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Labels & Labeling

The wider world of narrow web

Oct/Nov 2005 Issue 5 Volume 27

Labelexpo

Review of the world's biggest exhibition for the label converting industry

Case Study

Ohio Flexible Packaging trials the first installation of the GraphixOne PROflex

Innovation

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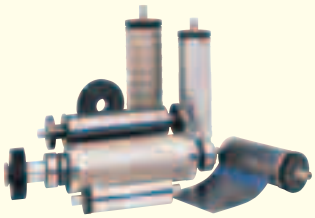

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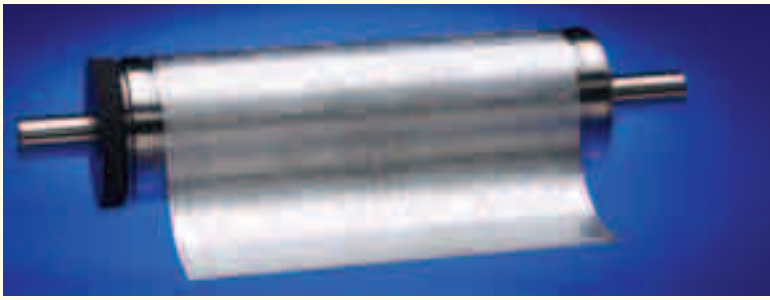

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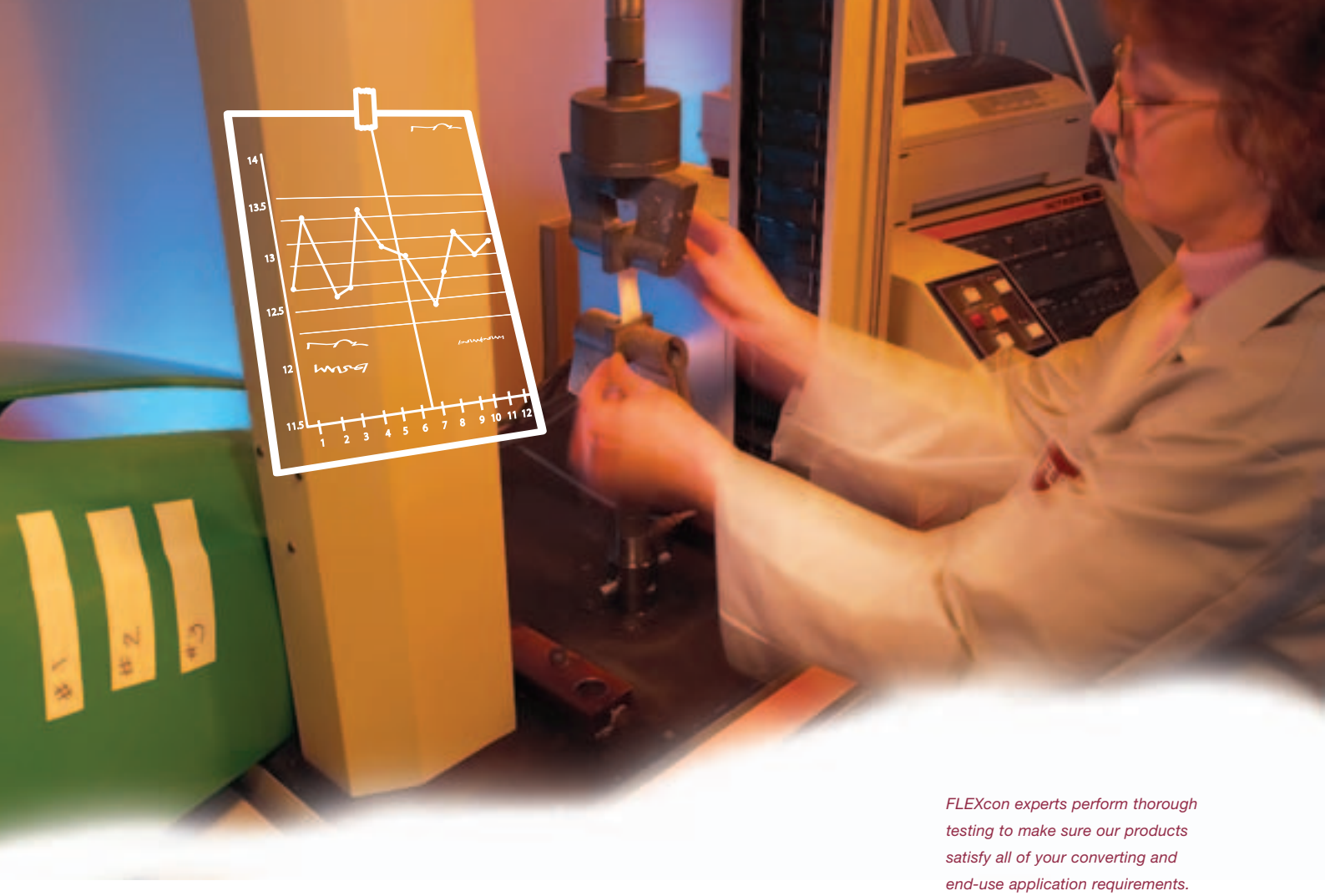

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Leader

At Labelexpo Europe the modular converting system came of age. The ability to change rapidly between processes, and to reconfigure the press for short runs of high value added labels and films, is the new mantra, and quite rightly so.

With the pressure on converters' margins from increases in raw materials costs and consolidation of global end users, there is a recognition that we must move away from commodity production and cut down on the time and money lost while the press remains idle during changeovers between increasingly complex jobs.

Press technology now offers the ability rapidly to place screen units anywhere on the press line without exchanging cassettes or using rail-mounted units. More extensive use of servos on the print tower and the tension control system allows pre-setting, storage of parameters for repeat work and rapid switching between PS and film substrates.

"Labelexpo continues the evolution of the in-line press into a flexible converting tool, capable of fast changeovers between processes"

We also saw a renewed emphasis on technologies thought some years ago to be on the decline in the narrow/mid web sector – offset, letterpress and gravure. Gallus, for example, added an offset option to its RCS330 press line (interestingly, the first joint development project with its partner Heidelberg), while a raft of manufacturers of offset forms presses launched 'labels-aware' presses at Labelexpo. On the gravure front, press modules and UV-gravure inks are both becoming available as in-line converting options.

Even letterpress was making a strong technological showing – of particular note being Codimag's wider semi-rotary Viva machine and a raft of digital letterpress plate technologies.

It is not only on the press side that automation and modularity are key concepts. Advances in the speed and accuracy of laser die cutting systems bring closer the day when digital converting systems will be able to operate without any 'hard' tooling. Interesting in this respect was the launch by HP Indigo and its partners Esko Graphics and ABG of an all-in-one digital converting system running from pre-press to digital printing, to laser die cutting and motorized crush knife slitting.

These developments are the latest in a long line of innovations from the supplier side of our industry which allow converters the chance to escape from the vicious cycle of commodity production and globalized competition.

Andy Thomas
Group Managing Editor

Labelexpo Europe review – part one

The biggest Labelexpo yet, held in Brussels in September, attracted over 23,000 visitors from across the globe. In the first of two reports, **Andy Thomas, Katy Wight** and **Barry Hunt** report on the latest developments in press and digital technology launched at the show

It would seem to defy commercial logic that just over 40 manufacturers of conventional roll-fed presses participated at Labelexpo. There are several explanations, each equally plausible, *writes Barry Hunt.* A major reason is that far from shrinking, as has happened in the consumables and pre-press sectors, more new companies have appeared. Many are from developing countries, including those who blatantly sell copies of established press models. Behind it all lies the rapid expansion

of roll-fed production into areas far beyond the converting of self-adhesive labels. Many more converters manufacture packaging products as result of advances in all graphic sectors, often forced by changes in buyers' marketing and purchasing patterns. The global switch from glass to PET bottles, for example, has allowed label press manufacturers and their customers to challenge traditional label production methods using wide web flexo or gravure presses. Similarly, more sheet-fed printers of glue applied labels are switching to integrated roll-fed production.

Typifying these trends, Müller Martini made its Labelexpo debut by introducing the variable-size Alprinta-V, a label printing version of its commercial and mailer web offset press launched last year at Drupa. The press comes in widths of 520mm and 740mm and runs at up to 365m/minute. Changes in job sizes take about five minutes on each unit. It involves changing the blanket cylinder and the plate cylinder in the interchangeable insert, which retains the impression cylinder, without the need for tools or breaking the web. A combined UV and chill drum unit facilitates the printing of thin films for shrink sleeves and wrap-arounds.

In a similar vein, Drent Goebel featured its Variable Sleeve Offset Printing (VSOP) press. It stressed the good cost/quality ratio and high performance of its sleeve/plate system. A spokesman said RDP Marathon's screen system for wider presses would compliment its own technology following the recent takeover. DG also announced a new type of flexo insert for the VSOP. Operators can temporarily transform an offset unit into a flexo unit and so obtain the best-suited configuration when either laying down a primer or white background, or alternatively varnishing, coating or applying a cover white. Before, the flexo unit was always at a pre-determined location.

> "More new companies have appeared and many are from developing countries, including those who blatantly sell copies of established press models"

Castagnoli is another offset forms press manufacturer responding to a decline in its traditional market by a move into labels. At Labelexpo the company launched a press developed jointly with Franchini – itself traditionally a manufacturer of screen presses. The shaftless Galileo press is a modular system, which can also be configured with flexo, screen, rotogravure and variable imaging print units. Quick print size change is achieved using exchangeable cylinder cartridges without breaking the web. There are a number of features to reduce makeready time

(Left) Print unit of the Muller Martini variable-size Alprinta-V press. (Above) The Franchini Galileo offset combination press

'GiDue's new Athena press reflects the new generation of mid-web flexo presses that have embraced servo-driven technology'

and waste, including pre-register and automatic washing cycle without the web running and a 'virtual' plate scanner for automatic ink key setting and memorizing jobs. Converting options include two die cutting stations and an embossing station. The press is available in 330 and 430mm widths.

GiDue's new Athena reflects the new generation of mid-web flexo presses that have embraced servo-driven technology. Available in widths from 430mm to 730mm, it is designed to process substrates from 15-micron films to 600gsm carton board at speeds up to 270 m/minute. An Intelligent Register (IR) with touch screen interface gives fully automated control and is compatible with Microsoft Windows and Ethernet platforms. Users can integrate IR with their MIS facility. This innovation is also available on Gi-Due's second new in-line flexo press, the I-Combat, again with full servo-driven functions. It is available in web widths of 370mm, 430mm and 530mm. Both ranges can include hot-foil, gravure and screen units. GiDue says it is working with Kocher & Beck to reduce potential bottlenecks related to flexible die cutting.

MPS Systems introduced the shaftless EFP flexo line for handling multi subtrate webs up to 660mm. The Dutch company now offers four servo driven press lines, differentiated by choice of materials, web widths and screen printing capability. The existing EP and EF series also have wider models: 558mm and 406mm respectively. The company also announced a roll-to-sheet in-mould label capability, 'Auto Teach' register control, sleeve technology, and a high-speed RIFD inlay applicator. Incidentally, MPS was this year's winner of the Label Industry Award for New Innovation.

A more unusual type of mid-web press is Codimag's new Viva 420. This semi-rotary letterpress machine handles webs up to 420mm wide with repeat lengths from 200mm to 406mm. It shows there is still life for the process, which can be combined with hot-foil stamping and UV flexo varnishing. There are independent servo drives for each print and finishing unit, with motorized pre-register. The company says this concept is suited to medium-to-long runs without changes to cylinders.

Nilpeter's confusing range of presses has been rationalized to just three new press lines. The redesigned FA-Line in maximum printing widths of from 330mm to 560mm comprises the FA-3, FA-4, FA-5 and FA-6. Each of the UV flexo presses uses direct servo drives for the main operating functions, with no gears on the printing cylinders. The new mid-level FB Line comprises the FB-2500, FB-3300 and the FB-4200. These are high performance presses with helical gearing that can achieve up to 228m/minute (750 feet/minute). Both ranges have electronic register controls

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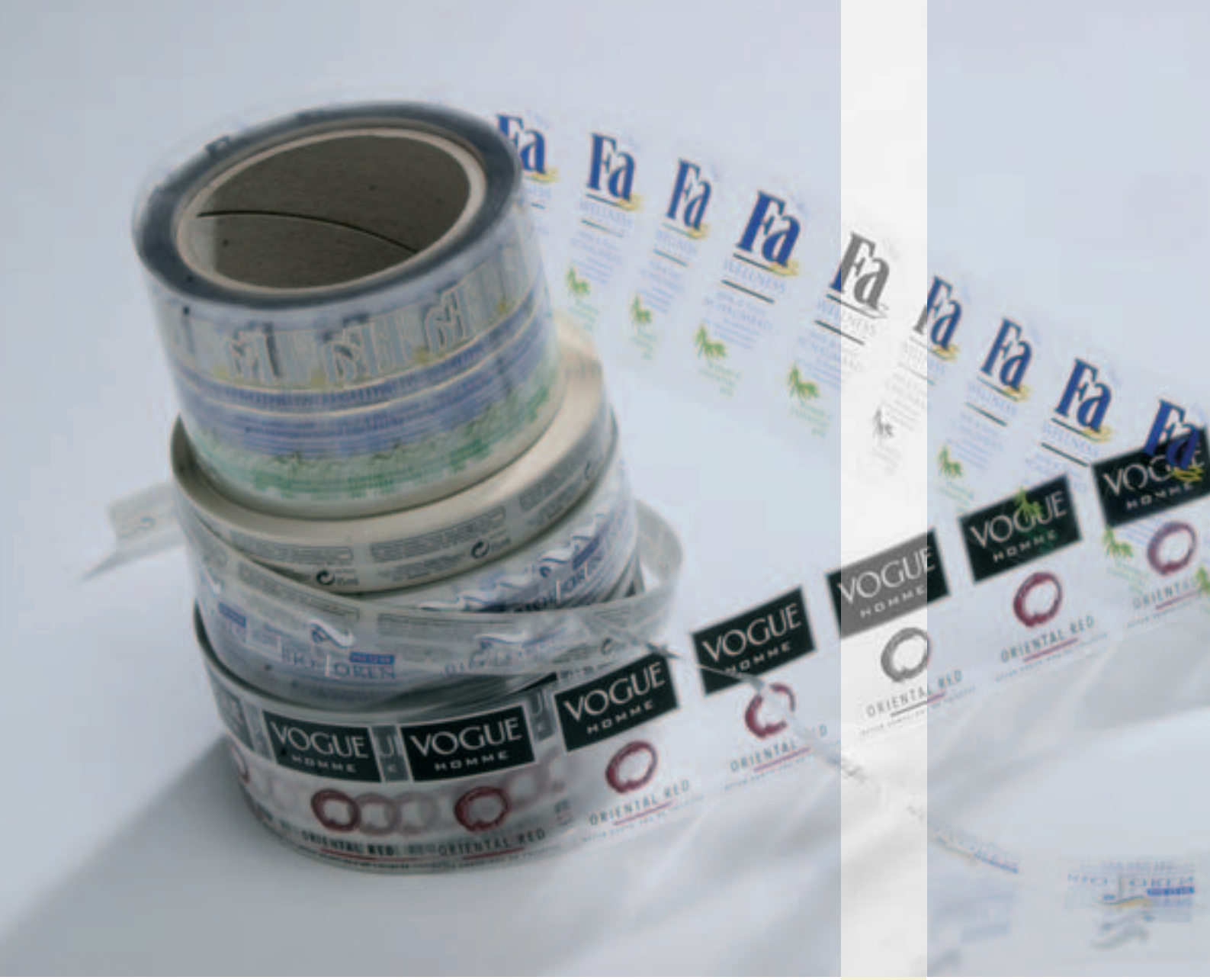

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The GiDue Athena mid-web flexo press. Note the arrangement of the anilox roll beneath the plate cylinder

to help deliver fast job changeovers and minimal materials waste. They are also backwards compatible with older versions. For example, only 23 meters of set-up waste is produced on any FA-Line press. The high-end MO-3300 offset-based platform press has been similarly worked on and now includes a servo-driven version – the MO-3300S – with optional gravure printing module for printing metallic inks, heavy solids and cold seal coatings.

Gallus introduced UV-curable gravure and a new offset unit for the servo driven RCS 330 combination press (now with 30 global installations). The former is said to combine high ink transfer with excellent adhesion on various types of substrates. It prints metallic effects, gloss and matt coatings, as well as cold and heat seal coatings all with high opacity. There is also a new offset unit with a 22-roller short ink train, integrated into the direct drive for full interchangeability, developed as a joint project with Gallus partner Heidelberg.

The EM 280 (650 presses sold worldwide) now incorporates features found on the RCS 330 and EM S series. For example, a chambered doctor blade offers more consistent ink transfer, while the hot-foil unit now has a foil saving device and hologram inserter. More automated upgrades are found on the latest version of the multi-substrate Gallus EM S series. Included are a new hybrid screen/flexo unit, allowing reverse-side printing and eliminating web breaks for changeovers. Other features include a device to inset holograms anywhere on the press, simultaneous cleaning of all anilox rolls, a hickie picker and dust protection package when printing films.

> "Gallus introduced UV-curable gravure and a new offset unit for the servo driven RCS 330 combination press – now with 30 global installations"

Mark Andy gave the European debut of the equally advanced servo driven XP5000 platform press available in widths of 250mm, 330mm and 432mm. It features shaftless drives for the plate and die cylinders, with electronic register control and remote diagnostics for production feedback. A closed-loop tension control allows fast recoveries after press stops. A substrate pacing control allows a substrate range from 15-micron PET film to light carton board. Moveable cassettes allow configurations with flexo, UV flexo, rotary screen, hot and cold-foil stamping. An eight-unit version was shown running for the first time with Mark Andy's new VSR300 rewinder to give an integrated workflow. An option is to include AVT's 100 per cent Helios inspection system to 'map' the roll and transfer this data

Gallus demonstrated changes of substrate and print processes on its RCS330 and EM410 S presses

to the rewinder. Also demonstrated was an LP3000 flexo press equipped with a Tamarack RFID inlay inserter, including reverse-side antenna printing and attaching microchip straps. A Comco ProGlide MSP was shown running shrink film applications.

Omet launched the Flexy-S, a servo-driven version of its entry-level press with choice of drying system. It includes the patented Twin-Cut die cutting system, introduced last year for the shaftless Varyflex series, and based on using two pairs of magnetic cylinders to effect format changes.

Ko-Pack International featured another innovative angle on the manufacture of wrap-around 'window' labels and its patented shrink sleeves for PET and glass bottles. The CID press was a specially configured 12-color Euroflex 400 UV flexo press printing both sides of the web – up to 400mm in width – prior to slitting and forming the sleeves on an optional in-line forming unit. An extensive range of removable promotional products with 'collectables' or scratch-off images is possible to support brand managers' campaigns (as evidenced by the PepsiCo wrap-around labels produced at the show). The Euroflex can also produce conventional self-adhesive and wrap-around film or paper labels, but its niche is derives from being a shorter-run alternative to gravure printing in the beverage industry. The company also showed a Euro 250 flexo press based on a triple drum stack design.

