. But absorbing even higher costs in this environment is simply not an option. These conditions have forced us to raise our ink prices.' He added that Flint Group representatives will be contacting their customers with more specifics soon.

# What is true 100% web inspection?

**Neil Parker,** managing director at Surfscan, examines the facts behind the statement

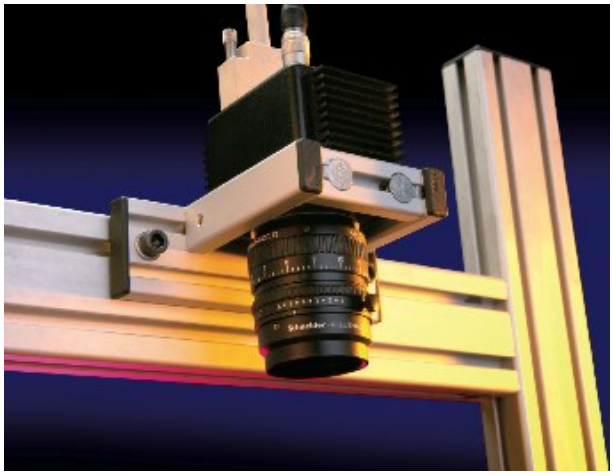
Today there are many claims for a system that offers '100% web inspection'. But 100% is not always the absolute it seems, when the market offers both '100%' and 'true 100%' systems. Differentiating between the two is still something of a grey area for many printers and converters and without a real understanding of the capabilities and limitations of each, specifying a system appropriate to the task at hand has many potential pitfalls. What are you actually expecting when you sign up to one of these systems?

Even though we live in an imperfect world, customers within different industries – e.g. packaging, pharmaceutical, consumer products – are expecting and even demanding perfection in the labels and packaging of their products. These demands, combined with ever more stringent criteria imposed by relevant regulatory bodies, mean that printers and converters simply can't afford for errors to creep in. It is no wonder that virtually every label printer is looking for a way of making sure that the products that pass out through their doors meet these demands. Missing a defect has its costs – most dramatic is rejection by the customer of an entire batch and a punitive fine; more usual, and still expensive, is waste, the cost of which is absorbed by the printer.

Inspection has been common practice for many years but in varying guises. Initially labels were visually inspected for defects by operators. However, as well as being more time consuming than using an automatic system, over the years the print on labels has become more and more complicated. The use of alphabets not familiar to the label inspectors became commonplace, and, despite their experience, it is no wonder that errors would inevitably make it through this process and on to the finished product.

This is simply not acceptable any more, and so label and narrow web printers turned to 'camera and computer' systems which, by means of sophisticated software were trained to pick up the tiniest of defects on a moving web. These systems generate an immediate return on investment, a measurable benefit to productivity, a reduction in waste and an improvement in print quality.

It is these systems which are available in many different forms and have evolved with the advance of technology over the last few years. 'Extreme defect detection' is becoming the norm. However,



"The only way to certify the quality of the product leaving the warehouse is to use true 100% inspection technology that can find any and all defects on every centimeter of the printed material"

in order to be sure that every defect will be picked up, you need to be confident in the systems you have in place. Many products are badged as '100% inspection systems', but as a term that is used loosely in the industry today, is this really the case? To achieve 'true' 100% inspection, you need a product that inspects 100% of the web/job, 100% of the time.

For some suppliers, the term 100% inspection is taken to mean that each product in the run is inspected. However it does not imply a complete inspection: many such systems simply offer sample area inspection on each item, the results of which are fed back to the operator showing an active response to an error that appears within this area alone. Cameras are positioned to view the web in critical 'areas of interest', and are dedicated to these areas and inspection tasks. If multiple areas need to be viewed then several cameras are required which can make for quite a complicated process, and installation.

This method of inspection utilizes area scan camera technology, and in order to inspect 100% of a printed repeat, sometimes multiple areas from a single camera are 'stitched' together. But this cannot really be described as 'true 100% inspection' as in fact, depending upon production speeds and the web width, it could actually only be 10-15 percent of the total printed web that is inspected.

Some of the products that fall within this remit are dedicated inspection systems such as those for bar or matrix code verification, registration control, color monitoring, sequential number verification, etc.

Adopting this approach will actually allow the printer or converter to detect recurring errors rather quickly, but will not necessarily detect all random problems. Supporters of sampling based technology, or in other words, area scan, might try to equate it with true 100% inspection technology, but this is simply not so. True 100% inspection technology is the only method that can identify both random and repeat errors. Systems that actually inspect 100% of the entire web as it is being printed will not only detect trends that could ultimately result in rejects, but also detect random defects such as ink blotches, random print omissions, etc.

The performance of true 100% inspection technology is dependant upon the width of web to be inspected, web speed and the minimum defect size to be detected. With linescan technology a system can be specified based on these parameters to deliver the desired results in the required resolution. A properly specified system will always allow a user to set system operation variables to detect a defect of pre-defined size each and every time, systematically, and without fail.

When using a linescan system, the camera technologies couple with the necessary processing power readily available from today's PC technologies to deliver true 100% inspection at a reasonable cost. Camera technology is continuously advancing, offering higher performance – higher resolutions, higher scan or frame rates and standardized interfaces.

However, the biggest impact on inspection systems is the computer. Ever-increasing performance has made it possible for manufacturers of inspection systems to concentrate on the software requirements, instead of the more expensive and less flexible reengineering of hardware. The result for the customer is that products are coming to market faster, costs are reducing and performance is increasing.

The only way to certify the quality of the product leaving the warehouse is to use true 100% inspection technology that can find any and all defects on every centimeter of the printed material. Nothing else provides an absolute guarantee of end product quality. Printers and converters considering an inspection system should think about the ROI when researching these systems – although true 100% inspection systems initially cost more, the ROI can be very rapid and moreover, true 100% inspection compliance can be offered and delivered with absolute confidence. ■

"The only way to certify the quality of the product leaving the warehouse is to use true 100% inspection technology"

*Neil Parker, managing director at Surfscan*

**About the author**

Neil Parker, managing director of Surfscan Technologies, set up the company with Andrew Hall in 2002 after being involved in print inspection for over 15 years. In his role as MD he is also responsible for the research and development of the Surfscan product lines. Neil studied electronics at university and has held several roles in the industry, including chief engineer at Tecscan and design engineer at Tectonic International, previous to becoming MD at Surfscan.

# Inspection news

## AVT acquires GMI

AVT has acquired Graphic Microsystems, Inc. (GMI), from Dover Corporation, previous owner of Mark Andy.

GMI is a supplier of closed loop color control systems, color management and reporting software and remote digital ink fountain control systems. Although the company's current applications are predominantly in the commercial and newspaper markets, AVT has a track record of bringing systems outside the narrow web framework into the sector, so this will be one to watch closely.

Commenting on the acquisition, Shlomo Amir, president and CEO of AVT, said GMI's proprietary closed loop color control system 'is the only solution available based on spectral measurements, a key competitive edge', and there are major opportunities for synergistic development with AVT's machine vision technologies.

Meanwhile AVT has enhanced its PrintVision/Helios inspection system for presses and rewinders with two new modules: the Clear-on-Clear Module is for inspecting clear labels sealed onto a clear liner, and the Reflective Support Module supports inspection of reflective substrates.

AVT has also introduced an off-line verification tool for comparing digital files to printed products. ProoFit is designed to support validation of pharmaceutical labels and provides an approved (CFR 21 part 11) automatic tool for this purpose.

## ISRA launches Smash

ISRA Vision has launched its Smash print inspection system for 100% inline inspection of sheet and web-fed processes. It can spot critical defects such as spots, streaks, color deviation, smears and registration defects. Integrated database functions provide a complete history for quality documentation purposes.

## Value Engineering enhances PQEye

The Value Engineering Alliance has announced performance enhancements to its standalone print quality inspection appliance, PQEye, based around new, more powerful Texas Instruments Digital Signal Processors operating at 1GHz and supplying computational power of 8000 MIPS.

PQEye is a compact (120 x 50 x 35 mm, without a lens) camera-based instrument used to address narrow web print inspection tasks and check the position, correctness and quality of text and graphics.

Formerly available at a maximum resolution of 782(H) x 582(V) pixels, systems can now be configured with resolutions of up to 1280(H) x 1024(V) pixels.