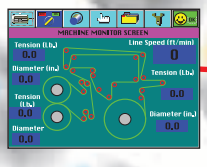
Making its debut under new management, Inter Label Machines showed an improved, six-color version of the Ilma 340 UV-flexo press. The so-called hybrid print units are servo-driven allowing only the print cylinders need to be changed to alter the printing process (Cylinder Change System). The company now offers waterless offset printing for the highest quality results, along with UV flexo, rotary screen, hot foiling and letterpress.

The company also introduced its new UV-Flexo Productivity Improvement Kit, which reduces the time for a color change and reduces the volume of ink required for each chamber from 1.4kg to 400g.

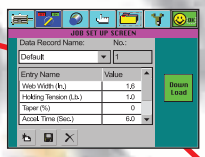
Labelmen had a very successful show, having done $10M business and finding interest in rotary letterpress as strong as ever. The company's established PW260 machine was shown with two cold foil heads as well as an in-line unit for converting in-mold labels for blow-mold shampoo bottles. The 6-color PW460 machine was converting label films. Labelmen also sold screen presses at the show, with applications including printing of RFID antennae and for short run labels.

Edale's show offering included the Beta series of UV flexo presses. Features include water-chilled transport roller with slide-out UV system for optimum material temperature control, single-pass perfecting, a low tension servo-assisted infeed system to handle materials from film to carton, web cleaning and corona treatment units. The company recently sold an eight-color Beta 330 to a sheet-fed label printer who had to move to roll-fed production, but could not justify the cost of a high-end shaftless flexo press costing around a million Euros.

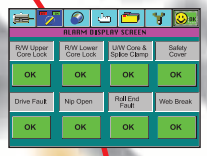
Brazilian press manufacturer Etirama introduced its FS2540 central impression flexo press to the European market for the first time. The press is equipped with six colors and a seventh unit for UV varnish and it has a drum with a 1,200mm diameter. The basic model has pneumatic 'throw-off' plate cylinders, cold



Machine Monitor Screen



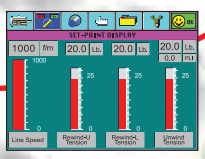
Job Screen



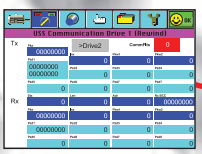
Alarm Display Screen

Limits Screen

Password Mgmt Screen



Set-Point Display Screen



USS Communication Screen

Overview

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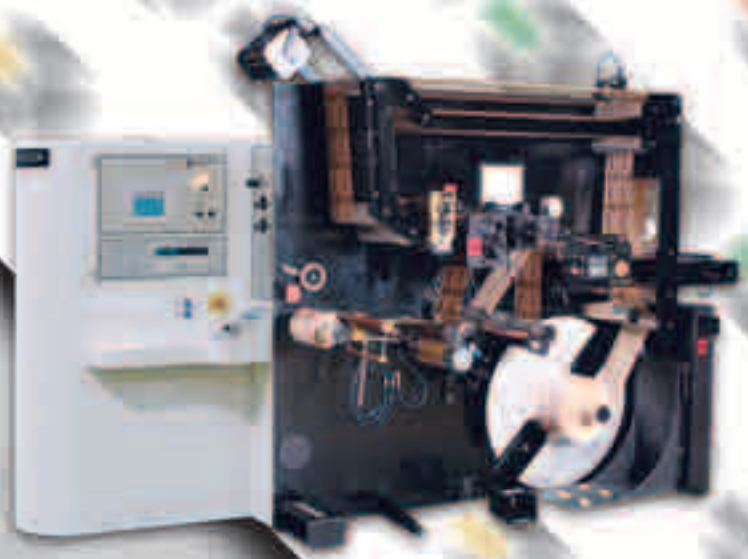

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Nilpeter's Ramon Lee bought a delegation of Chinese label printers to Labelexpo

foiling, electronic web guides, clutch and brake control by load cell, plus a splicing table. It also has a triple die cut station with a 100mm diameter anvil roller. Optional extras include an ink pump, rotary hot stamping, a sheeter, corona treater, visual inspection and a sleeve plate cylinder system.

A reborn Aquaflex, now owed by the venerable F L Smithe organization and based in Philadelphia, was renewing its European ties and appointing agents. Although there was no press on stand, it promoted a print unit from its latest servo-driven FPC multi-substrate flexo press, featuring independent control over the sleeve/plate and anilox cylinders. The technology reflects over a decade of servo development in Smithe's envelope converting machinery and presses. The FPC augments the established LX multi-substrate press and the DBX press, both available in widths of 250mm and 330mm. The Instaprep with its ICT quick-change cassette system for off-press job preparation and cleanups is still offered.

Graficon introduced the UniQ 340/420 (available in web widths of 340mm and 420mm) which unusually offers a choice of individual drop-in components to effect flexible changeovers between the principle processes, including gravure and hot-foiling. This approach, made possible by servo-drive technology, gives a free selection of sequences for fast changeovers, with automatic setting of web transport parameters to handle various types of substrates. It also showed a Gallus R200 B/S with add-on features designed for in-line booklet/label production.

Having recently gained a patent for the technology, ETI promoted its Labeline press configuration at the show. Unsupported face stock is printed on one or both sides and then

'A reborn Aquaflex, now owed by the venerable F L Smithe organization and based in Philadelphia, was renewing its European ties and appointing agents'

Codimag showed its faith in letterpress, with the launch of a wider version of its Viva semi-rotary machine

'ETI launched a combination flexo-offset alternative which could also include silk screen, hot and cold stamping cassettes and gravure cassettes'

coated with silicone and adhesive to create a finished PS label. ETI didn't demonstrate the machine on its stand, but still managed to sell close to ten presses at the show to printers from around the world, including Europe, South Africa, China and Australia.

The conventional Labeline process uses flexo, but ETI launched a combination flexo-offset alternative at the show. The Offset Labeline could also include silk screen cassettes, hot and cold stamping cassettes and gravure cassettes.

Colorflex launched its first high-performance press three years ago from its head office in Quebec, Canada, and was exhibiting at Labelexpo for the first time this year. The company was promoting its servo-driven CFTR-series of presses and demonstrated a pre-printed web going through a second pass applying varnish in registration, followed by laminating, high-speed die-cutting and slitting.

'The show was very good for us, being the first for our new company,' says Thierry Geysens, vice president Colorflex. 'We generated a lot of interest and we had several leads that we are seriously working on at present. We are hoping to close at least five good-sized servo press projects before the end of the year.'

The new CFTR-1300 shaftless flexo press has a 'quick mount' device that allows fast plate roll installation without any plate roll pin or shaft. Anilox changes are also very fast and ink tray and doctor blade can be removed without cleaning the station and removing the plate roll. Motorized 360 degree register is standard on all stations and rapid cranking allows you to move quickly from small diameter repeat to large cylinders.

A micro caliper adjuster allows dialing of material thickness directly, without a gauge or adjustment during set-up. This is coupled with automatic tension compensation on the rewinds.

Focus Label Machinery showed various configurations of its Proflex and Centraflex models, and introduced the single-color Reflex press for overprinting pre-printed labels.

Propheteer International showed a unit of its new servo-driven GL flexo press available in print widths of 457mm and 558mm (18 and 22 inches). Features include slide-out print cylinder carriages and ink fountain, with optional print sleeves.

Among other press developments, Werner Kammann showed its K260 line, offering an unconventional combination of flatbed screen and conventional offset in an in-line press. It is augmented by a laser plate imager. AV Flexologic introduced the entry-level Color Control CC10, a 250-mm wide press. Tecnodis

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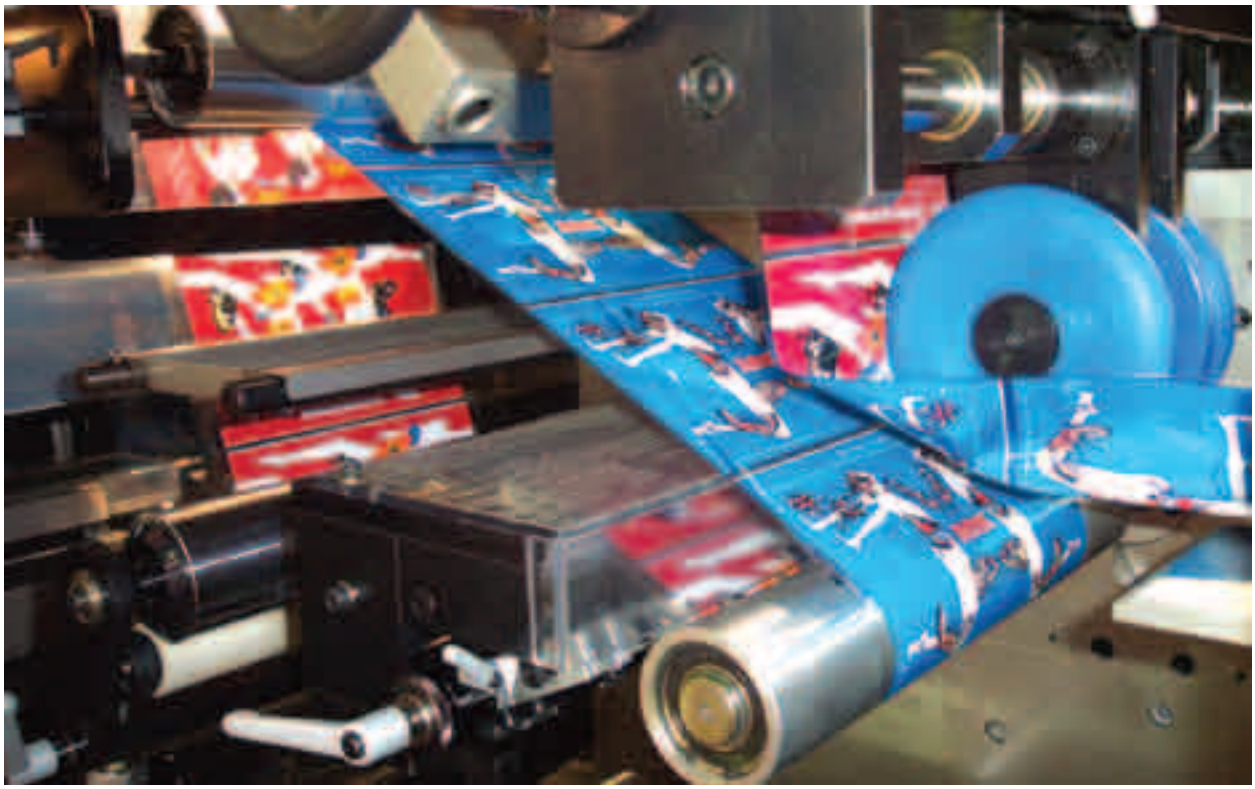

Double side printing of shrink sleeves demonstrated by Kopack using a specially modified 12-color Euroflex 400 UV flexo press

'The Digital Laser Workflow runs from pre-press to variable imaging to laser die cutting and slitting using motorized knives'

Converpress from Madrid introduced the Star F6/DR5 UV flexo press with choice of drying systems and a new shaft transmission system that additionally facilitates the registration of pre-printed webs.

Digital Developments

HP Indigo introduced the first fully digital label printing and converting system seen at a graphic arts exhibition. Called the Digital Laser Workflow, this system utilizes building blocks from multiple suppliers to create a system running from pre-press to variable imaging to laser die cutting and slitting using motorized knives. The pre-press end is based around an Esko-Graphics workstation which manages workflow onto the press, including Step+Repeat and color management of the 7-color print engine. After printing on a ws4050 press, the line feeds into an ABG Omega Digicon converting line incorporating a Sabre Extreme laser label cutting system and motorized slitting knives.

Once the Esko system has generated a Step+Repeat file from the label design file, the die line is spooled to a server on the Digicon. The HPws4050 then prints a barcode onto the label referenced to that die-line profile. This is read by a reader on the Digicon which downloads the appropriate information to the laser, allowing the cutting profile to be changed on the fly.

The slitting section consists of two racks of up to 12 servo-controlled crush knives. One set of knives cuts while the second positions itself for the next job. A turret rewinder completes the line.

On the HP Indigo demonstration three consecutive cutter changes and five text changes were shown carried out on the fly. This variant of the Omega Digicon line is expected to sell for around $350,000.

There was some discussion about a final step on the digital workflow path – a digital cold foil unit. This could involve digitally printing an image – perhaps by inkjet – then running in cold foil and curing.

A rejuvenated Xeikon, boosted by strong support from owner Punch Graphics, showed its LabelSprint digital press system with in-line D-Coat finishing line - and announced the sale of four machines to printers as far afield as Poland, Italy and Japan. The most comprehensively specified was sold to Italian label printer Indet. The solution included a Xeikon 330 with hot foil, flood and spot varnish, cold foil, two semi rotary die cut stations (for changing dies during printing), slitting and dual rewind.

Although the Labelsprint press configuration was seen at Labelexpo Chicago last year, there are big changes to the X-800

On the Digital Laser Workflow the ws4050 prints a barcode (top) which is read by the ABG converting line to control the laser diecut and motorised slit (below)

front end to facilitate full variable data capabilities as well as control of print parameters such as density and register. The X-800 now generates barcodes in a wide range of formats, on the fly during printing. During the show Xeikon printed 16,000 running meters (330 width) and generated more than 1million 1D, 2D and combination barcodes.

Xeikon also showed the first samples of a UV-curable toner on a PS label. This technology, first announced at Drupa, provides digitally printed labels with chemical resistance against solvent and heat exposure. The company was also demonstrating how the fifth print station on the 330 press can be used for security colors and spot colors, as well as for white.

Matan showed its SpringPro Tag digital press, together with two digital finishing solutions for label applications: the Allan Datagraph DFS Digital Finishing System and the ComPack DigiBeam Laser Die Cutting System. The SpringPro offers a resolution up to 400x1600dpi, with the ability to handle variable data including bar-coding and a choice of four, five, or six-color, one-pass printing, including a variety of popular spot colors, opaque white and metallic colors. The system was also featured on the stand of Grafische Systeme.

Labelexpo in brief

■ Vetaphone and AB Kelva launched their combined corona treatment, static elimination and web cleaning unit, the CC-PLUS - a compact system dedicated for narrow web applications. The CC-Plus is designed for easy thread-up and machine integration. Vetaphone also showed its compact treater stations for single or double-sided treatment in widths up to 560 mm with its patented Quick-Change electrode System (QC).

■ The Bobst Group had a good show, selling three Titan SR8 slitter-rewinders to new customers in Italy and Sweden.

■ 'Labelexpo has proven once again to be the perfect platform for networking with other industry players and for strengthening the bonds with our business partners,' said Patrick Frimat, managing director at SATO Europe NV. 'For SATO, it was the best Labelexpo ever in terms of customer contacts. By showing our very latest, field-proven RFID solutions, we not only fulfilled our role in educating the market on the possibilities of this technology, but also identified new projects.

■ RotoMetrics had a good show. Karen Moreland, vice president of International Operations said, 'we had the opportunity to meet with both existing customers and prospects. We were particularly pleased with this year's attendance from developing markets where we see major growth potential for the entire converting industry.'

■ JM Heaford Limited had its most successful show ever , selling 14 narrow web mounting machines at the show itself, with the promise of further orders to be concluded over the coming weeks. Shaun Pullen, sales manager said, 'our stand was constantly busy throughout the show and as well as seeing existing customers, we were visited by many new companies, so all in all we were extremely happy with the volume and quality of visitors attracted by Labelexpo.'

■ Ricoh found a lot of new customers. The company reports that 70 per cent of the companies which visited its booth were non-existing customers, with 80 per cent of them from Europe, 11 per cent from the Middle East, 3 per cent from Africa, and 1 per cent from Americas. In four days they welcomed more than 170 companies.

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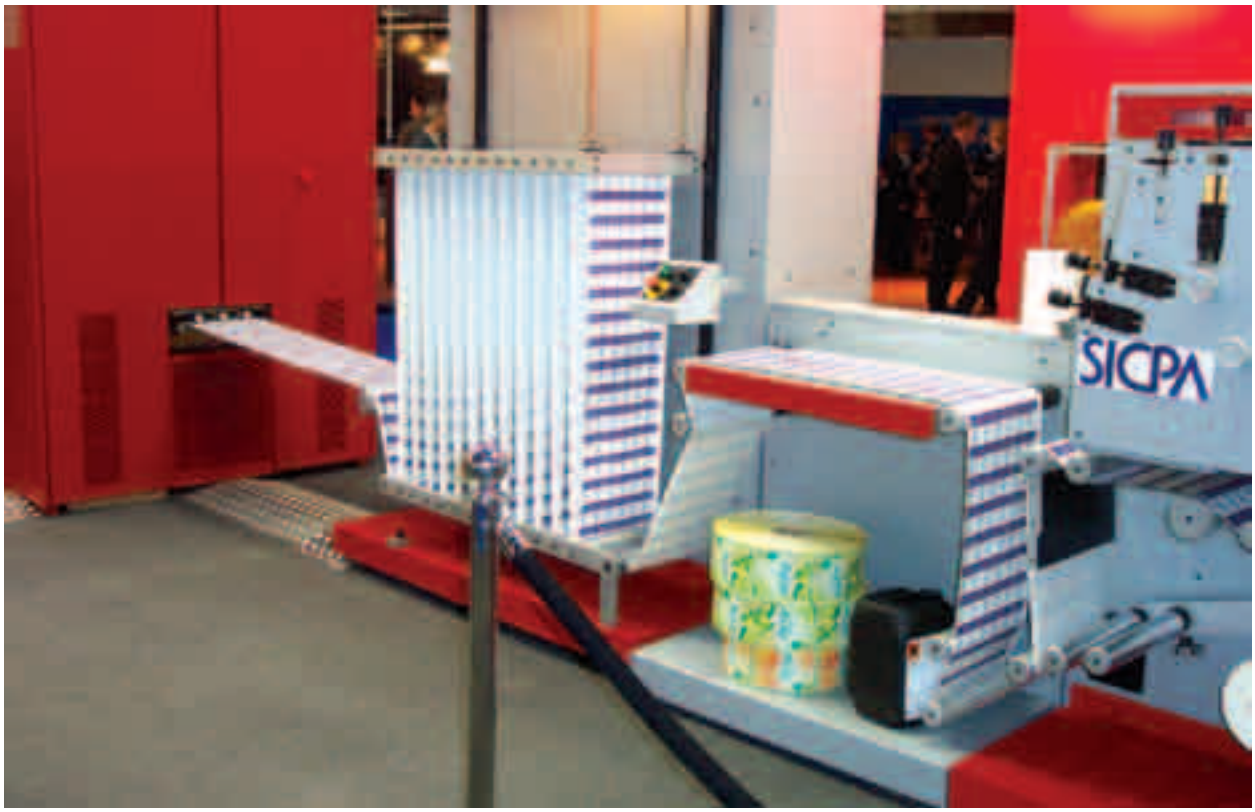

The LabelSprint digital press from Xeikon with in-line D-coat finishing

Domino has made the interesting transition from high speed inkjet coding and print&apply systems to the labels market, and used Labelexpo to launch its K-series drop-on-demand VIP print heads, built onto an ABG Omega SR330 rewinder. Each head is 61mm wide, and they can be stitched together to cover different web widths. The heads could be used either in-line on a flexo press, or as this kind of stand-alone solution, for example printing variable data from barcodes in pharmaceutical applications.