This system can detect defects only a few pixels in size on media moving at up to 300 meters/minute, says VAE, while differentiating between normal print variations and unacceptable print flaws.

Typical applications include the inspection of pharmaceutical product, food and consumer goods labels as well as integration into rewinders, cutting and slitting machines.

*AVT Helios on Press*

## Spring acquires Ergeca vision line

Spring Coating Systems has acquired the shares of Ergeca, a company specializing in video inspection systems for web printing applications.

Spring was created five years ago with a vision to provide printers and coaters with all technologies relating to the application of inks and coatings. With formulation laboratories and manufacturing facilities in the US and Europe as well as partnerships with leading suppliers for anilox rolls and photopolymer printing plates, Spring is able to provide expertise that covers the whole coating system.

As a recognized supplier of video systems that monitor print quality, Ergeca fully complements Spring's strategy. 'We see Ergeca as a natural fit and a means to tie together our product range in a coherent and effective package,' commented Thomas Korchak, president of Spring Coating Systems.

## Piranha added to Firstsight range

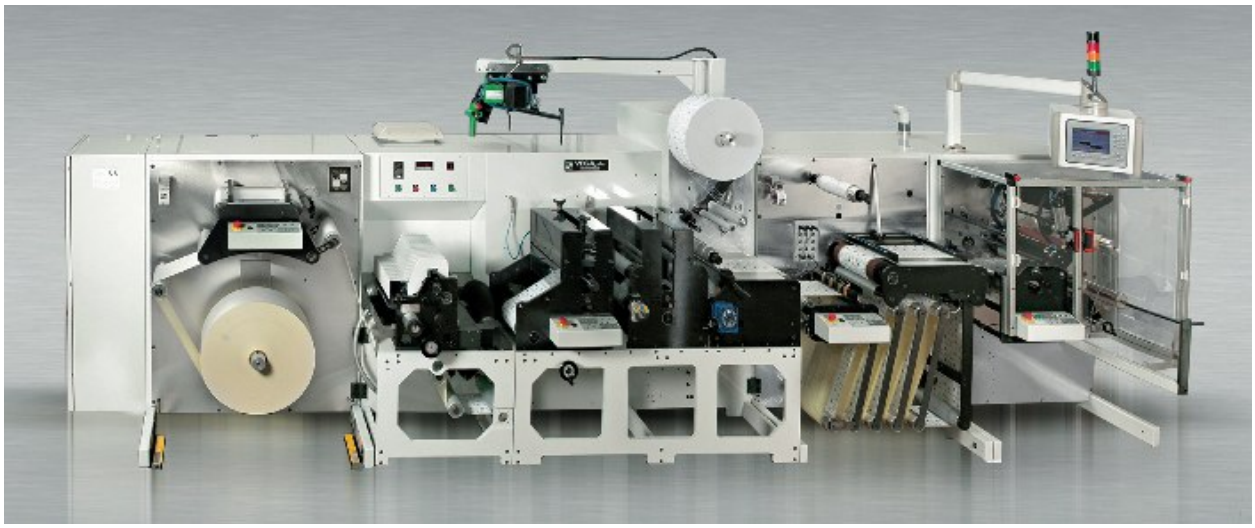
The Piranha tri-linear color line scan camera from Dalsa has been added to Firstsight Vision's range of linescan cameras.

The Piranha camera, suitable for 100% print inspection, features Dalsa's own sensor design, claimed to eliminate artifacts associated with 3-CCD prism cameras by placing a separate row of pixels for each color on a single sensor die. This design reduces the distance between rows to two lines, which minimizes image artifacts associated with synchronization errors.

## Diffuse E+L source lights complex products

Erhardt+Leimer has launched its TubeLight module, a diffuse light source for illuminating complex materials such as embossed metal foils – or metal foils which show unevenly reflecting surfaces. Examples would include embossed wine labels or highly reflective RFID antennas, where TubeLight will produce the kind of homogeneous image required for accurate inspection.

The company is also launching a new GUI for its 100% print inspection systems, allowing jobs to be configured with just a few mouse clicks. Changes in sensitivity can be made any time during production by simply pushing a slide control. Any changes are recorded and can be saved for recall.



*At Labelexpo Europe, the Shark system was shown on Prati's new servo-controlled Vega Plus pharmaceutical label inspection-rewind system*

## BST adds PDF link to Shark

BST Pro Mark has introduced a link between its Shark 100% inspection system and the pre-press PDF file – linking the integrity of what is actually printed with the customer approved proof.

This is an important addition to the Shark system's capabilities and forms part of a significant upgrade of the Shark system.

Another important enhancement is a workflow management system which links identification, marking, and removal of waste on press and/or on re-winders using inter-machine communication protocols.

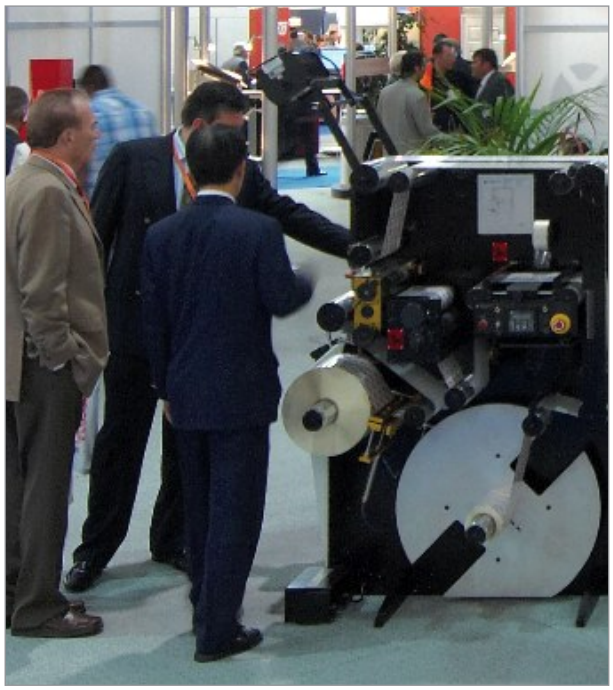
The Shark also now offers multiple camera options, with a choice of color or black & white line scan cameras, to help identify smaller defects at higher speeds. Completing the package is a link from the Shark to BST's PowerScope, which allows identified defects to be automatically highlighted using the magnification and visual capabilities of the PowerScope. Controls for both systems are integrated into the Shark's touch screen.

At Labelexpo Europe, the Shark system was shown on Prati's new servo-controlled Vega Plus pharmaceutical label inspection-rewind system.

## AB Graphic launches digital pharma inspection system

Following its purchase of fleyeVision, AB Graphic has fully integrated the company's pharmaceutical inspection system into its new Omega Digipharma digital web finishing line. When a flaw is detected, the machine slows down and the web stops with the defective image in a predefined position.

# Inspection news



*Rotoflex VSI*

Any further errors occurring in this production phase are stored in a memory back-up. As soon as the defective image has reached the stop position, it is displayed on screen for correction by the operator. A detected error will then result in the web being gathered back into the festoon system where the error is positioned upon the inspection table for rectification.

Also new from AB Graphic is a Vectra turret rewinder incorporating on-board inspection and automatic rejection of rolls containing errors.

## Re spa designs for harsh environments

Re spa has launched its RK-One compact webguide viewing system designed to resist harsh environments. The company


*AB Graphic is now incorporating fleyeVision inspection equipment in its finishing systems*

has also added two important new functions to its 'Revision' video inspection system: color control – useful for print applications using constant color tones – and a barcode reader capable of checking all the most common bar codes at any angle. This feature can also be used to store a sample code and compare it with the captured codes, generating a table summarizing the captured codes and the number of errors detected. The user can also set up a series of error thresholds and the corresponding alarms.

## Rotoflex re-engineers for pharma

Rotoflex has re-engineered its pharma inspection systems with new 'single-pass' and 'multi-pass' machines designed to meet increasingly stringent pharmaceutical compliance demands. Enhancements include the new Rotoflex single source universal controller, recommended for counting and detecting clear labels with print, fault placement control, vision integration and


*Tectonic K2color imaging video web inspection system*

barcode verification.