The K-series heads are designed to move beyond 'part personalization' applications to printing of complete documents. The K-200 prints at up to 90 meters/minute at resolutions up to 300dpi. Spot color printing will be offered along with Domino's CMYK UV inks.

GRE's Digital Solutions division announced it had signed an agreement with Impika, a French manufacturer of high-resolution drop-on-demand UV inkjet modules for labels, mailers and document processing. Its IPS C-9000, for example, prints at up to 900dpi at up to 24 m/minute. GRE plans to develop new types of high-end digital color printing lines using VIPcolor and/or Impika modules, incorporating such ancillaries as Longford RFID insetters and laser cutters from Cartes Equipment.

Primera Technology introduced its LX800 digital press to Europe, printing full-color labels and tags onto media as small as 1.5" (38mm) wide and .75" (19mm) long, up to a maximum of 8.25" (210mm) wide and 24" (610mm) long. Print resolution is 4800x1200dpi.

Targeted applications include primary product labels, box-end labels with photos or graphics, and a wide variety of other retail, office or industrial labels that can benefit from the use of on-demand, high-quality color printing. Substrates can include matte-finish labels as well as semi-gloss and high-gloss materials.

Nipson showcased its 1865 compact printer at the show, which is ideal for proofing and short production runs. Nipson's digital production range also has the high-volume VaryPress 200 and 400, which are ideal for integrating with existing conventional presses. The Varypress 400 can reach speeds of 415 ft/min and can be integrated into a flexo or finishing configuration.

Nipson presses feature a non-heat flash toner fusing, which enables printing on practically any substrate, from films and foils to tag stock. Minimal contact with the substrate means that the technology is ideal for adding variable data to RFID tags. All of Nipson's printers achieve 600dpi quality and are compatible with 2D barcodes. ■

Masterpress

With the Polish economy booming, Bialystok-based Masterpress is undertaking a major investment program to take advantage of new opportunities for growth in shrink sleeve, film and pressure sensitive labels. **Andy Thomas** reports

Not every label printer has the honor to deliver work directly to the Pope. But when the late Pope John Paul II visited Poland, Masterpress was the printer chosen to produce all the printed matter around the triumphal visit, including a magnificent book of photographs which company vice-president Waldemar Zdrodowski presented personally to the Holy Father.

Located in the eastern part of Poland, on the European Union's border with Belarus, Masterpress is a typical example of the entrepreneurial spirit driving the Polish labels industry today.

The company was founded in 1995 and a year later set up an offset printing house in Olsztyn, which today employs over seventy people. This company produces wet glue labels and cartons.

In 1998 the company's management decided to open a flexo printing house in Bialystok. This decision was prompted by the rapid development of the packaging market in Poland and a great demand for self-adhesive labels as the country moved from Communism to a consumer-driven market economy. The ISO certified plant, which today employs 138, produces a range of packaging including foil, laminates amd self-adhesive labels for the cosmetics, chemicals and food sector. Its customers include top Polish and International brands, including Danone Poland, Benckizer, Tesco, Bakoma, Campina International, Bel Polska (diary products), Philips Lighting Poland, Michelin and Animex Group Enterprise.

In 2003 Masterpress took a bold step to establish a complete production line for shrink sleeve labels.

The line – supplied by Karlville Development following a meeting at Labelexpo Brussels – consists of a shrink sleeve seaming machine equipped with two solvent applicators, which gives the option of producing binocular sleeves. The main solvent applicator is a direct inject type for high accuracy and control. The seaming process is followed by a re-reeling/doctor machine for automatic shrink sleeve applications and a cutting machine for end users that manually apply the shrink sleeve. Shrink sleeves are manufactured from PVC, PETG or OPS in a variety of shrink factors, and can be full body or partial sleeves.

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Fedrigoni Group

Vice-president Mr Waldemar Zdrodowski

Gidue press

As well as shrink sleeves, Masterpress converts a wide range of unsupported film products on the Combat press, including tamper-evident cap seal labels – manufactured from extruded PVC tubes – and 'Combo' packs to wrap multiple products.

Presses

Masterpress' first flexo machines were 6 and 7-color Propheteer 1000L presses, printing with water-based flexo inks, and sold by Krzysztof Ceglowski from the Warsaw-based agency Matic.

Today Krzysztof works for the Rotary Die company in Warsaw, which represents GiDue in Poland. The high level of trust built up with Krzysztof over the Propheteer presses was a key reason Masterpress chose to base its expansion around GiDue.

'We needed a wider machine than the 10in Propheteer, and Krzysztof is the best sales person I know,' says Waldemar Zdrodowski.

Masterpress now has three GiDue Combat 370 UV flexo presses with Stork silk screen units. One is dedicated to pressure-sensitive labels, and the other two are fitted with chill drums for shrink sleeve production.

'The GiDue presses are very easy to set up and the screen units can be exchanged quickly,' says Kazimierz Choromanski, who has been Masterpress' production manager for three years.

Turning to pre-press, Masterpress has installed Artwork Systems' Artpro and Nexus Systems, which have a special module dedicated to shrink sleeve pre-production.

Masterpress is now considering an investment in flexo computer-to-plate sleeves. 'With good plates we can get close to gravure quality on shrink sleeves,' says Waldemar Zdrodowski.

Future growth

Poland is growing fast. According to a report compiled by the Vandagraf consultancy, Polish industrial output grew by 24 per cent last year – second only to China – and GDP growth increased to 4.8 per cent. Foreign direct investment is booming, particularly in the retail sector. As an example, Tesco has invested over €1 billion in Poland over the last ten years, and is now building a 40,000 sqm logistics centre East of Warsaw to service its stores in the country.

Masterpress has grown fast on the back of Poland's industrial and retail growth, more than trebling in size over the last five years. It has gone from a turnover of ZL11.8 million (€3.04M) in 2000 to ZL27.3 million (€7.03M) last year. Predicted turnover in 2005 is ZL35 million (€9.02M).

The company plans a major investment program to capitalize on this growth. After Labelexpo Europe, Masterpress will install a new press, which will be a 10-color and 650mm wide machine. 'The servos on the press give more flexibility on repeats and better registration and means we can print faster,' says Waldemar Zdrodowski.

Alongside the new press, Masterpress is increasing its shrink sleeve label converting capacity with a new, high speed line from Karlville. Masterpress will also increase its offset carton printing capacity with a new 6-color press. To accommodate this new equipment the company's production area will grow from 4000 sqm to 6500 sqm.

Where will future growth come from? Clearly the Polish domestic market will remain strong, but one third of Masterpress' production is exported to Western Europe.

Overall, prospects look very rosy for Masterpress, which has shown itself innovative, forward looking and alive to the development of new labels and packaging markets. ■

Innovation: beverage

As beverage brands battle for shelf space and market share, the role of packaging has never been so important. Labels can bring a marketer's dream to life and innovative converters are more crucial than ever. **Katy Wight** reports

Coca-Cola yet again held on to its position as the world's most valuable brand according to the 2005 Interbrand/Business Week survey. To compile the ranking, a dollar value is calculated for each brand using publicly available data, projected profits, and variables such as market leadership. The soft drinks giant has an estimated brand value of $67.5 billion and yet Coca-Cola saw its profits fall in the first quarter of 2005. The company was 11 per cent down on the $1.13 billion it reported a year ago. Competition is increasing in the beverage segment and consumer drinking habits are changing.

Coca-Cola remains strong in the carbonated soft drink category, but non-carbonated and healthier drinks such as bottled water, sports drinks, and low-calorie juices are taking market share. Companies such as Coca-Cola are being forced to reinvigorate existing brands, continually churn out new product launches and totally rethink traditional advertising and marketing routes. More marketers are investing in design as a fundamental opportunity to distinguish their brands and to stay on the leading edge – and that is where packaging comes in. Brands are looking for more and more innovative ways to outshine the competition.

Shrinking profits

According to research by the Labels and Labeling Consultancy, shrink and stretch sleeves have seen annual growth between 15-18 per cent in the US and Europe.

'We have seen tremendous growth in shrink sleeves for the beverage segment,' confirms Sharon Lobal, president and CEO of Seal-It Inc. of Farmingdale, New York. Lobal started the tamper-evident band, shrink label and shrink sleeve business in 1986 and has been somewhat of a pioneer in the technology. 'You just have to walk through a store and more and more products have switched to shrink. It's the direction that everyone wants to go in and it's all to do with the eye-popping graphics and 360° coverage. If you compare a shrink sleeve and a pressure-sensitive label, they are pretty close in cost. With a shrink sleeve, your brand gets much bigger real estate and that is what makes a sleeve worth much more,' she says.

Brand owners have taken advantage of this exposure and even commodities such as milk and water are using shrink to differentiate themselves. Seal-It worked with Clearly Canadian Beverage Corporation to reintroduce its flavored water line-up and also with the re-launch of Lehigh Valley Dairy Farms' single-serve milk drinks.

'One of our beverage customers, who we were printing large volumes for, switched to shrink and saw sales increase by 200 per cent just because of the new design,' adds Lobal. 'Everyone wants that unique look.'

Shrink is definitely gaining end user interest. Raul Matos, vice president of Karlville Development, Miami, Florida, a manufacturer of converting machines for shrink sleeves, slitting and applying shrink sleeves, explains that converters that want to get a piece of the action need to think beyond printing unsupported film.

'Converters that embrace and understand the whole shrink sleeve process are going to be the winners,' he says. 'If you don't tie everything in together, you could get a disaster. You need to have control from slitting to inks, to application and be in

Seal-It converted the sleeve for the Clearly Canadian range, moving the brand away from PS

a position to help your customers develop their products. You are not just selling a sleeve – that is only 20 per cent of the equation.'

Karlville is opening a technical center in Miami before the end of the year, where it will train converters to maximize the opportunity presented by its equipment. Along with converters, Karlville has also sought alliances with key end users and industry suppliers, and recently embarked on a specialized project with a major international beverage supplier to centralize application. Sometimes a bottle manufacturing facility can fulfill up to 30 filling plants, which would necessitate 30 shrink sleeve applicators. Karlville has been working with the company to concentrate all application before filling, at the bottle source, which has actually proved to be very complex. Steam cannot be used to shrink the sleeves on to the bottle when it is empty because of the risk of bacterial infection and there are issues with bottle stability, so Karlville has developed an alternative solution that applies the sleeve using vacuum conveyers.

Karlville has also worked on a project with Zeller+Gmelin for an adhesive shrink sleeve to be used on conical cups. Zeller+Gmelin has concentrated a lot of effort already on making UV-curable shrink inks work – standard UV-cured ink typically creates a tight, hard matrix that can impede smooth shrinkage or simply crack off the film itself. The past two years have seen a turnaround and inks such as Zeller+Gmelin's Nuvaflex 32 Series, Xsys Printing Solutions' Flexocure XS and Sun Chemical's New Solarcat product, are able to cope with 75 percent shrinkage from the highest shrink PETG available.

Zeller+Gmelin has been helping companies that want to get involved in shrink, but only have UV-curing capabilities. The cup project with Karlville and several end users, involved the development of a UV-curable positioning adhesive that would not rotate and would keep the label in place when it has been in the freezer.

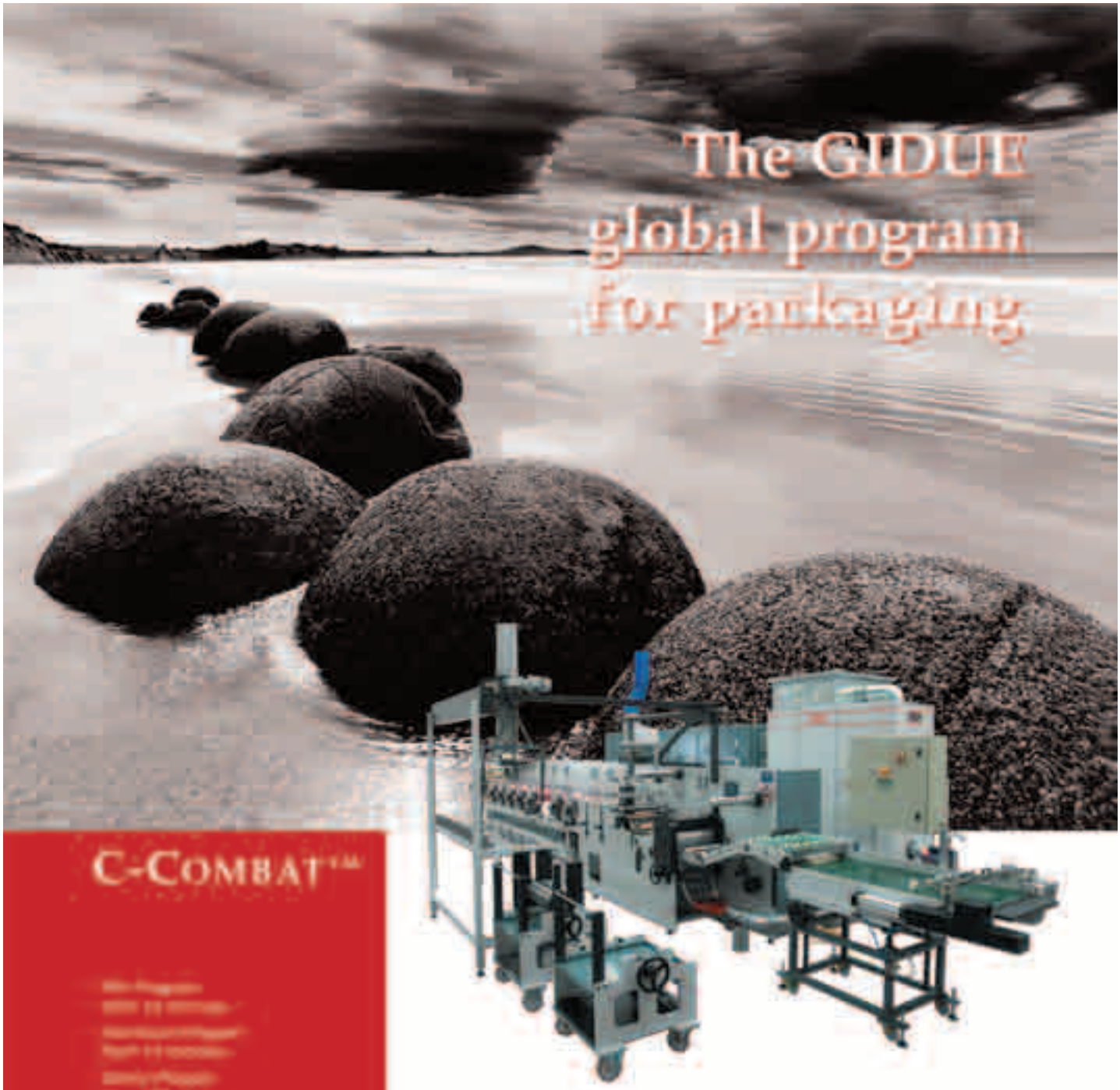
'The adhesive is smooth and not sticky when it is applied, but then it needs to get very sticky when it is heated,' says Kilbo. 'This is not difficult to do with water-based or solvent inks as they have a high molecular weight, are pretty resinous and are tack-free to touch, but UV coatings have low molecular weight oligomers and that matrix is usually tight.'

Research into these new applications is worthwhile, as Kilbo claims that, 'there is an interest in shrink from all new markets for UV and most of that growth has been in narrow web.' Matos reinforces this position, describing shrink as a 'new frontier', with constant developments occurring in containers, inks, film and processing. 'Right now, the benefit of shrink is in decoration,' he says, 'but in the future it will be functional like flexible packaging, with oxygen, moisture and smell barriers.'

Shrink sleeves are already displaying a certain level of functionality by incorporating tamper-evidence properties or, for example, by acting as a light barrier for fresh fruit juices, but the Dupont Cool2Go wrap released this summer has taken sleeves to a new level. Arriving just in time for the hot weather, the specially engineered substrate is a thin insulating layer which protects beer from balmy days and warm hands. The wrap was launched on the Labatt Cold One in Ontario and Quebec in Canada and it is made by placing polymer insulation between two layers of DuPont Teijin Melinex polyester film. The patented process produces a thermal barrier that locks in the chill for beer drinkers.

> "You are not just selling a sleeve – that is only 20 per cent of the equation"

'End users are trying to create some buzz in their flagship brands and add value in the summer months. I think that Labatt has achieved this,' says Susan Procaccini, DuPont Packaging and Industrial polymers. 'It is getting more competitive at the shelf



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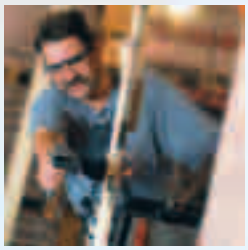

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The Labatt Cold One has an insulating polymer layer incapsulated by a shrink sleeve

level and this kind of packaging is adding further tangible value to the consumer. We are going to see this kind of functionality increasing.

'Temperature really influences a consumer's experience of a product. We did taste-testing with professionals and with an outside group where we tested different categories of temperatures to find the time that a product takes to get warm – to the 'yuck factor'. You can actually notice the difference in temperature with this product – it has a real value for canned products.'

Multi-Color Corporation printed the Cool2Go sleeves for Labatt – reverse-printed rotogravure – at its Scottburgh, Indiana facility. The insulation is added to the can and then the printed sleeve is shrunk over the top of this. Moving forward, DuPont plans to work with other converters to license this technology.

'This was a very interesting project,' says Terry Fowler of Multi-Color Corp. 'The shrink sleeve could not squash the insulating layer. We needed a substrate with enough shrink, but not too much so that it would compress the insulation.'

Multi-Color has expressed its commitment to shrink sleeves by upgrading its capabilities with the addition of a seamer and two inspection rewinders from Stanford Products. 'We are experiencing lots of interest in shrink and it is continually being expanded into new markets such as beer. Anheuser-Busch introduced a beer called B^E (B to the E) that originally came in a 10oz can, but we translated it into a bottle with a shrink sleeve.'

Heat transfer is another increasing trend that Multi-Color has been experiencing in the beverage segment. There have been many improvements in its application, and production speeds are increasing. 'We have been transferring on glass for the Napa Valley Vineyards,' notes Terry Fowler. 'They wanted a look similar to direct screen, but with a higher quality graphic. When you transfer, there is usually a small wax halo, but Multi-Color has developed ClearVantage inks so that you just get the image. Another one of the more successful projects we worked on recently was Cocktails by Jenn. The brand owner wanted a very specific look with very colorful graphics, but it also wanted a kind of acid-etched look. With a heat transfer label we were able to get the look without the cost.'