## Sabre Triad installs Visitech on Timson

Flexible food packaging printer and converter Sabre Triad has purchased a second Visitech video web inspection system from Advanced Supplies Ltd.

The company's first system, purchased in 2003, was installed on a 6-colour Arsoma flexo press running both water and solvent-based inks. Four years later the Preston, UK based company needed to replace a failing 10-year-old inspection system on its 4-color Timson flexo press.

'Following our first purchase of a Visitech system for one of our narrow web printers, the company had no hesitation in turning to Advanced Supplies when looking for a system for our Timson printer,' commented Sabre Triad's engineering manager David Smith. 'One of the main advantages of the Compact Plus system is that the camera and control module are housed together in one unit, making for a very neat and simple installation – particularly on a narrow web press where space is limited. The system is also very quick and simple to set up and has very user-friendly and intuitive on-screen menus. In addition, our first Compact Plus system has worked tirelessly without any problems whatsoever and given our printers an extra level of confidence'.

## Unilux strobes go digital

Unilux has added digital controls to its Lith-O-Light series of strobe lights, resulting in enhanced functionality at reduced cost.

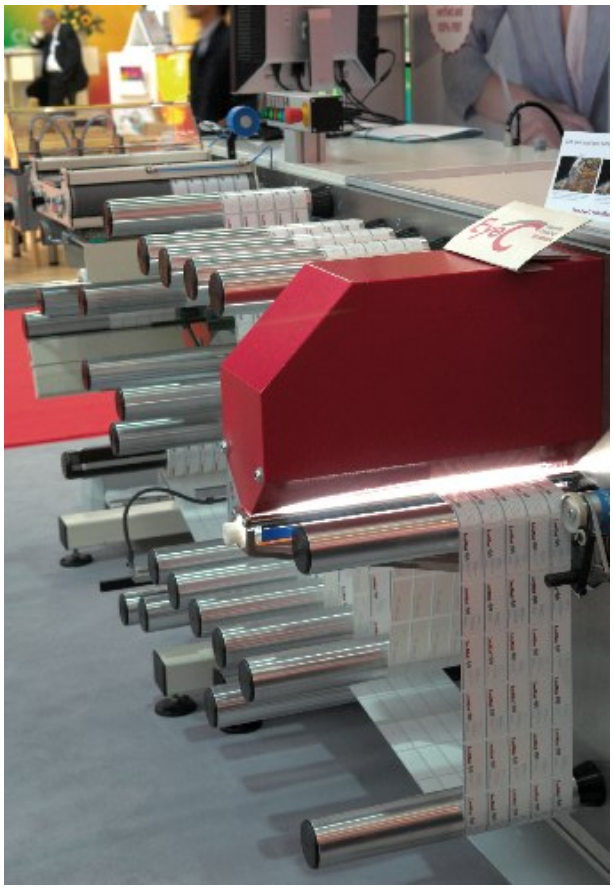
The company's redesigned LOL-20 and 40 units, for example, now feature digital readouts, remote controls and twice the power of the older analog units at the price of the current lowest-cost configuration. The Lith-O-Lights series covers a wide range of web widths from 5cm (2in) to almost 2.4m (8ft) wide. The new Tracker spot strobe illuminates a 61cm (24in) area from a distance of 0.9m (3ft).

Unilux has also launched a UV Illumination Kit for the Lith-O-Light series enabling 'black-light' inspection of clear and UV coatings used for security and anti-counterfeiting applications.

## Tectonic teams with Bar Graphic

Bar Graphic Machinery has teamed up with Tectonic for the launch of its Elite 400i inspection-rewinder system, which is fitted with a Tectonic K2color imaging video web inspection system to enable automatic color default detection. BGM and Tectonic have now developed a true 100% inspection system.

# Inspection news



*The inline EyeC ProofRunner combines 100% inspection with content verification*

A unique (optional) feature of Tectonic's K2colour is wireless or networked image transfer, enabling print managers to 'grab and store' live images from the press or rewinder and view them at a remote location. The image shows the date and time it was received providing a record from a live run. Images could be shared with other managers for discussion, stored as a record of a run or e mailed to a customer for acceptance.