'We have been transferring on glass for the Napa Valley Vineyards. They wanted a look similar to direct screen, but with a higher quality graphic"

The future of PS

Fowler of Multi-Color Corporation points out that heat transfer is the ultimate no-look label. However, the original filmic no-look label looks set to stick around for some time yet. Spear, headquartered in Cincinnati, has focused specifically on clear film labels for the beverage industry since 1982. Today it has 54 presses printing at three operations throughout the US and one in Europe. Spear also has a technical arrangement in China and recently merged its European operations with the Illochroma Labeling Group. Spear is the famed converter responsible for taking Anheuser-Busch's Bud Light from cut and stack paper to clear PS and it is working hard to take on the rest of the beverage industry.

'Pressure sensitive will continue to grow,' says VP Marketing, Dan Muenzer. 'Beverage is the only area where it doesn't already have good penetration. In North and South America, PS accounts for up to 65 percent of all labeling, but in beverage it is significantly lower than that. In beer it is less than 20 percent.'

Muenzer explains that the beer industry is highly competitive and with major industrialized countries like the US experiencing negative growth, marketers start looking into spicing up their packaging. 'Bud Light sales have grown every year apart from 2003, when it had a sales decline for the first time. We had

Renewable label resources
BIOTA water of Ouray, Colorado, is the world's first beverage to use a compostable plastic bottle, right down to the label. In a commercial composting process, BIOTA bottles will degrade within 80 days and they are manufactured using polyactic acid (PLA). All Stick Label of Bolton, Ontario, used PLA labelstock provided by Green Bay Packaging to print one million labels for BIOTA.

UK water brand Belu is also using PLA labels. As a company that reinvests 100 percent of its profits back to pure water projects, PLA is the perfect, environmentally-friendly substrate choice. The label is applied to a glass bottle.

"Pressure sensitive will continue to grow. Beverage is the only area where it doesn't already have good penetration"

already been looking into a new graphic with a clear-on-clear label, so they decided to introduce it. They moved to clear PS throughout 2004 and sales grew by 3.5 per cent. We like to say that the package had a lot to do with it. The beer industry continues to decline, but Bud Light sales are still increasing today.'

Companies like Anheuser-Busch, SABMiller and Heineken are investing in the technology and seeing that PS is more efficient on their filling lines. Muenzer says that overall throughput can be increased dramatically with a PS line. Historically PS labels have been applied too slowly for the filling lines, so it was an expensive technology. Bottles needed to be pre-decorated and it added another cost element into the process. In the past two years there has been a quantum jump in speed of application and Spear is now able to apply up to 1,000 bottles per minute. Spear's business is heavily dependent on application technology, so a strategic alliance with filling and label applicator machinery manufacturer Krones is key.

At Drinktec 2005, Spear made an exciting announcement about a new film label for the returnable beverage market. The returnable bottle market is five times the non-returnable market and therefore offers a huge opportunity. The US is 60 percent of the non-returnable market and only a handful of other countries like the UK and Italy don't return glass bottles. In the past Spear has only been able to go after the non-returnables market. Returned bottles go through a caustic bath where a combination of heat and chemicals cleans the bottle. The paper labels disintegrate and turn to pulp which is then skimmed out. The bottles then go through a series of washing chambers. Painted bottles can withstand the caustic bath, but PS labels can only withstand half of the process and therefore aren't clean.

'ThermoWash is a new technology and when the film label hits the caustic bath, it comes off clean and can be extracted,' says Muenzer. 'The challenge was to get the label off cleanly and not have a detrimental effect on the washer. Past attempts were found to contaminate the paper labels, but in our solution, the label stays intact. The adhesive also detacks and stays with the facestock.'

Carlsberg has been trialing ThermoWash successfully in Turkey and Romania, and it's only a matter of time until it is rolled-out in other countries. The implications of the development are huge – just think of all the returnable beer bottles that still use paper labels.

Spear is also able to take advantage of optically oriented applicators that can accurately place labels. 'In the past, if a label had to be placed accurately, a lug would have to be designed into the bottle, so that the applicator could physically detect it while it span the bottle around. This slows down the application process significantly and the bottle needs to be made from heavier glass to accommodate the lug. If a label didn't need accurate orientation, it could end up straddling the seam of a bottle which can look bad. Now we are able to use a vision system that

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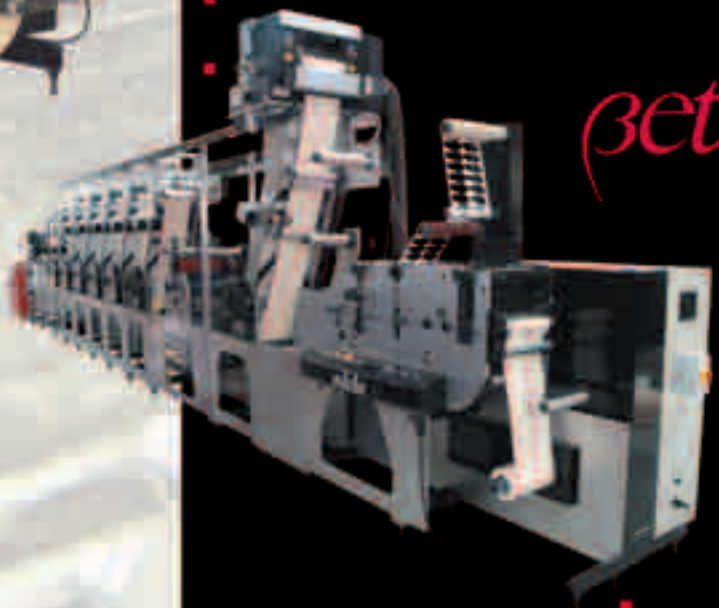

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Wolfgang Puck has introduced a self-heating coffee drink into the US market. The shrink sleeve label features an ink spot that changes color to indicate when it is ready to drink

The role of the container

The beginning of this year saw the launch of a 10-ounce container of Wolfgang Puck gourmet latte that heats itself at the press of a button. A single step mixes calcium oxide (quicklime) and water, heating the coffee to 145 degrees in six minutes, and staying hot for 30 minutes. Puck is the owner of several Los Angeles restaurants and he has licensed his name to WP Beverage Partners. WP has linked up with OnTech, the technology specialist that designed the heating process.

The self-heating can has an eight-color flexo printed shrink sleeve label. Two of the colors take thermal ink and sealant over gloss. Printed by American Fuji Seal, the substrate used is Plastishield, an American Fuji patented polystyrene shrink label . The label features a thermochromic ink spot that turns from pink to white when the product is at the perfect temperature, indicating that the product is ready to consume.

'The ability to heat a product at a push of a button with out any external heating source brings a new level of gtconvenience to anyone's product,' says a representative from OnTech. 'For example: Ready to Drink (RTD) coffee has about a three per cent share of the coffee market. Most people like their coffee hot, with our container we offer the RTD market the ability to sell their RTD coffee to the other 97 per cent of the market – huge potential for increased sales.

'Functionality is becoming increasingly important in the beverage segment. Take the Coca Cola example; Coke was just a fountain drink with limited distribution opportunities because of the carbonation. When Crown, Cork and Seal invented the crimped pop-top lid, Coke was able to offer their drink to anyone at anytime by just removing a lid on a container. Our container is now opening many new opportunities for coffee, cocoa, tea, soup, water, baby formula and other companies, to offer on-the-go consumers new lines of hot RTD beverages.

orientates the label, which means that you can lightweight the bottle and orient the label at higher speeds,' says Muenzer.

Spear has a veritable toolbox of decorating techniques for end users to choose from. This year it printed a glow in the dark label for Miller Genuine Draft for nightclubs in South Africa, thermochromic labels for water brand Vinergy and Carlsberg beer, a tactile label for Arizona Ice tea that feels like lemon peel and many removable promo labels for drinks such as Miller and Appletise in the UK. Delve deeper into the box and you'll find hydrochromic labels, rub n' smell labels, labels that you can etch into, labels that have face paints on them and a vast array of special-effect films (lenticular, prismatic, holographic) that are all looking for commercial applications. And as end users struggle for differentiation, more and more of these prototypes will end up on the shelf.

Innovation is rife as end users battle for territory in the beverage segment. Traditional ideas about containers are being turned on their heads – Anheuser-Busch released a beer in an aluminum bottle by CCL container and in the UK, Old Kent Inns has been packaging Dog & Duck Best English Ale in a Tetrapak box. Labels are even venturing into the high-tech. Coyopa rum from Barbados has a paper-thin electronic label that shows local dancers in action – the routine and accompanying song is illuminated once the bottle is lifted. What will they think of next? ■

Metallization: looking on the bright side

Developments in ink systems that seek to mimic metallized substrates, foil stamping and foil transfer are widening the opportunities to add stunning surface embellishments to labels. **Robert Shimmin,** Shimmin Associates, reflects on the increasing number of options on offer

Metallic finishes and embellishments are favored by designers for their ability to add eye-catching brilliance, beauty and value to labels and packaging. They are perceived as expensive like the metals they aim to replicate and provide a striking addition to a brand's image.

Gold and silver foil in particular have long been used on products such as spirits, cosmetics and personal care where their high retail value has been able to withstand the additional cost of what was a relatively expensive process.

In recent times however, the development of new technologies and processes has reduced costs, introduced some stunning innovations and has increased the opportunities to add metallic embellishments to a wider range of shorter run and lower value products.

This article provides an overview of the expanding range of metallic finishes available whilst reflecting at their distinctive characteristics, relative merits and cost components.

Challenging hot foil

Metallic decoration tends to be synonymous with hot foil stamping. Its superb brightness and mirror finish has effectively been used to simulate its historic predecessor gold leaf.

But foil stamping is a relatively slow and expensive process. Effective foil transfer requires a split-second dwell time in order to allow enough heat to reach the adhesive's activation temperature and this can limit the maximum speed at which a press can be run. In addition the hot stamp die itself represents a considerable cost. With a typical rotary die costing £1,000, short runs are impractical and any design or content change of the printed item requires a completely new die.

The challenge has always been to find alternatives that are able to meet the high levels of reflectivity achieved by hot foil stamping whilst overcoming these fundamental issues.

Cold foil getting hot

Recently credible alternatives have emerged which can produce labels that are remarkably similar in appearance to those that have been hot foil stamped but at dramatically lower prices.

Cold foiling, or 'die-less' foiling as it is known, is one of these. It first prints a glue as if it were an ink, using a normal printing plate. The foil is then rolled onto the glue and the waste carrier pulled away to reveal a perfect metallic image adhered to the substrate. This allows foil to be printed in-line with inks, at favorable speeds using cheap, quickly obtainable printing plates as the image carrier.

Cold foil quality depends on there being enough glue for the foil to stick to, so substrates that absorb most of the glue can be a problem. Filmics and gloss papers are therefore most suitable for cold foil and results on filmics are often indistiguishable from hot foil without the aid of a magnifier. Cold foil is best established in UV cured narrow web printing but technologies are now emerging that allow cold foiling on sheet-fed presses, their brilliance is not as good as hot foil or UV narrow web cold foil but this is an area that might develop in the next few years.

The adhesive is a key element in effective cold foiling. There are two different types of adhesives, free radical and cationic. The difference between these products is that the free radical adhesive reacts only when exposed to UV light, whereas the cationic adhesive has an initial cure to make it "tacky" and a post cure to completely cross link.

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'Die-less' cold foiling changes the economics of metallic decoration

The system used will depend on the configuration of your press, but as David Jarvis, Business Development Manager API Foils explains: 'Cationic using a retarded cure adhesive which is cured and becomes tacky before the foil is rolled with curing to dryness continuing over the next few minutes. This is a good process in the hands of an experienced practitioner, but the use of cationic chemistry makes it unpredictable and, in the eyes of some, unstable. In practice I recommend the modern 'through cure' free radical process because it is more user friendly and stable.'

It has been suggested in some quarters that cold foil can be run up to seven times faster and that its rub resistance is better than conventional hot foil stamping. What is certainly apparent is that it is allowing converters to add embellishments in sectors of the label market that previously were out of reach.

Indeed the simplicity and low cost of adapting most UV web presses makes this technique easily accessible to printers who would not otherwise invest in conventional hot foiling equipment.

A key benefit of cold foiling is that it can be used on a wider range of material. David Jarvis, Business Development Manager at API Foils adds, 'Dieless cold foil can be used on substrates that may be have been adversely affected by hot stamping. A broader range of base stocks including plastic laminated tubes, flexible packaging and even thermal paper can now accept cold foil.'

According to David, cold foils have been used for some blow moulded in-mould labels (IMLs). Recently API have developed a hot foil product for injection moulded IML's which previously could not withstand the heat.

Cold foil too has the potential to be printed onto shrink sleeves, but in order to retain its visual characteristics it will only accept a few percent shrinkage.

Half-tone foiling is an exciting feature of the cold foil process still to be fully exploited by designers. The use of a printing plate in the process enables true half-tone metallic effects to be created.

On the downside, foil saving devices that use variable pull systems to optimize material usage cannot be used with cold foiling methods because of the requirement for a constant nip. Indeed it must be remembered that the use of foil saving devices can significantly impact on any cost comparisons between hot foil stamping and its rivals.

Overprinting foils

Another lower cost alternative to hot foil stamping has evolved that combines the recent improvements in high definition flexography with the emergence of higher quality ultraviolet (UV) inks and printing processes. Using standard printing plates flexographers are able to successfully overprint an entire label on pressure sensitive foil, carefully reversing out the areas previously designed for hot stamping. The only increase in price for this process over a standard pressure sensitive label is the minor cost differential between the paper and foil.

Overprinting ink onto hot stamping foil is also a trend worthy of note. In the past foiling tended to be the last process and on web presses the hot foil unit would have been at the end of the press. Now it is not uncommon for hot foil or cold foil units to be in the middle of the press in order to allow ink over-printing. This allows nice effects to be achieved but poses a problem for the ink manufacturers and foil suppliers due to the poor ink receptivity of many grades of printed foil. The problem is being addressed. API Foils's OR8 foil for example is guaranteed to have a surface energy of over 42 dyne and is ideal for over-printing hot stamping foil.

Reflecting on inks

But by far the easiest way to replicate metallics is through inks. Metallic inks contain particles of aluminum. Ideally these particles should be flat platelets which when printed, all lie down flat to assemble a mosaic-like mirror. In reality however the particles are not platelets and they don't all lie flat, so most metallic inks only give a very dull imitation of the effect they try to mimic.

Eckart began the distribution of vacuum metallized pigments in 1990 (under the brand name "Metalure" from Avery Dennison). Soon after they began the development of inks based on vacuum metallized pigments that included the ability to create solvent based inks exhibiting mirror finishes.

Wolstenholme International also offer inks using vacuum metallized pigments.

As opposed to conventional metal pigments, Metalure pigments are produced by vacuum evaporation (physical vapor

Eckart gravure printed VMP silver inks in combination with transparent colours

Photo above shows flexo VMP ink examples

deposition) of a microscopically thin aluminium film onto a carrier foil. The aluminum layer is subsequently removed to be broken into particles for incorporation into various ink media. This process makes it possible to produce very thin and light pigments with a homogenous particle thickness hundreds of times less than that of conventional metal pigments. Because they are lighter and thinner, Metalure pigments can align themselves parallel to the substrate surface faster than conventional metal pigments. When formulated correctly, these properties result in the formation of a smooth and even surface with very few edges and corners to scatter light. The properties of Metalure pigments can offer maximum of directed reflection.

Press ready VMP metallic inks can be applied by all the major printing processes and are available in oil, solvent or water based formats.

Wolsenholme Metasheen VMP is used extensively for wet glue applied beer label applications where gravure printing is commonly employed. Metallic inks are understood to have positive benefits when it comes to pack recyclability. The discreet ink particles make for easier penetration of the caustic solution and therefore easy stripping of the label from the glass bottles.

Reverse printing moves ahead

Inks containing VMP's are also experiencing growth for no-look label look self-adhesive applications. Reverse printed gravure onto a clear substrate such as PP, VMPs are capable of achieving a bright and highly reflective appearance that resembles that of foil blocking.

Oliver Crowhurst, Director of North American business development at Eckart says solvent gravure is the ideal process for VMP ink technology.

'Using solvent gravure we can now achieve mirror-like reverse print or very high reflectance surface print.' The company's UV flexo VMP inks by contrast exhibit only two thirds this gloss level.

Eckart's Ultrastar: GX-2807 offers the maximum reflectance for gravure printing. This solvent gravure product has the added features of producing a smooth film from a very low volume cylinder. The surface brilliance is improved significantly to come closer to the mirror effect of the reverse side. This product is being used in labeling and flexible packaging. It can be tinted to produce interesting metallic colours or used in combination with transparent organic colors to create some of the effects seen in the photo below.

FP-8209 is a UV flexo VMP product that offers a satin foil effect when surface printed. This product has been used alone or with transparent colors printed below giving various metallic colored effects.

Benefits of VMP inks

The benefits of using VMP inks versus other types of metallic decorating technology are mostly in cost savings and ease of use. Improved production speeds associated with printed metallics form an important part of the relative cost equation.

VMP inks are likely to be cost effective versus other types of decorating when they are printed selectively but this varies by application and depends on many factors.

Wolstenholme International have now introduced an upgraded version of the INKANTATION (www.wolsenholme-int.com) calculating tool which provides an opportunity to select the most cost-effective metallic finish for a variety of printing applications.

Calculation formulae are based solely on application comparisons between different metallic effects, such as inks, metallised substrates and hot and cold foil stamping and INKANTATION is built on data supplied by PIRA.

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Flexo VMP ink reverse printed

Rotary screen metallics were used on the relaunch of Bacardi Limon

Rotary screen metallics

A perfect example of how rotary screen printing was used to print metallic imagery to stunning effect was the relaunch of the Bacardi Limón citrus-flavoured spirit for Bacardi & Company Limited.

All three colours – including gold – on its PP clear label were in fact printed using this process. The thick ink coverage possible with rotary screen enables vivid, opaque coverage, which creates a high-impact package, when viewed from a distance. A close look at the eight medallions and the crest at the bottom of the label perfectly shows another benefit of choosing rotary screen for metallic foils: the potential for extremely high level of detail and fine linework. The Spanish label printer responsible for printing this label used non-woven, nickel screens from Stork Prints' RotaMesh range. These screens are very strong, stable and re-engraveable, and can run up to 100 m/min on press.

Rotary screen VMP

As with the gravure process solvented screen printing is able to float VMP pigments on a layer of solvent that is then dissipated by evaporation. The flakes align better to a clear substrate when reverse printed thereby producing a high degree of reflectivity and brilliance which is further enhanced (and protected) by the natural gloss of the filmic material. Both gravure and solvented screen systems require investment in extraction and a controlled explosion proof environment but for short runs screen printing can offer a number of advantages over its gravure counterpart as Vim Zoomer, Stork BV explains,

'A rotary screen printing system allows the re-use and reimaging of screens. The ability to re-use a screen up to 15 times significantly reduces the costs per job, since the initial screen cost is apportioned to the number of jobs it is used for.'

For longer runs and where screen wear can be an issue, or for achieving subtle vignettes and half-tones, the gravure cylinder can be a better solution however.

The flexibility of screen modules can also be advantageous. The Rotary Screen Integration module developed by Stork will slot into fixed positions on most printing presses and therefore can be used to deliver a wider range of ink systems and coating weights which can be important in the quest to achieve a desirable metallic design feature.

With solvent-based inks effective drying is very important, if a productive speed is to be maintained on the press. Stork Prints also has the expertise to supply the bespoke hot air dryer, suited to the printer's market and space needs.

More metallic design options

As designers become more familiar with the capabilities of VMP inks, more design options are emerging such as printing screens and vignettes and trapping colors over silver to create new effects. In addition all the other processes are responding in innovative ways as well.

Rainbow-effect metallic inks

Eckart has recently introduced a product line based on a new VMP technology called Prismastar that exhibits a rainbow effect that changes color depending on the angle of the viewer. The addition of micro embossing to the VMP (vacuum metallized pigment) manufacturing process has made this possible. These special refractive pigment particles are being formulated into solvent and UV base inks for most printing processes including flexo.

These inks are visually spectacular offering an 'interactive' display to the viewer who can observe a significant shift in color as he or she passes by the package or object.

Developments in reverse printed solvented screen printing using Eckart VMP inks

Rainbow effect metallic inks

Hot foil features

According to API numerous effects are possible from hot stamping foils that just aren't available from inks. For example satin metallic and ultra satin foil varieties offer an appealing but 'slightly less in your face' appearance than ink and it is claimed reflect light diffusely and more effectively.

Holographic foils, the ultimate in eye catching shelf appeal, can accommodate anti-counterfeit features, whilst a novel transparent holographic foil allows underlying information to be still seen (and protected).

There is a new trend too towards larger holographic effects. Holographic effects are imprinted into films and foils using shims but, just like printing plates, turning a flat shim in to a seamless rotary sleeve is difficult. Holographic producers strive to minimize the number of shim joins or to reduce the visual impact of joins. API Security Foils can now offer a flat shim size of 1015mm x 1025mm which is believed to be industry leading.

Rebirth for bronzing

Bronzing gives a unique metallic finish but it has always been considered to be a messy process. It usually requires an additional pass through a press linked to a bronzing machine that enables a deposit of bronze powder to be laid onto a printed image. The surplus powder is then extracted off the sheet leaving the image coated with the bronzing powder. The bronzed area is then burnished with polishing belts to give the final result. To ensure that the sheet is completely cleared of powder a further pass through a press is then required to varnish the bronzed area and ensure the correct scuff resistance.

John Morton, Senior Trainer, 4impression Training and formerly Production Director of Jarvis Porter Group headed an R&D program that carried out work on the replacement of the traditional bronzing process using a multi-process platform press. The press was capable of printing the bronzed image using the actual bronze powder as an integral part of the ink system. The image was printed as an in-line operation and used a standard drying system.

This novel method of bronzing successfully eliminated any secondary process passes, the additional varnishing and the need for powder application. It also solved in a single stroke the environmental/health and safety issues surrounding its use.

Multiple metallic FX

In instances where a designer wants to add multiple metallic colors on a single label then Metal FX Technology can be a decorative option worthy of consideration.

MetalFX was born from the idea to create a virtually unlimited range of metallic colors by printing only five colors on a standard printing press. The inherent transparency of CMYK ink coupled with the high metallic brilliance of the base metallic ink set creates a visual illusion of bright and vibrant metallic colors.

Two different silver base metallics are available but Premium MFX silver with a higher metallic content produces a higher lustre.

Variable metallic development

The ability to print fully variable data metallic effects has become a reality with API's launch of digital die-less foiling. This new concept in foiling technology (patent pending) sees the marriage of die-less cold foiling with UV curable digital inkjet printing.

A digital inkjet head prints an adhesive in the required pattern, die-less foil is rolled on to the adhesive and the foil passes through UV lamp while still in contact with the adhesive. Printed at a seed of 30 metres per minute the result is variable

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MetalFX can be used on labels to create multiple metallic colors all by using the silver base ink overprinted with CMYK

data, high reflectivity metallic/holographic effects with no plates, no dies, just foil.

Value added

Metallization as used as a decorative embellishment for labels and packaging is as popular as ever. It is evident that its brilliance, reflectivity and beauty are perceived by consumers as reinforcing the prestige of the product it adorns.

As we have seen a number of credible alternatives to the hot stamping process have emerged, which can produce labels that are remarkably similar in appearance to hot foil stamped labels but at dramatically lower prices.

The evolution of new processes and systems has changed the economics of the metallization process, vastly increasing the choices available and extending the markets, materials and applications it is suitable for.

A wave of innovative finishes and effects are adding new weapons to the brand owner's arsenal as they seek new ways to differentiate their products but as is always the case there will be a trade off between aesthetics, cost and practicality.

The metallization process continues to proliferate. Innovative techniques and processes offer ways for converters to add value …and new ways for them to excite customers and win profitable new business. ■

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Installations

CBF Screenprints
Franchini screen press

AB Graphic International has supplied a second Franchini Sericonvert 330 screen printing press to CBF Screenprints Ltd. The press is equipped with three UV screen print units, flat bed die cutting and an Omega STR2000, also from AB Graphic International, for slitting and rewinding finished labels.

The new press compliments a similar Franchini installation at CBF Screenprints supplied by AB Graphic International, and includes a conventional hot air dryer after the first print head and first UV curing unit. This allows CBF to use either solvent based or UV inks on the first print head.

Roger Smales of CBF commented, 'AB Graphic International has also modified our first Franchini press to the same specification as the second with the addition of a conventional dryer after the first print head and the first UV unit. The second machine was added as a result of increased demand for product from a major customer. We process self-adhesive paper, PP and Vinyl substrates on these machines and serve paint manufactures, the clothing trade and the packaging market. The quick set up of the Franchini press and the use of inexpensive flat bed cutting dies makes us competitive on short runs in these markets".

Commenting on the initial cross over from sheet-fed to roll label production, Roger Smales concluded. 'Originally all our work was sheet fed, including bar coded colour chip labels that we printed for paint cans. We produced them for a local company until they were to be bought out by a bigger paint manufacturer. This could have meant that we would have lost a large amount of business, as this company had existing label suppliers who all supplied labels on rolls. We took the decision to buy a machine to enable us to print labels on rolls in an effort to retain existing business and also with a view to gaining more business. '

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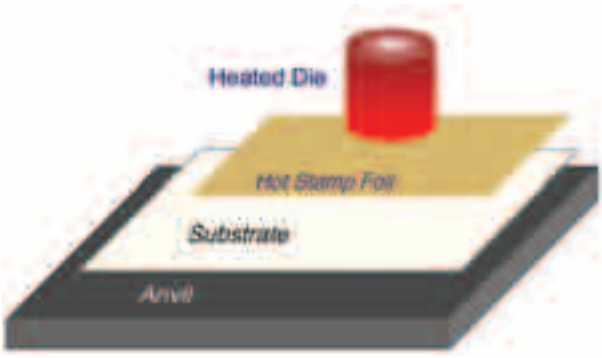
Hot stamping hints

David Polkinghorne, of DMS Inc, a manufacturer of tooling, equipment and accessories for rotary hot stamping gives his definitive guide

Hot stamping is a process for transferring a dry film to a substrate through heat and pressure.

Fig 1. Main components of the hot stamping process:



Anvil – Usually made of a hard rubber or phenolic. The anvil must be hard enough to resist cupping under the load of the die, soft enough to protect the die from irregularities in the substrate, and resilient enough not to take a set through repeated pounding.

Substrate – A wide variety of substrates are suitable for the hot stamping process. Surface tension of the substrate has the same affect on hot stamping as it does on printing. In addition to surface tension, the porosity of the material has a profound affect on stamping speed. A dry material will tend to cool the foil before it gets a chance to adhere properly. The resulting stamp will show a mottled surface similar to how ink looks on such a material. As a rule of thumb, a material that prints well will also stamp well.

Roll leaf – Also known as Foil Roll, leaf is the ink of a hot stamping operation. It is made up of a carrier with a series of coatings to be transferred. The carrier is made from polyester film that can range from just under 0.0005" to about 0.0015". The thinner the carrier, all other things being equal, the faster the foil will transfer.

The first layer applied to the carrier is a thin release coat. This layer affects whether or not a foil is suitable for fine copy or heavy coverage and affects the 'cutting' properties of the foil.

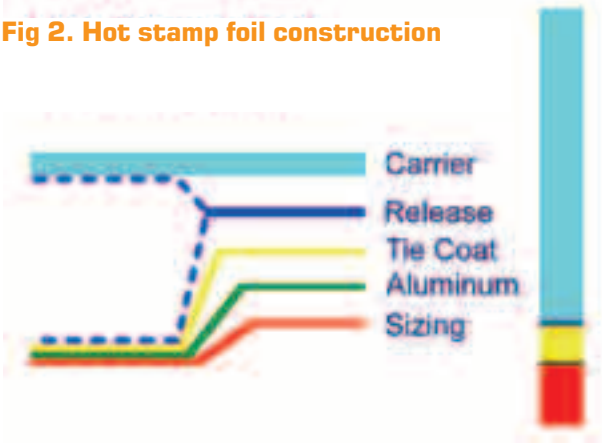
The second layer called the 'tie' or 'color' coat serves dual purposes in a roll leaf product. The first function of this layer is to provide a hard abrasion resistant surface to the foil when applied. At 1.2-1.5 microns the tie coat makes up about 30 per cent of the transferred product. Since the metallic layer is always made from aluminum, a tint is required to make a gold or other colored metallic . This tint is the second function of the tie coat.

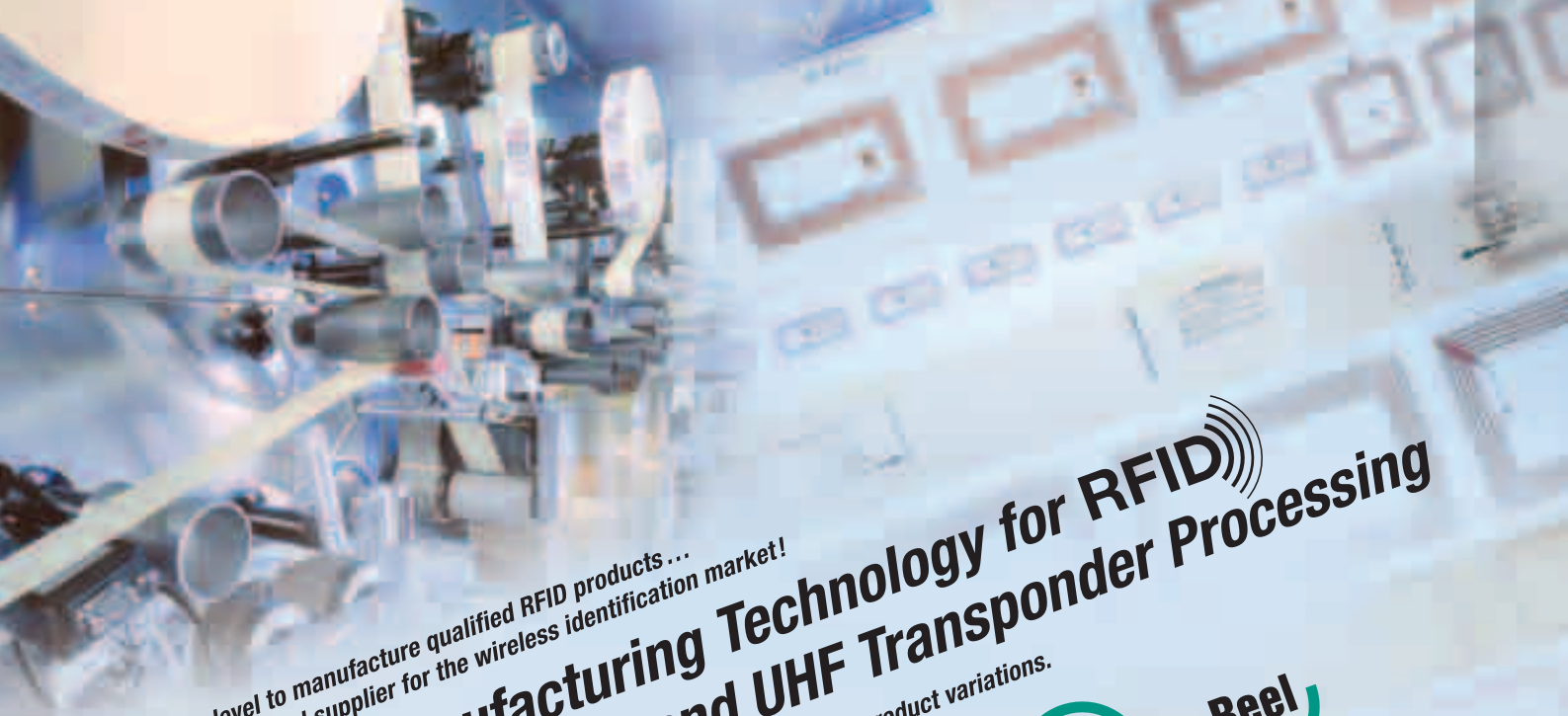
Under the tie coat is a vacuum deposited aluminum layer. This is the most opaque layer in the construction even though it is only 0.02-0.05 microns thick. This layer has no structural integrity of its own.

The final layer in the foil construction is the sizing. This is a heat-activated adhesive that glues the foil image to the substrate. At 1.5-3 microns this layer makes up 50-70 per cent of the transferred product. A thin layer of sizing cuts cleanest and tends to work best on films or high gloss materials. Heavily sized products do a better job of filling a more porous substrate.

Hot stampint die – The hot stamp die is an engraved plate where the non-printing areas are relieved. It is important that the material used holds as much thermal energy as possible at the surface. Copper alloys excel in this area and are used almost exclusively in rotary applications where dwell times are extremely short. There are two primary methods of engraving hot stamp tooling.

Fig 2. Hot stamp foil construction





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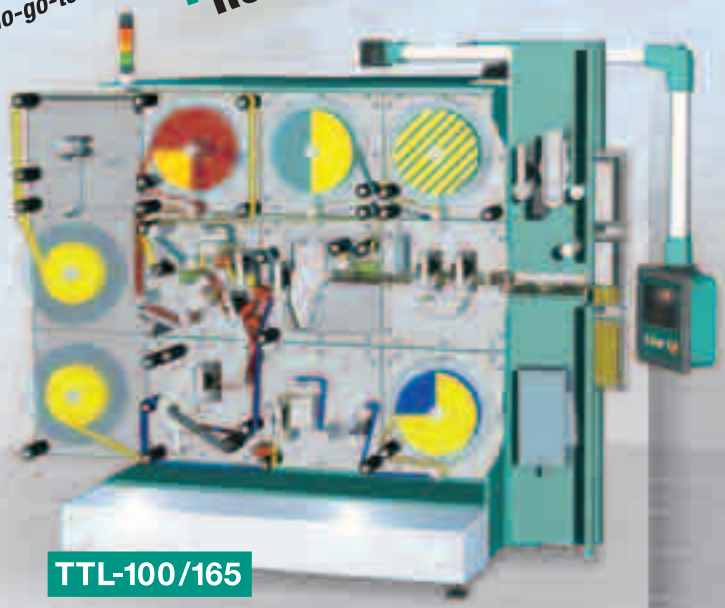

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Fig 3. Contact point of the foil and die

The original method is photoengraving. In this process the image is transferred via a photographic negative. The unwanted metal is then etched away by a strong acid. The process is very similar to printed circuit board production. The advantage of photoengraving is that as the complexity and scale of the image increases the cost remains more or less fixed. The disadvantage is that as image complexity decreases the cost remains more or less fixed. Photoengraving is a high overhead process that excels in producing complex images.

A more recent method of producing hot stamp tooling is CNC engraving. In this process the image is taken in an electronic format and specialized software generates tool paths that remove the unwanted material. The advantage of CNC engraving is that simple images can be produced very efficiently. As the quantity and complexity of the image increases, the cost increases proportionately. CNC engraving is a low overhead operation that most efficiently produces less complex images.

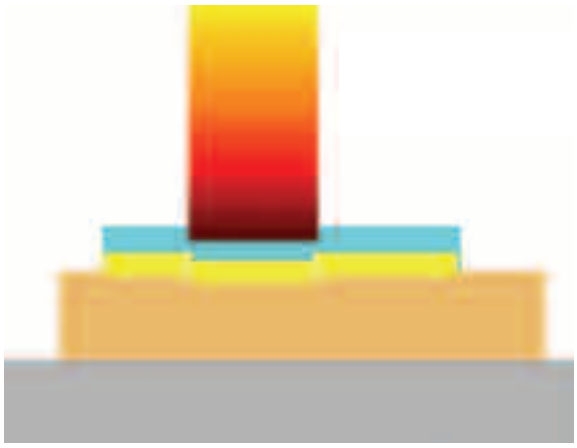
Heat + pressure + time = foil transfer

Foil is transferred to the substrate when a heated die forces the foil onto the substrate against the anvil. The die must be hot enough to activate the adhesive (sizing) on the back of the roll leaf and adhere it to the substrate. The die also performs the very important function of cutting the foil all around the perimeter of the detail being transferred. Without this cutting action the foil will bridge across any small reverses in the copy.

Rotary hot stamping – The information provided up to this point is general and applies to both rotary and flat bed hot stamping. In rotary hot stamping the time element in our transfer formula becomes an inverse function of press speed. Since the contact point between two rollers is theoretically a line this time function becomes very short. A good point of reference is that at 100 FPM 0.020" of material goes by in one millisecond, it takes about 75-100 millisecond to blink your eye.

This extremely short dwell time explains why porous materials prove difficult to process rotary. As the top fibers cool the sizing, the foil solidifies on top of the material before it can creep down into the fiber. The dwell time that allows a flat bed system to force the foil down into the substrate also allows heat to move laterally through the film. This causes the foil to release or 'bridge' across fine reverse details. Thus, short dwell time is also

Fig 4. Cutting the foil



the reason rotary hot stamping is able to produce a greater level of detail than the best flat bed equipment.

Rotary hot stamping equipment – For a rotary hot stamping system to operate it must perform two basic functions. First it must maintain the desired temperature of the die. Secondly, it must hold the die securely in position to produce even depth of impression through heavy and light coverage regions of the die.

Temperature control – Temperature control of rotary hot stamp systems is achieved by one of two methods. Most common is internal electric. This can be used with or without cooling. The second is hot oil. While inherently more accurate, hot oil also adds a dangerous component.