## Eltromat launches video register control

Launched at Labelexpo Europe, Eltromat's offcon-4 print quality system uses a digital video camera to control register using printed dot register marks. In job preparation mode video positions can be defined with a preview image taken from a CIP3 file. The image section can vary between 15 x 10 and 220 x 160 mm.

The system can also control other modules such as integrated flexo printing units or tool stations using printed dot marks, with length and side register automatically controlled by the camera.

Using the video cameras the offcon-4 control system can compensate for web fluctuations and web flutter, symptoms which can defeat conventional register control systems.

## Daco demonstrates bi-directional rewinding

Daco's recently launched DTR 330 100% inspection system has the capability of bi-directional rewinding, so that labels can be passed under the camera system again for true 100% inspection.

## Drello inspector suits all substrates

Drello has launched its DrelloScop V5000 video-web inspection system, which can be used for all web materials including paper, transparent foil, reflecting foil and stamping control. Features include Automatic-scan – an automatic camera traveling in the web direction with adjustable speed – Constant-scan, traveling across the web, Quick-zoom and Split-screen functions.

## Print cylinder compensation from CC1

CC1's APR (Automatic Press Re-timing) system allows for automatic pre-positioning of color (unit to unit) and cut-off compensators between job runs. Developed as a complement to CC1's eXaminer Automatic Register Control, APR automatically

compensates for errors introduced when disengaging and re-engaging print cylinders, a production challenge associated with the majority of applications involving unit-to-unit configurations. In one turn of the print cylinders, color and cut-off compensators are pre-positioned and any error introduced through re-gearing is measured and compensated for.

## EyeC tackles 'golden image' issues

The latest EyeC ProofRunner combines 100% inspection with content verification. The in-line system includes a link to pre-press to make sure every printed item gets checked against the customer proof – printed proof, retained sample or electronic proof – and not just against a 'golden template' that may or may not be flawless to begin with.

With this system, statistical flaws are detected as usual, while systematic flaws are found as well – including errors introduced from the point where the proof was made to the final printed product. Mix-ups are detected reliably, including mix-ups with very similar items – such as a previous version of the same item. Splice sheets are no longer necessary to prevent mix-ups on the rewinder.

## Inspection Systems enhances barcode inspector

Inspection Systems, Inc. has significantly enhanced its Compliance-Pro Report on-line barcode inspection system.

New features include faster running speeds, management of more complex sequences / numbers and increased accuracy of label description to the press.

Compliance-Pro Report can be installed on any rewind system, printing press, production line or print/apply machine. It interfaces and shares data with existing software systems and is expandable to multiple scan heads, and with offline-viewable data.

## PC links off-line proofer to PDF

PC Guardian's OLP Off-Line Proofing System allows printers to compare a customer-approved electronic PDF file to a multi-up printed sheet or electronic file. The OLP will detect printing defects such as missing or extra print, pre-press errors, plate defects and color variations.


*PC Guardian's OLP Off-Line Proofing System*

When a difference is detected from the approved artwork the system documents and displays the color-coded defect to allow the operator to quickly view the differences. The system is FDA 21 CFR Part 11 compliant and can also provide ISO/ANSI bar code grading for 1D and 2D bar codes.

## TruColor digital system enhances resolution

TruColor Vision Systems, Inc. has introduced a digital web inspection system, enabling a significant increase in image resolution and better color fidelity.

The new model utilizes DVI (Digital Visual Interface) LCD display monitors, claimed to work with the digital technology to offer improved resolution and clearer images which help in

**The next issue of *Labels & Labeling* will feature a round-up of the inspection systems on display at Labelexpo Europe**

# Black light

UV illumination and black light inspection set up sophisticated security measures for labels **Michael P. Simonis,** president of Unilux, explains how the technology works

In today's global bazaar, virtually any product can be pirated and sold on street corners or websites anywhere in the world. The markets are no longer confined to watches and DVDs. Counterfeit prescription medications and genuine parts for automobiles and airplanes are just some of the more serious dangers societies may accept if replication is close to authenticity. To combat replicates, security codes and hidden markers printed with UV and clear coatings on product labels are used to verify an authentic product. Stroboscopic inspection lights equipped with UV illumination kits for black light inspection can verify that these security printing measures are done correctly.