Fig 5. Temperature control

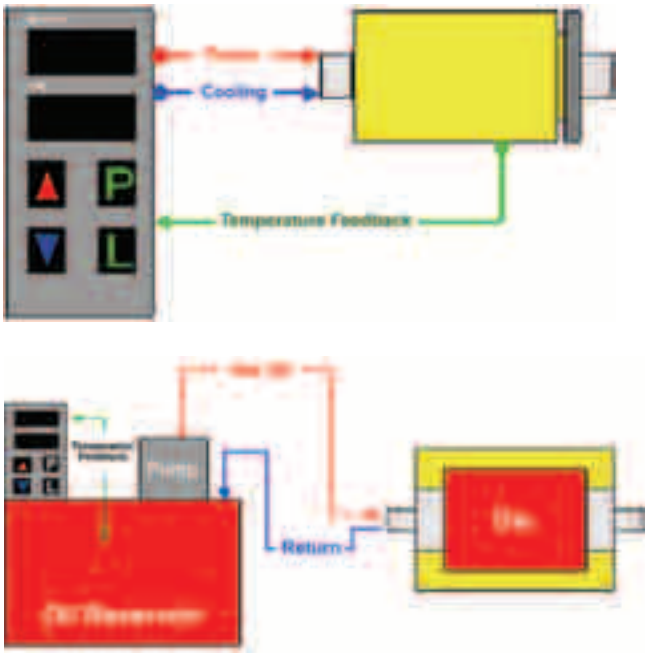
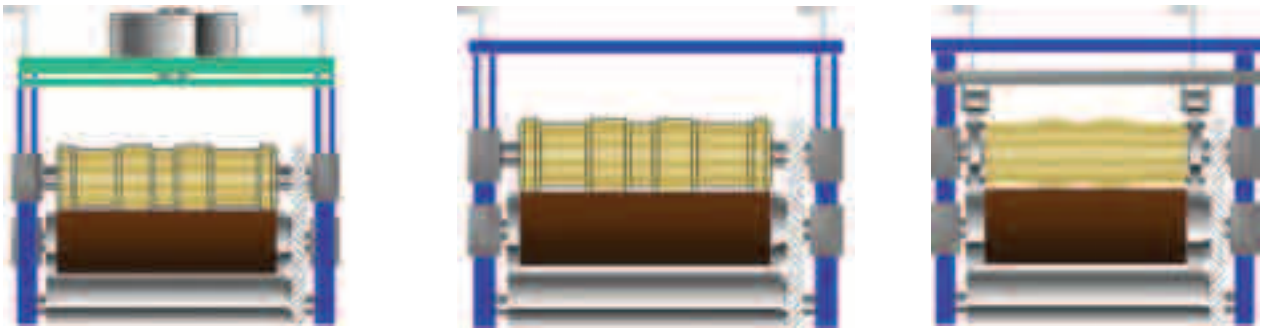


Fig 6. Impression control



Impression control – The second task of any rotary hot stamping system is that it maintains an even depth of impression. The main problem with this is that the heated die must also be taken off of impression when the web is stationary. The original hot stamp units used a pneumatic bridge to achieve this. After time the shortcomings of this system became obvious. First, the amount of lift-off was limited by the gearing. This was a particular problem on 32dp gearing where the small teeth limited throw off to approximately 0.030". Second, any variation in line pressure would affect the impression.

The next generation of impression control utilized a cam over center type mechanism where the die remained stationary and the impression roll rotates up to meet it. This system uses air pressure to make and break the impression but will hold its impression regardless of available air pressure. While this approach was a great improvement, it is still limited to webs 10" and less. The problem with going to wider webs is that as solid as the base roll may be, by applying pressure to the bearing blocks rather than die bearers, allows too much flexing in the die shaft assembly to achieve good speeds on wider webs.

The key to achieving high speeds on wider webs is in making the hot stamping system follow the same principles of operation as a cutting die. It has been a long time since applying pressure to the bearing blocks in a die cutting operation was an accepted practice. The latest designs have addressed this issue by adding steel bearers to the hot stamp die. With this design the die and anvil are sandwiched between the lower anvil roll and an assist roll where pressure can be set and monitored. With the die locked tightly in the station, the anvil is adjusted independently to meet the die. ■

www.dmsdies.com

Types of hot stamping materials

Foil Type	Use	Comments
Metallic	Prime labels, health and beauty, wine and spirits, new product promotions, seasonal	Continues to grow in popularity among more and more markets
Pigment	White on clear for overprint, signature panels, repair of mis-printed labels	Higher opacity than any other printing process
Diffraction	Tamper proof seals (CD's / video games), low level brand security, transit passes	Low level security feature that is easy to incorporate, real loud look
Holographic	Brand security, especially attractive to high tech industries	New equipment can apply registered holograms in-line
Magnetic	Parking tickets, ATB passes, phone cards	Growing market segment, superior readability to slurries
Printed	Wood grains, marbles, brushed metal	Used primarily in plastics decorating

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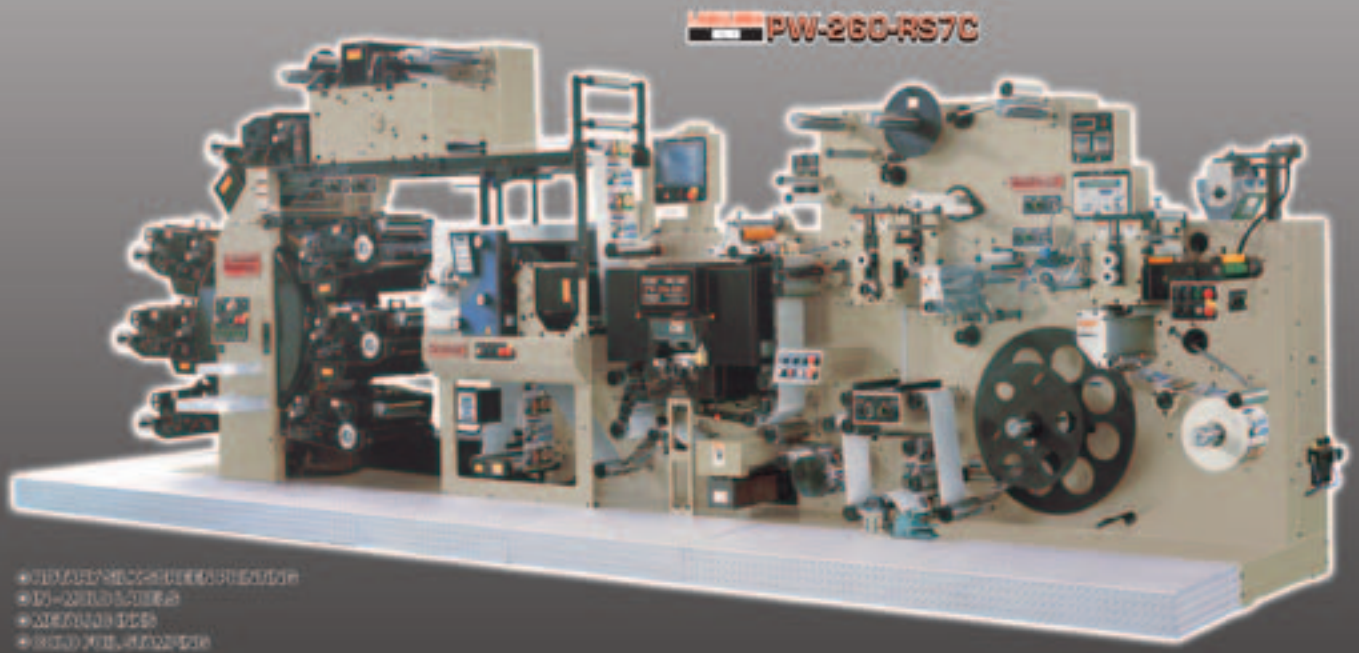

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PROflex success in Ohio

Ohio Flexible Packaging, Ohio, has seen a dramatic sales increase over the past year, which it says is partly due to a new GraphixOne PROflex press. **Katy Wight** reports

GraphixOne was one of the big success stories at Labelexpo Americas 2004. A new entrant into the press manufacturing arena, the company sold its very first PROflex press on the show floor to Ohio Flexible Packaging (OFP) of South Lebanon, Ohio. OFP is a small company in a small town, but has big plans for its future. The company was founded by president Larry Lehman in 1983. He had previously worked at Lord Label of Ohio for seven years and when an opportunity arose to start his own operation manufacturing for a condiment company, he jumped at the chance.

Lehman worked with an engineer from Lord Label to develop a press to print both film ketchup packets and paper salt and pepper sachets. The narrow web label market in the Cincinnati area is highly competitive (it's the birthplace of global giant Procter & Gamble and other major CPG companies) and although OFP has had the capabilities to print pressure-sensitive, it has always focused on growing specialized markets such as unsupported films and foils for sachets and flexible packaging – many of the areas that other label converters are trying to diversify into now. Lehman's business partner Frank Remmey joined the company in 1993 and brought his experience of spiral labels for caulk and sealant cartridges with him. Hot melt spiral labels for industrial products account for a substantial percentage of annual sales, but OFP also prints sachets for beauty samples or industrial products, wrappers for items such as soap and shoelaces, shrink sleeves, cardboard lids, pleat and wrap tissue and chub packaging for items such as adhesives.

> "We have had a 30 per cent sales increase on last year and a good portion of that has been generated by the PROflex"

The company currently has two presses – a 7-color 14" Mark Andy/Comco Commander with a corona treater and UV-curing unit, RotoFlex

The GraphixOne PROflex press

Left-right: Frank Remmey, Larry Lehman and GraphixOne cofounder Spencer Spaulding

slitter rewinder, Stanford slitter rewinder and the new 5-color 18" PROflex press – and eleven employees. Lehman believes that they are on a clear path to growth.

'We have had a 30 per cent sales increase on last year and a good portion of that has been generated by the PROflex,' says Lehman. 'Prior to investing in the PROflex, we had no idea that the press we were using was holding us back. It stopped us from attacking process work because we just couldn't achieve accurate enough register. We had lots of trouble running film and we just couldn't pursue additional film work. We knew the time was right for us to make an investment if we were going to break into new markets and I wanted to go with servo technology – we had to be able to convert film and paper-based materials. The PROflex allows us to go from paper to film to foil with just a few minor adjustments, and it has improved our quality and our efficiency.'

GraphixOne has built a strong reputation in the US as a press rebuilder. James Honeycutt and Spencer Spaulding started the company eight years ago to re-engineer presses, and last year decided to use what they had learned from working on other OEM presses to design and engineer their own press from the ground up.

'Larry at OFP fell in love with the fact that we have taken the strongest aspects of other presses we have worked on and applied them to our own designs,' says Spaulding.

'In some respects, we know the strengths and weaknesses of presses better than the OEMs because we have been rebuilding them for years. Our technicians have been able to take note of problem areas,' adds Honeycutt. 'The press has put OFP in the arena with companies that are 10-15 times its size. They are now able to compete with litho and gravure printers with lots of money at their disposal.'

> "We had no idea that the press we were using was holding us back. It stopped us from attacking process work because we just couldn't achieve accurate enough register"

OFP management must believe in the strengths of the press, as it's hoping that a second PROflex will be ready for installation in the second quarter of 2006. OFP is also talking to GraphixOne about developing a laminating machine and recently ordered two additional print units for their first ProFlex. Since this landmark first sale at Labelexpo, GraphixOne has sold three PROflex presses and has an order for the fourth from a converter in Taiwan. The press is entirely servo driven and configurable up to 16 colors. The PROflex has a cylinder wrap control for consistent web tension and an independent plate roll drive that allows you to change the print register without affecting the tension, resulting in a multiple-

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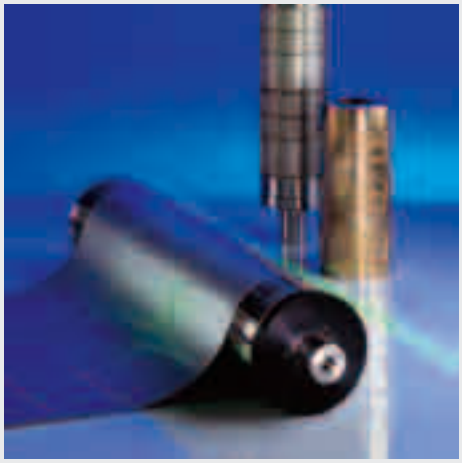

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Left-right: Plant manager Rick Adams and James Honeycutt at the GraphixOne plant

substrate press. The press can be built using standard overhead dryers or overhead chill drums that enable printing on unsupported films. The PROflex is also available with a triple die-cutting and sheeting station and the press can reach speeds up to 500 feet/min.

'We decided to leapfrog the competition and make servo as standard,' says Honeycutt. 'Mechanical systems degrade over time, but servo adjusts to this and gives consistent quality until the servo needs replacing.' The GraphixOne team believes that it has other advantages over its competition.

'Through our experience, customers were most angry with the OEMs over all of the proprietary components – primarily the electronics – and we didn't want to be the company that forced people into expensive upgrades, so there is nothing proprietary in this press,' says Spaulding. 'We also offer trade-ins and our own financing and that feeds our rebuild inventory. We have 33,000 square feet of rebuilt supplies.'

Spaulding explains that OFP traded in a press, which they used as the down-payment on the PROflex, and the two companies worked together to ensure that production wasn't affected by the swap. Remmey of OFP says the company's challenge now is to continue offering excellent customer service, while avoiding growing pains, 'and overcoming the stigma of being a small company'.

'In the last five years, the business has really taken off. We have paid our dues in the cartridge industry and we are now considered reliable, high quality and good value. Now we are seeing business move from our competitors to us and we have

"We decided to leapfrog the competition and make servo as standard, mechanical systems degrade over time, but servo adjusts to this and gives consistent quality"

customers that are excited about doing business with us. In our strategy for the future, we want to grow our films business and diversify,' says Lehman.

GraphixOne is also keen to enter new markets and has established agents in China, Indonesia, Latin America, Australia and New Zealand, but is still looking for the right distributor in Europe. As a small company, Spaulding explains that GraphixOne can react quickly to support customers, when it may take larger, more established manufacturers, weeks just to process a new order.

'I see more and more custom requests and they all have unique aspects,' he says. 'Every press that we are manufacturing is different and our customers are starting to expect that. They want to be distinctive and unique – and that is the only way that we know how to build.' ■

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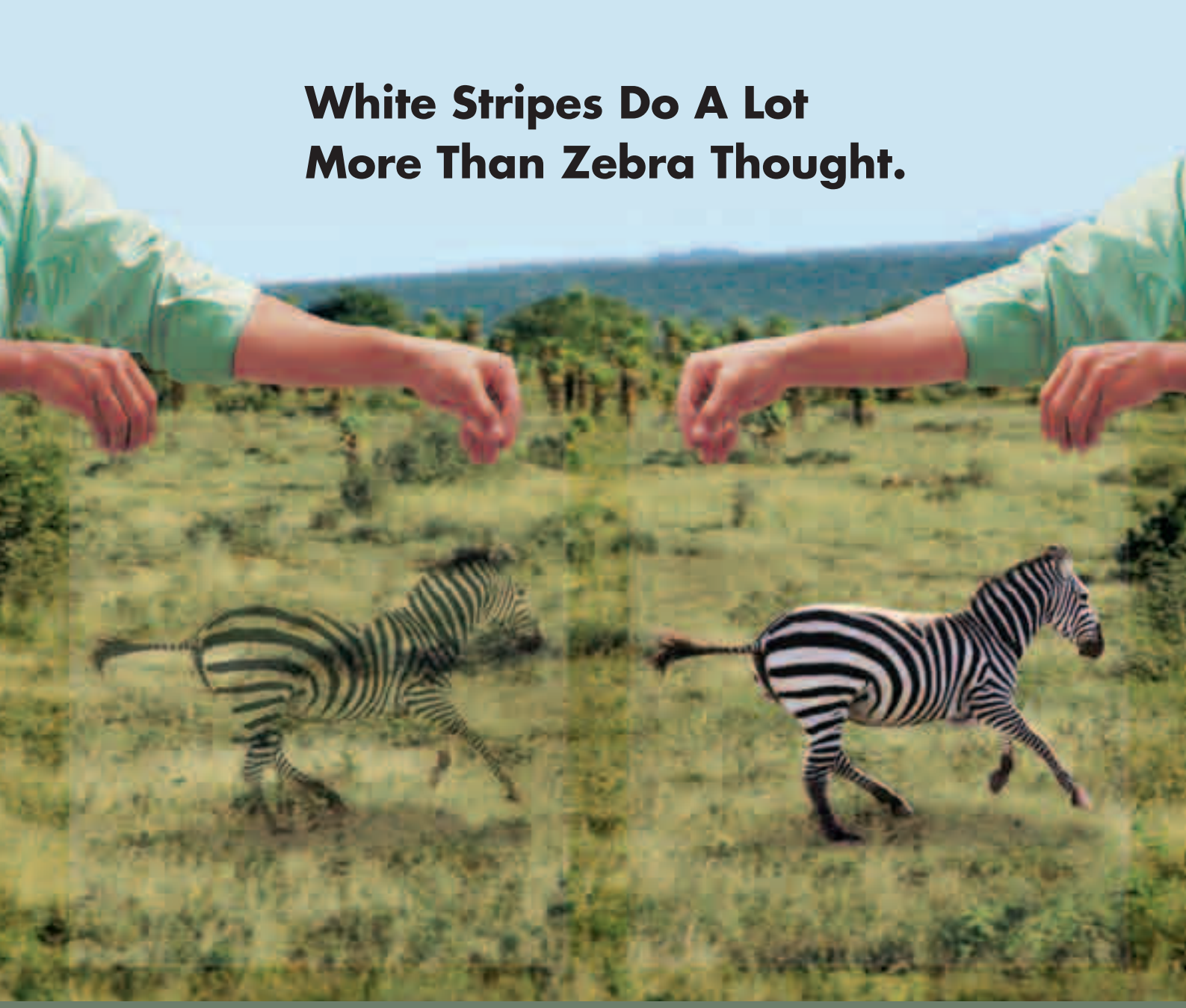
Canada's best kept secret

In a suburb of Toronto, Canada, Labelad has quietly been arming itself with the tools to gain marketshare in the US. Now it's ready to go up against the best converters in the world. **Katy Wight** reports

The outside of Labelad's facility in Markham, Ontario, is nothing out of the ordinary. Walk through the front door however, and you'll discover a treasure-trove of art that the owners have collected and now share with their employees. Every wall is covered. To the outside observer Labelad may look like just another label printer, but dig a little deeper into its operation and you'll find a strategy to position the company with the best convertor in the world. The company has aligned itself strategically with key industry suppliers to build its foundations and is now optimizing processes to provide an invaluable just-in-time resource to customers.

Labelad is a lean business, disciplined by six-sigma and aggressively attacking the US market. Servicing the health and beauty, pharmaceutical, food and beverage markets, it has over 25 presses in its 200,000 square foot facility and its latest acquisitions include a Comco ProGlide and a Mark Andy XP5000. The company is 27 years old and was founded by husband and wife team, Lionel and Sandy Waldman.

White Stripes Do A Lot More Than Zebra Thought.



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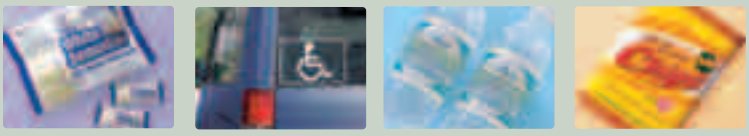

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left to right – Bob Hicks, VP and general manager, Bob Walker, director of operations, Ken Norris, customer service & graphics manager

Working as a print broker, Lionel had experienced difficulty sourcing labels, so he invested in a Mark Andy press to do the job himself and the company has remained a strong supporter of the manufacturer over the years. Although the family maintains a presence in the business, the Waldmans' succession plan has meant that the CEO and board members have been brought in from outside to formulate and execute Labelad's future strategy.