The processes are similar and the stakes are equally high for ensuring security codes on labels. Label printers use a variety of designs and codes, some visible to the naked eye while others are only seen with the help of a black light, to help protect their customers. With the use of a UV strobe light, required markings and codes can be inspected to confirm accuracy and protective coatings can be viewed to ensure uniformity in application – and all at full production speed. With the phosphorescent in the coating, UV inspection also provides assurance to the operator that areas intended to remain uncoated are left blank.

Taking security measures, including hidden marks and the application of various clear coats and varnishes, has long been a staple in lottery-ticket and game-card printing. These printers continue to use coatings to conceal and protect the winning information for contests and games. By printing hidden marks to prevent counterfeiting, they go to great lengths to protect the integrity of each printed ticket or card. Otherwise, they pay the prize as the price for making a mistake that voids a game or contest.

## Chemistry of inspection

Clear coatings and UV invisible inks present a different inspection problem than typical printing. They remain invisible under standard strobe equipment because the standard quartz lens found on most industrial-quality lights actually blocks the UV light emitted by the strobe. Equipping a strobe light with a specially designed UV lamp and UV lenses excites the phosphors in the inks and coatings as they pass under the light. The light from the inspection system that excites phosphors is measured

> "Counterfeit prescription medications and genuine parts for automobiles and airplanes are just some of the more serious dangers"

in nanometers (nm). A 360nm UV illumination system shows more detail, but the 250nm system typically provides enough detail for press operators to distinctly see the clear coat and inks with brighteners or phosphorescent.

Depending on the spectrum of light needed to excite the phosphorescent chemicals, various lenses can be used to get the maximum visual effect during inspection. The 360nm system was developed for one printer to see some very specific details. The specially equipped light eliminated the need for quality control inspectors to pull random samples from a press run to check in a chemistry lab. As a result, inspectors could view the entire press run at full production speeds, greatly improving the company's operating efficiency.

Label printers are using clear coatings with waterproofing qualities to protect product information on labels used in the pharmaceutical and food industries. The United States Food & Drug Administration (FDA) now investigates some 20 cases of counterfeiting annually, which is up from the five or so it used to investigate annually before the turn of the 21st century. Labels may be used to present legally required information on content within a drug or food and, in the case of pharmaceutical products, information about usage, dosage levels, potential side effects, health warnings and other related directives. In the printing process, areas may need to be left blank for the insertion of variable information, such as lot numbers and expiration dates, and printers must verify that those spaces are free of any coatings or markings. When the variable information is added, it can be inspected with a standard strobe light, and a subsequent protective coating can be inspected with another black light/UV system.

For car parts, companies such as Land Rover use UV inks on their part tags to prevent counterfeiting. Not seen under


*(Left) Label without UV lighting*
*(Right) Same label with UV lighting*

standard strobe lights, the security print punches right out under the 360nm lens.

Coatings on product labels maintain the integrity of appearance during shipping, storage and usage. Label printers for beers are key examples. While not as concerned with counterfeiting, they rely on clear coatings on the front of the label to protect its look and integrity even when severe condensation and moisture conditions occur and reoccur. Many printers also need to be sure that the proper amount and thickness of glue is applied to the backside of the label to keep it attached to the container. A black light/UV inspection kit on a strobe light can verify this when phosphorescents have been added to the glue.

## Installing a system

Setting up a black light/UV inspection station is similar to setting up a standard stroboscopic inspection station. The UV illumination kits from Unilux are designed to fit the lights in our Lith-O-Light series so they can cover a web of any width as with a standard inspection system. The kit costs an additional $300 and can be retrofitted to an existing strobe light.

Unilux recommends having a black light/UV system at a point along your web where all security printing is completed. If variable information is to be added at a later station, followed by a protective coating application, a second system should be added at that point. Additional stations can be installed on slitters and rewinders if those locations best suit a label printer's inspection needs. Inspections at these points can verify that registration marks and special codes are still intact after post-printing operations.

As measures to combat fraud increase, black light/UV inspection can help label printers take the claws out of illegal copycats. ■

*Caihua Group was one of the first companies in China to convert and print flexible packaging*

# China calling

## Jiangsu Caihua Packaging Group, an integrated packaging film manufacturer, has now moved into label converting

'The right product is the best product' is the slogan of the giant Jiangsu Caihua Packaging Group Company, an integrated manufacturer and printer of packaging films.