'In the past ten years we have become more focused on the US and our business has changed with that,' says Hicks. 'This press is geared towards US-based business. It's servo-driven, with a continuous turret rewinder and butt splicer and it has AVT 100 per cent inspection, so it is ideal for large-volume American companies. In the last year we have secured an account with health and beauty company Alberto Culver, Chicago, to print its VO5 haircare range. The company's global purchasing and packaging engineer wanted to take the brands to the next level and they decided to move supplier because of the quality that we could offer them.'

The 13" XP500 with AVT inspection, coldfoil and butt splice turret rewinder was the first production press in the world and Hicks says that Labelad is very impressed with its high performance, adding that, 'our vision is to replace all of our older Mark Andy pressure-sensitive presses with XP presses'. Hicks believes that the strong relationships the company has with suppliers is one of the reasons behind its success. They work closely together to determine the best direction to take Labelad's capabilities.

'Mark Andy came and assessed our needs and applied that to our strategic development plan to ensure that we were getting the correct pieces of equipment. They have been here for four or five months installing and training on the two presses. It's a true partnership,' says Bob Walker, director of operations at Labelad.

Kelly Roberts of Canflexographics, Mark Andy's agent in Canada, echoes this sentiment: 'Labelad has a team approach both internally within the plant and externally with suppliers. It will open its doors and allow us to assess its needs and help the company to move forward with its equipment, utilizing the features and benefits of the most recent technology. Labelad wanted to continue with its quality PS products and also upgrade into a new capability. Now the company can expand further into unsupported film and flexible packaging and can build on its future marketing plan for new and unusual substrates, which are often the fastest growing markets in the narrow web field. Labelad is successful because it stays focused on projects and it doesn't leave a stone unturned. Everything in this industry is changing and you have to stay focused.'

The investment in a secure room for pharmaceutical and promotional work is definately part of that strategy. As a result of a unique project with Mark Andy, a custom 10" Mark Andy 4150 12 color was jointly engineered so that Labelad could

"We want to be a tier one supplier to the consumer goods market. We are beginning to get aggressive to get into the US market and our customers think that this is a refreshing approach"

offer booklet label, multi-web and coldfoil among its capabilities. The new press is kept in the secure room along with an HP ws4000 (that has been upgraded to a 4050) and vice president and general manager Bob Hicks explains that it was important to design our secure room with a broad range of capability and our two press vendors Mark Andy and HP Indigo played a major role in achieving this goal.

Much of this focus is generated by the company's six sigma program that was implemented with Fasson's help. Six Sigma is a disciplined, data-driven approach and methodology for eliminating defects in any process – from manufacturing to transactional and from product to service. Although the program was started three years ago, Hicks says that it has really taken off in the last year, with improvements being seen in a number of key metrics. All employees are trained to yellow-belt level and Labelad also has a number of green and black belts within the organization.

'This is an important part of employee development and it is well received – it's a chance to address the part of your work that's bugging you,' says Hicks. 'Our employees are excited about change. Our new equipment is reinventing our capabilities so they know that they have a future at Labelad and there is enthusiasm about taking our customers to the next level.'

Hicks believes that the next level involves more than speed to market and quality product – Labelad plans to align itself with customers to eliminate forecasting and inventory and integrate into their operations, much like the famous Toyota lean manufacturing model.

'We want to be a tier one supplier to the consumer goods market. We are beginning to get aggressive to get into the US market and our customers think that this is a refreshing approach. Traditional converters are frustrating the consumer product companies bye ncouraging them to buy more than they need or working on lead times that are too long.'

One step in Labelad's drive towards optimizing efficiency and minimizing waste has involved streamlining its prepress procedures. The company ventured into digital flexo platemaking with the CDI series from Esko Graphics about ten years ago and has continued to remain at the forefront of prepress technology. It recently upgraded to the Spark XT, Backstage and FlexRIP, which is used with a Kodak platesetter. Nick Brunk, managing director North America Sales, Esko Graphics, explains that unlike many customers who need hand-holding, Labelad is more likely to be pulling them forward into new territory.

'The people at Labelad are very forward thinking and great to partner with,' says Brunk. 'They originally had a smaller version of the Spark, but then they added press capability and needed more flexibility, so they invested in a larger format device. It gives them the ability to run more plates up, increasing throughput, and also means that they can produce combination plates.

'The workflow goes through the FlexRIP and drives the platemaker, which is also connected to the Indigo press. With Esko's Kaleidoscope you can do a press run of a single label on flexo and on digital with color management. As a JIT supplier, if your customer runs out of inventory and wants a short run of 20-20,000 labels, you can reproduce them on the digital press. It's also easy if the customer makes a minor change and wants to see a printed proof.'

With this color management system you also get an expanded color gamut, which means that with the ink wizard and Kaleidoscope you could print three different jobs using seven colors on the same press without needing an ink changeover. Labelad was actually the first business in the world to use the Hexachrome system, but you could also use Opaltone or Hyperflex, for example, rather than spot colors.

Labelad and Esko Graphics are currently collaborating on a project that the converter hopes will cut time-to-market even further, especially for foreign consumer product manufacturers. Esko Graphics will provide its on-line collaboration tool, WebCentre for the company, so that all label designs will be available online for the end user, along with 3D models of the overall packaging so that the customer can proof, mark-up and approve the artwork online.

'When you take a look at the industry now,' says Brunk, 'the CPC retail distribution companies are dictating prices and converters have to cut as much out of the equation as possible by working closely with vendors.'

With the help of suppliers, Labelad has forged an ethic of continuous development that will always ensure it's at the top of its game. 'Our customers are looking for world class partners and you need to be as good as the best in the world,' says Hicks. 'We are managing through a period of change, but PS is a wonderful industry and there are tremendous opportunities.' ■

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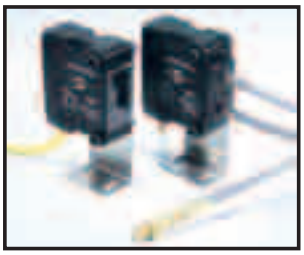

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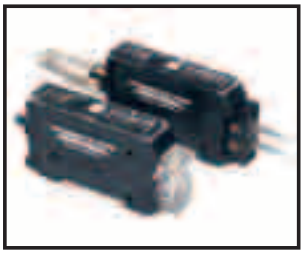

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Lean, mean and green manufacturing

Metro Label of Toronto, Canada, has built a new green headquarters which holds the promise of significant environmental and economic gains. **Katy Wight** reports

Metro Label has almost finished work on its flagship facility in Toronto, Canada. Business has boomed over the last few years for this family-owned converter and it began architectural plans for a new purpose-built plant a year and a half ago. But this is no ordinary building. The plant has been designed and built according to the Leadership in Energy and Environmental Design (LEED) Green Building system, a voluntary, consensus-based standard for developing high-performance, sustainable buildings. The new building in Toronto is a statement to Metro Label's customers about the company's commitment to both the environment and the wellbeing of its employee – and it might just save the company some money along the way.

Narinder Lal founded Metro Label in 1974. After brokering labels for two years, he bought an Ontario-built press, hired an operator, and since then the company has grown from strength to strength. Today, Metro Label has 275 employees working out of four plants throughout North America. Lal's son, Sandeep Lal, has taken over as president of the company and the new headquarters illustrates his commitment to continuous growth.

> "As a business we are selling the skillsets of our employees and their reliability, so we need to focus on giving them the best environment to work in"

Metro Label's new flagship operation is 132,000 square feet and stands on a six-acre lot just eight blocks from its previous operation – Lal explains that they didn't want to lose any employees by moving premises. The design team included Barry-Bryan Architects and Enermodal Engineering who helped to prioritize 'green' design opportunities according to cost-

"We hope one day to have regional locations throughout the US. The US is 90 per cent of the North American marketplace, but it is less than 10 percent of our sales"

effectiveness and payback. The building utilizes innovative wastewater technologies including a water run-off system on the roof which collects snow and rain to flush toilets, together with waterless urinals, which account for more than 50 per cent of total sewage conveyance. All of the ducting from the presses is insulated – in the summer it prevents heat from escaping into the plant and then in winter it is recovered and used to heat the building. All ducts and permeable materials were protected against contamination during construction and Ecologo paints with low-VOC content were used. The drywall core and surface are both made from recyclable material and the wall insulation is made from mineral wool. Seventy-five per cent of all the construction waste is recycled, including concrete, asphalt, paper, metal and cardboard.

Employees – and customers – now have a classroom for training sessions, and there are facilities to encourage people to cycle to work. The office interiors use CIL green label carpets made with natural fibers and all panel fabrics are made from 100 per cent recyclable materials such as wheat board. The offices are lit by low-wattage light fixtures which have occupancy and daylight sensors to save energy and the press hall optimizes the use of natural light. The completed construction and energy-efficient processes will have estimated annual energy savings of 34 percent, which also qualifies the Metro Label plant for an $80,000 federal government IBIP grant. Everybody wins – the environment, the business and the employees.

'At the end of the day, we always come back to employee retention,' says Sandeep Lal. 'As a business we are selling the skillsets of our employees and their reliability, so we need to focus on giving them the best environment to work in. More and more people are becoming concerned about the environment and it says something about the way we work. It's important to have a facility that reflects the quality that you are going to print.'

Lal believes that the new premises will give them five years of growth in the Toronto area, a reflection of the company's aggressive growth strategy. The Vancouver plant – 5,000 miles away – was opened in 2000 to better service Metro Label clients on the other side of the country and the Montreal facility was launched in April 2005 to cater to the unique needs of the Quebecois industry. Lal explains that the struggle for political independence in the region has meant that businesses try to support local suppliers. Operations at the different plants are linked by a central MIS system by PSI. In December of 2004, Metro Label made its first acquisition in the US and bought an unprofitable converter in the Napa Valley, California.

'We hope one day to have regional locations throughout the US. The US is 90 per cent of the North American marketplace, but it is less than 10 percent of our sales. We made the investment and bought a facility that focused primarily on wine. We started from scratch in January and by June we were profitable.

'This is an evolving marketplace and for mid-size companies like ourselves to be successful, you need to be adaptive. When the elephant moves, the little people need to decide how to react to that – and there are lots of elephants these days. There has been lots of consolidation in this industry and the top six or seven players are sizably bigger than the rest.'

With as many as 120 converters in the Toronto district, competition is high and Metro Label has consistently sought to differentiate itself. The company caters to the cosmetic, health and beauty, wine, liquor, beverage and food markets with combination waterless offset and screen, combination UV flexo and screen, digital offset and digital platemaking capabilities. Metro Label has Mark Andy and Nilpeter flexo presses, Sanjo waterless offset presses, and the Montreal plant has Arpeco presses. It was also the first converter in Canada to go digital in 1995 with an HP indigo press and the learning curve was sharp.

'We installed the digital press and we were primarily catering to trials and new product launches. We then realized that the people that made the decisions about trials were marketing professionals and not the usual purchasing and procurement people. Our sales team just didn't have these contacts, but that is something that we have concentrated on.'

Metro Label expects to have a second ws4050 running at the Toronto plant this fall. The company also recently invested in 100 percent inspection for three of its presses and is looking into RFID again. The company launched RFID capabilities ten years ago to cater to the loss-prevention industry, but found that the technology was a little too ahead of its time. Lal sees an opportunity with RFID today, but is keen to see the standards issue clarified before Metro launches capabilities again.

So, with a target of steady growth over the next five years, why does he think that the company is so successful? 'I surround myself with great people,' he says – and he has shown his gratitude in turn, by giving them great surroundings. Not only is it an ethical investment, but the new building pushes the boundaries of manufacturing efficiency by permanently reducing the fixed costs associated with running a facility. And that couldn't be better for Metro Label's bottom line. ■

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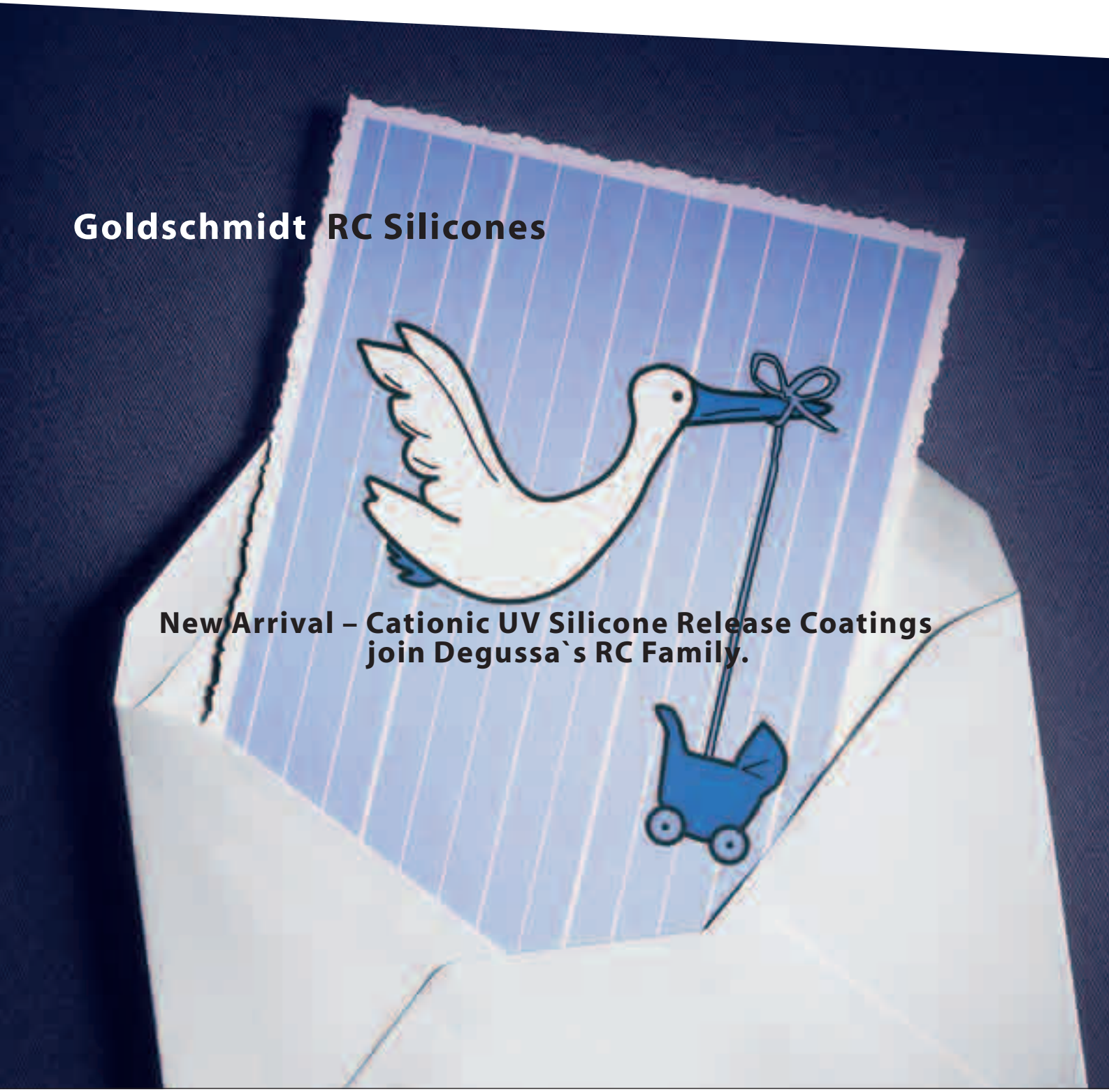

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End user analysis

Luc Dusart, Dow Corning Corporation, analyzes the dynamics affecting labeling technology choices in the health & beauty care and beverage segments

When it comes to choosing a labeling technology, different market segments may have different needs and decision-making processes to consider. That is what Dow Corning learned in a recent study of the health & beauty care and beverage market segments in Western Europe, which they conducted with support from specialist market research consultants AWA Alexander Watson Associates.

About the Study

The study, which was researched by two business college students during a senior-year internship with Dow Corning Europe, targeted the health & beauty care and beverage (beer and water) segments. It was designed to identify and analyze the dynamics that impact decorative technology choices in Western Europe today.

Study co-sponsors AWA Alexander Watson Associates, who have extensive experience in the labeling and converting markets, established the scope and methodology for the research, and supported the project from start to finish. It consisted of a series of 48 interviews with marketing, product, purchasing, production and packaging managers; packaging designers and technicians; and suppliers and sub-contractors at major companies within the targeted segments. The interviews, which employed a mix of direct and open-ended questions, investigated:

- The roles various individuals play in the decision-making process
- The types of information upon which they base their decisions, and how they obtain that information
- The relative importance of attributes such as attractiveness, identification, selling power, quality, flexibility, ease of application and cost
- The comparative value of different decorative methods, including pressure sensitive labels, sleeving, direct printing, wet-glued and wrap-around labels

The study also sought to identify unmet segment needs and trends impacting the future of the pressure sensitive industry.

Although the audience sampled was relatively small, it was possible to draw certain directional conclusions from the results.

The Decision-Making Process

Choosing a decorative method for use on either a health & beauty care or beverage product is a complex activity, involving many players and many types of decisions (see Fig.1 over page). Marketing and product managers; purchasing; packaging managers, designers and technicians; production managers; and even decorative materials suppliers have varying degrees of influence on the type of decorative labeling technology that will be used.

There are many questions to be answered. How will this technology support the product's image and position in the marketplace? What will it cost? Will it accommodate the label's graphic and design requirements? What about technical requirements linked to the packaging process, such as label dimension, line speed, application equipment? What options are available in terms of inks, papers, foils, films, adhesives, etc.?

For both health & beauty care and beverage manufacturers, the two most important factors in the choice of a decorative labeling technology are product positioning versus cost and budget considerations.

The key player in product positioning-related decisions in both segments is the marketing manager, followed by the product manager.

But when it comes to cost and budget decisions, the two segments differ. For health & beauty care and beverage, purchasing and the marketing manager are the primary decision-makers, and their influence is evenly balanced. In the beverage segment, however, production managers are as critical to the decision as purchasing.

Fig 1. The decision-making process

Key
- Primary Role
- Secondary Role
- H Health & Beauty
- B Beverage

	Marketing manager	Product managers	Purchasing	Packaging manager	In-house designers	External packaging designers	Packaging technicians	Production managers	Suppliers	Sub-contractors
Product positioning	■	■								
Product positioning	■		■					B		
Volume decisions	■	■						B		
Packaging project management	■			■						
Graphical decisions				■		B				
Design decisions	B				H	■				
Technical decisions				H			■	B		
Components selection			H					B	H	
Suppliers selection			■					B	H	
Production line decisions								■	H	

The majority of study participants from both segments indicated that to make knowledgeable decorative labeling technology choices, they needed information about packaging innovations. But the communication channels they used to obtain that information differed.

While representatives from both segments said they employed direct contacts and networking to obtain needed information, Beverage segment decision-makers were more likely to rely on their internal network and professional magazines. They were also less likely to use exhibitions as an information resource.

The relative merits of decoration methods

Health & beauty care manufacturers in Western Europe typically use pressure sensitive labels, sleeving and direct printing to decorate their products. The beverage segment today uses mainly wet-glued labels (in the beer sub-segment) and wrap-around labels (in the water sub-segment).