The company has ten blow molding lines and ten gravure lines, with an annual output of 600 million tones. Its clients include multinational corporations like Kraft, Nestle and Danone as well as domestic enterprises such as Guan Sheng Yuan.

Caihua Group was one of the first companies in China to convert and print flexible packaging when high- and low-density PE films were first brought into the country.

Now following its success in the flexible packaging market, Caihua Group has turned its attention to setting up a new venture in label printing.

According to Caihua, 2007 will be 'the year of the label', with the company taking full advantage of China's rapid economic growth and its existing expertise in handling films.

'The reform and opening-up of our country has contributed to the synchronous development of our economy with that of the whole world,' states Xia Yu, general manager of Jiangsu Caihua Packaging Group Company. 'With many years' experience of film printing, Caihua Group is mainly focusing on flexible packaging at present which shares a lot in common with the label industry. Considering the factors mentioned above as well as the extensive potential label market, Caihua has decided to use film labels as a breakthrough point for us entering the label industry.'

Caihua's decision to move into film labels led to a move into flexography, as demanded by its major customers. 'Caihua is always fully aware of the need to base our future plans on our customers,' says Xia Yu. 'Therefore, we are pursuing flexographic printing as the most suitable technology to meet this market demand. Flexography is a brand new technology for Caihua and choosing the right equipment is the key to our success.'

Caihua chose to invest in a 10-color Mark Andy Comco MSP ProGlide press which would

*Caihua's 10-color Mark Andy Comco MSP*

"Following its success in the flexible packaging market, Caihua Group has turned its attention to setting up a new venture in label printing"

allow it to print a wide range of stock from OPP and 20 micron CPP film to 350gsm paper board. The press is specified for water-base and UV ink, and incorporates screen printing, foiling and die-cutting.

'Our flexographic printing line can perform both printing of the ultra-thin plastic label and the delicate packing box with its great substrate range,' says Xia Yu. 'This brings much flexibility to our customers and because we are in this market early, lays a firm foundation for the Caihua Group to open up new services.'

Since its establishment, Caihua Group has committed itself to research and development of new products and focused on technological innovation, major factors in the company's current status as one of China's leading package converting companies in the face of cutthroat market competition. All Caihua Group subsidiaries have their own focused R&D centers for different product groups.

Caihua has won international recognition of its quality control and environmental practices, achieving ISO9001:2000 for its quality control system, and ISO14001 for its environmental protection standards. Back in 1998, following a GMP medical packaging workshop, the company received its medical packaging manufacturing license.

Caihua has also shone in international awards, winning DuPont's Global Package Award in consecutive years between 2004 and 2006.

Now the company has ambitions to be amongst the world's leading label converters, taking full advantage of its investment in flexographic technology. 'Today we are committing ourselves to the label industry with the same passion which symbolizes our soaring domestic label industry as well as that of the whole world,' enthuses Xia Yu. ■







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# ‘The Xeikon 330 complements our existing flexo business perfectly.’

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**C.S. Creative Screenprint Ltd**, Unit D, Bay 2, Willenhall Trading Estate, WV13 2JW.

*“The addition of the Xeikon 330 has helped to drive our business into the future. The ability to produce short-run labels cost effectively and quickly ensures that we can compete in an ever more demanding market place, and this capability complements with our traditional flexographic label printing systems. The printing speed and flexibility in running conventional substrates offered by the Xeikon 330 made it the logical choice for Creative Screenprint.”*

**Simon Smith**, Managing Director - C.S. Creative Screenprint Limited, Willenhall.

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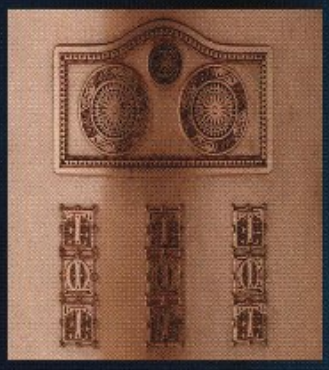




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