Study participants were asked to rate the importance of various decorative labeling attributes:

- Attractiveness
- Identification
- Selling power
- Quality
- Flexibility
- Ease of application
- Cost

They were then asked to compare the ability of the labeling technologies most commonly used in their segment to meet their primary performance needs.

The Health & Beauty Care Segment

Cost and positioning (a label's ability to support the product's brand image) are important issues in most markets. However, according to our study participants, total applied cost is a very important consideration in the health & beauty care segment. When asked to compare the pros and cons of pressure sensitive labels versus. sleeving and direct printing, this is what our study participants told us:

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Important Statement

It was a pride and a honor to exhibit at LabelExpo Europe from the last September 21st to 24th in the city of Brussels / Belgium.

We tried to do the best to represent our company, our country, our continent and, above all, those that allowed us to arrive to this event; as our employees, Brazilian and South American customers and our net of zealous suppliers that are always determined to supply us raw-materials with the state-of-the-art technology and quality.

Although we have prepared our company during years for this event, we always faced the doubt of exposing in the largest labeling show, on earth and for the most demanding public; beside old companies.

We are positively surprised with the fact of receiving and discussing formally to more than 400 customers of more than 40 different countries, with evident recognition to the high quality of our products and with desire to maintain commercial relationships with our company.

We would like to thank to all and to communicate that in spite of dispersed wicked comments in the last two days of the show that our company was being sold, provoked certainly with interest of causing instability among our rows, our suppliers and above all to the customers that saw us as the **new best option in self-adhesive materials.**

We affirm: We are not and we were never for sale; our company taking advantage of the concentration that the market has been having, added to the potential of our regional and international suppliers, will continuously acting in a friendly form of negotiating where we recognized each customer by the name, their needs and longings, trying to assist each customer as an old or a new friend, without remind ourselves or refer to them as customer number 10,552 or 15,223, etc.

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Fig 2. Health & beauty care segment performance conclusions

	PS labels	Sleeving	Direct printing
Attractiveness	=	=	=
Identification	=	=	=
Selling power	=	=	+
Quality	=	=	=
Flexibility	=	=	
Ease of application	=	=	-
Cost		=	=

Fig 3. Beer sub-segment performance conclusions

	PS labels	Wet glue
Attractiveness	+	
Identification	=	=
Selling power	=	=
Quality	+	
Flexibility	=	=
Ease of application	=	=
Cost	–	

Fig 4. Water sub-segment performance conclusions.

	PS labels	Wrap around
Attractiveness	=	=
Identification	=	=
Selling power	=	=
Quality	=	=
Flexibility	=	=
Ease of application	=	=
Cost	--	

Pressure sensitive labels accommodate a wide variety of printing techniques and substrates, including films and foils ('you can obtain whatever result you want'). Self- adhesive labels were often seen as the most versatile decoration method. However, the level of attractiveness of this technology is determined by the level of experience the company has had with it. Drawbacks mentioned included the technology's limited ability to conform to special/complex shapes and recycling issues.

Sleeving does conform to complex shapes and covers a wider surface area than labels. There is less material waste (no release liner), and some companies were very enthusiastic about its potential. Drawbacks mentioned included total applied costs, including stock set-up costs, equipment investment, etc. Labeling equipment is not widely spread which limits somewhat its diffusion. Sleeving will not accommodate all printing techniques, and it is not possible to mix printing techniques. Metallic and holographic effects are not recommended. Quality is variable. Some respondents felt that application speed is too slow, and others considered the material too thick.

Direct printing's selling power was considered a key benefit as printing provides a luxury image. One of the key drawbacks mentioned was lack of flexibility (restrictions in the application of text). Higher total applied cost was a problem, as well, due to stock-holding requirements and higher costs for short runs. Plus, printing's resistance to humidity was rated poor.

Conclusion: For the majority of health & beauty care products, pressure sensitive labels were seen as the perfect compromise. Pressure sensitive labeling is the least expensive technology to use. Label dispensing equipment is used everywhere, and it is possible to achieve a luxurious, silver touch. Sleeving ranked second and direct printing third, in their ability to meet this segment's unique combination of cost and positioning demands.

The beverage segment

In the Beer sub-segment, wet-glued and pressure sensitive labels were ranked the same in their ability to meet segment demands, but for different reasons. Wet-

glued labels were criticized for bad quality and attractiveness, but these negatives were offset by the technology's low cost, which was a major influencer. Pressure sensitive labels, on the other hand, rated highly in terms of attractiveness and quality. They fulfilled all of the segment's needs, but were considered expensive. However, it was very interesting to note that the overall weighted ranking among the various attributes in the beer segment showed almost the same score. This may indicate that some beer brand owners might chose the pressure sensitive technology to differentiate their brand on the shelves. Although the sample size is too small to draw definite conclusions, some recent packaging changes in North America and Europe for self-adhesive labels seem to support these findings.

In the water sub-segment, wrap-around labels ranked higher than pressure sensitive. Both types of labels met all of the segment's basic needs. However, wrap-around labels were considered much more cost effective, and there does not seem to be a major change coming in the next few years.

Key findings

When it comes to labeling technology choices, Western Europe's health & beauty care and beverage segments share some similarities. However, they are quite heterogeneous and need to be treated separately. The process of choosing a decorative labeling technology is very complex with many players and many decisions to be made.

Labels are often considered part of packaging costs rather than separately as a decoration cost. Among high-volume beverage labeling operations, packaging costs are very important. Total applied cost is important in the health & beauty care segment, as well. However, innovation and brand recognition are more important to health & beauty care companies than they are to beverage companies.

Suppliers play a key role in making companies aware of innovative labeling materials and solutions. Although innovation is highly desirable, it is often limited by existing equipment and a reluctance to change. The study also identified a need for supplier flexibility and the ability to accommodate minimum start-up runs. ■

Luc Dusart is the global marketing manager for Release Coatings at Dow Corning and has been for the past six years. Prior to this, he spent five years as a market analyst in one of Dow Corning's New Business Development groups. Before joining Dow Corning, Luc worked in the detergent market at Proctor & Gamble as a market analyst.

News in brief

UPM Rafsec launches sub-10 cent UHF RFID inlays

UPM Rafsec has announced the availability of UHF Gen 1 and Gen 2 inlays at sub-10 cent USD pricing and minimum delivery of 50,000 pieces. The OneTenna short dipole inlays are globally available for delivery and the company claims that it has an industry-leading yield averaging 98 percent.

This UPM Rafsec offer includes dry and wet delivery formats of the OneTennaTM short dipole, which are compatible with existing converting technology for the insertion of inlays into smart labels and other substrates.

Christer Härkönen, senior vice-president, UPM Rafsec, commented, 'The market has been waiting for some time to receive a high-quality, high yield, low-cost product. Quite often this has been a barrier to wider adoption across large-scale applications. '

Sherwood Technology commits Datalase to US market

Sherwood Technology announced its intention to further expand into the US market in early 2006. The expansion will see the opening of a new Eastern US headquarters, which will support existing and new customers and partners in North America. This follows the success of Sherwood's color change technologies, including the award-winning DataLase which has experienced a year-on-year sales growth of over 300 percent.

The new headquarters will function as a sales office, manufacturing and distribution/warehousing facility offering service to all US-based customers and license partners. The facility will also house a high-tech applications laboratory to demonstrate the wide range of possibilities for laser marking, enabling current and potential licensees and end users to test the final results of using Sherwood's colour change technologies to mark their products using a variety of lasers. Sherwood is recruiting a Vice President and an experienced sales and technical team in order to staff the new facility.

Steve Kelly, Managing Director of Sherwood Technology, commented 'We believe that by offering this centre of excellence, our US-based customers and partners will benefit significantly and Sherwood will be strongly positioned for future growth in this market.'

Xeikon targets Americas

Having built a strong position in Europe, digital press manufacturer Xeikon is setting its sights on North America. **Katy Wight** reports

Punch Graphics Americas (PGX-A) has announced record growth this year, which is a clear signal that the Xeikon brand is back on its feet. The once-troubled digital press manufacturer has been reinvigorated as a result of its acquisition by Punch International and Xeikon's sales totaled 64 percent of the graphic division's sales in 2004. With a firm foundation and strong legacy in Europe, Xeikon is now experiencing increasing success on the opposite side of the Atlantic. The company is committing resources and concentrating on exploiting opportunities in this market.

Xeikon sent ripples through the label converting industry back in 2001 when it filed for bankruptcy. Although the move wasn't unexpected, it was still a sad day for the progression of digital label printing. The company was rescued by one of its key component suppliers, Punch International, a major global player in the supply of electronics subsystems. Punch supplied Xeikon with its paper conditioning units.

Following an inevitable period of inertia as the company re-focused its products and refined its strategy, Xeikon has defied skeptics and emerged as a fierce competitor again in the digital market. Under new management and realigned in the industry, Xeikon is ready for business.

'We want your trust and confidence,' says Dick Tilanus, CEO Punch Graphix. 'In the past Xeikon had a very strong technical base, but weak management. We ran out of time, money and focus. Today we have streamlined the whole business. We got rid of the mis-performers and we have made the business lean and mean.'

Xeikon's new technology and demo center in Ilinois

The rationalization of the Xeikon product line and operations, and the establishment of a direct sales and service network has resulted in a successful turnaround: by the end of 2003 Xeikon was trading profitably. In 2004 Punch decided to add to its graphics division with the acquisition of basysPrint, the inventor of CTcP UV imaging equipment for the commercial offset prepress process. At the end of the year, the graphics division reached sales of 13 million Euros and Punch announced its intention to float it on AIM in order to attain greater operational and financial autonomy. In March 2005 Punch Graphix Limited became a publicly listed company.

According to Kristof Vereenooghe, President and CEO of Punch Praphix America (PGX-A), 'both of the Punch Graphix brands – Xeikon and basysPrint – have built a record of solid profits since joining the Punch corporate family and we are experiencing a strong continuation of this trend. Our customers' print volume has grown constantly and we are seeing a large increase in the number of companies installing several presses at one time. These figures indicate that PGX-A's customers are also seeing strong growth in demand and profits.'

In March 2005, Xeikon had an installed base of 1,100 digital presses and was seeing impression growth of 42 percent on 2004. Year-to-date machine sales are at 35, which already exceeds total sales for 2004, but that's including all models from the commercial print Xeikon 5000 to the label-dedicated 330. At present, 75 percent of PGX's sales are within Europe and it is consciously targeting the North American market. Vereenooghe explains that labels form an important part of this strategy.

'The industrial markets are very important for us – especially the label market,' he says. 'We launched the 330 Labelsprint at Labelexpo Americas in the second half of last year and we have experienced good growth through its sales. There are huge opportunities in North America.'

"Our customers' print volume has grown constantly and we are seeing a large increase in the number of companies installing several presses at one time"

The company has taken vital steps to maintain its growth curve and demonstrate its commitment to the market. It has just finished the construction of a 7,000 square foot technology and demonstration center at its Itasca, Illinois headquarters and has added six additional regional technicians and three national technicians in the US. Rob Mayerson has been appointed VP Sales, Digital Printing North America and Eduardo Pazos has joined PGX-A as VP Sales and Marketing Latin America. Pazos worked with IBM before joining PGX-A and has more than a decade of experience in the Latin

Print Protector PIA/GATF InterTech Award

Xeikon received further recognition when its Print Protector won a 2005 PIA/GATF InterTech Technology Award. This emulsion coating forms an invisible protective coating which Xeikon also claims reduces static build-up. Print Protector can be used on any non-synthetic labelstock to protect graphics.

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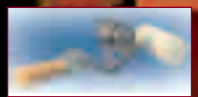
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The Xeikon 330 label press

American digital printing market. Glenn Toole, a Xeikon veteran, has been appointed VP Marketing and Business Development and will provide strategic direction to the company, whilst new COO Patrick McCarthy will continue to manage PGX-A's service organization. PGX Canada also opened an office and warehouse in St Laurent, Quebec in June and has established regional sales managers in Ontario, British Columbia and Quebec. Additional technical support specialists have also been appointed for service in Canada.

With a new company structure in place, PGX-A is able to concentrate on the future of its product line. It has formed strategic partnerships with variable data software vendors and finishing equipment manufacturers. Vereenooghe explains that the company has worked hard to find out how to provide more synergy between products, developing what customers want in order to extend its technology leadership into the future. 'We firmly believe that our success and profitability depends entirely on our customers. PGX-A's aim is to provide the best possible solution for the right customers,' he says.

Vereenooghe believes that the Xeikon 330 label press has several advantages over its competitors: its digital front-end, the X800, which aids workflow; the ability to print one-pass opaque white; competitive consumables and finance modules; plus a continuous drum that allows you to print labels of any length (the offset blanket in the HP Indigo press limits this). Label converters in the US are increasingly interested in the Xeikon technology. The most recent installation of the 330 was at Go Tape and Label in Miami, Florida, which invested in the press for its short run label requirements.

'The Xeikon is much easier to operate compared to the other digital label presses,' says Go Tape and Label's vice president Jaime Rabchinsky. 'In addition, it was a pleasure to do business with the Xeikon people. Rabchinsky says that Go Tape and Label is committed to digital printing because, 'it is more profitable for both the customer and the printer – it's the wave of the future.' The company is expecting to increase its bottom line for the whole label printing business by 37 percent over last year with the digital press.

About the Xeikon 330

Prints at a resolution of 600 dpi with variable density levels per dot, in combination with professional screen rulings from 85lpi to 170lpi

- Standard-equipped with CMYK. The fifth color station ships as opaque white but can be used to add spot color, special toner for security applications as well as MICR toner
- X-800 Digital Front-End (DFE) combines pre-press functionality with variable data printing processing capabilities.
- Maximum speed of 14.7 m/min (48 ft/min), independent of the number of colors used or the size and positioning of the labels
- Contact fusing technology makes it capable of handling a large variety of substrates such as coated and non-coated paper, synthetic (PP or PET) based media, and other typical self-adhesive or transfer material with weights ranging from 60 to 250gsm
- Prints on media widths of 320 or 330mm (12.6" or 13") and as the Xeikon 330 is a full-rotary printing press, the positioning of the labels can be adjusted to meet finishing equipment requirements, irrespective of the size of the labels. It also enables printing oversized label formats.

Go Tape and Label has been serving its flexo customers since 1964. Its customer base has expanded throughout the US to Central and South America, in many markets including cosmetics, produce, vitamin, food and beverage, pharmaceuticals and automotive products.

Go Tape and Label President Wendy Fried says: 'With our client base already in place, variable data on labels and barcodes will be no problem. The 330 will improve our quality, overall turnaround time and delivery – we're ready for the 330.' ■

Labeling detergents

Simon Robinson of specialist chemical consultants and software company Safeware Quasar, discusses the forthcoming introduction of the new detergent and CHIP 3.1 regulations and its impact upon the European labels industry

With deadlines looming, chemical manufacturers and suppliers are advised to start preparing immediately for the new classification and labeling requirements.

October 8th signaled the introduction of the new Detergent (No: 648/2004) regulation. Essentially covering three main areas: definitions, biodegradability and labeling, the regulation will help to establish rules for the free movement of detergents and surfactants in the internal European market and at the same time, ensure a high degree of protection of the environment and human health.

To give an example of the implications, we look at how the Dangerous Substances Directive will be adopted in the UK. This will be implemented at the end of October by the Chemicals Hazard Information and Packaging for Supply Regulations (CHIP regulations.) This will be called CHIP 3.1

Although this may appear to be some time away, the directives and regulations have been available for over 12 months and there is no transition period allowed for in either CHIP 3.1 or the detergent regulations.

Those responsible for the production of labels for detergent based products (which includes laundry fabric-softeners, cleaning preparations for general domestic purposes and other cleaning and washing preparations), who need their product to be placed on the market without limitation need to be especially careful when ensuring that products meet the new regulatory requirements.

CHIP 3.1 will apply to detergents in the same way as other chemical products, however the new detergent regulations will require additional labeling requirements, especially if they are to be used by the general public. It will be necessary to describe the contents of the detergent (as defined in Annex VIIA of the regulations) and state where an ingredient/medical data sheet can be found on the internet. These requirements will apply to hazardous and non-hazardous detergents.

The description of substances present in detergents being sold to the general public can be generic such as phosphonates, optical brightners and soap (see annex VII of the regulations). All components present at over 0.2 per cent need to be listed, although specific banding may be applied (see table opposite). Additional labeling requirements, including dosing instructions for laundry detergents, are also required for products used by the general public.

New detergent regulations mean that the substances in detergents need to be listed in specific concentration bands:

30 % or greater
15 – 30 %
5 – 15 %
Less than 5 %

- For detergents intended to be used in the industrial sector, and therefore not made available to members of the general public. The above mentioned labeling requirements do not have to be fulfilled if the equivalent information is provided by means of technical data sheets, safety data sheets, or in a similar appropriate manner.

- Writing on the label 'for professional use only' should reiterate and reinforce professional/institutional products that can go through wholesales for professionals (e.g. cash and carry). Manufacturers must be wary where these products may end up in hands of the general public (for instance where access to cash and carry is open to non-professionals). In those cases, manufacturers are required to include additional information on the label to ensure appropriate consumer protection.

- If an institutional/industrial product is intended for the general public, the packs should be fully labeled in accordance with the 'domestic provisions of the regulation.

Changing and altering label print processes can be a large scale and costly operation for any business. With both legislations being introduced in one month it is important to start implementing systems well in advance. ■

Ink jet stars at Labelexpo

Philip Easton, Product Director, Domino Printing Sciences plc, discusses new developments in ink jet technology

Digital ink jet printing was a surprise star of last year's drupa exhibition: while much of the pre-show publicity had been around digital workflow, visitors arrived in Düsseldorf to discover that ink jet had found its way onto numerous stands and into numerous prototypes.

Sixteen months later, a different exhibition, and a different city – but it will very likely be the same story as visitors to Labelexpo in Brussels pay ink jet a lot of attention. All of a sudden, ink jet is big news: 2005 was barely a fortnight old when Fuji moved to acquire ink specialist Sericol as part of an avowed strategy of expanding in industrial and packaging printing, and in June Screen bought Inca Digital for precisely the same strategic reasons. With estimates of the value of the packaging printing market as a whole topping $200 billion, and those for flexible packaging and labeling exceeding $70 billion, it's not hard to see the attractions of establishing a presence.

Of course, ink jet itself is not new – it's the longest-established of all the digital printing technologies, having been used for labeling and coding for decades (we at Domino have over 30 years of experience). What is new is the realization – by the printing industry in general and the packaging sector in particular – that this proven, familiar technology is ready to be used in vital new applications. In the often-used phrase, ink jet is an idea whose time has come.

Labelexpo will demonstrate that inkjet printing is poised to break out from its complementary role (for example, over-printing labels produced using offset or flexo) and enter the mainstream. Ink jet will – surprisingly quickly, in my opinion – penetrate the market for primary packaging and labeling.

There are a number of reasons for this. As a digital process, of course, ink jet can respond to the increasing need to produce smaller quantities of labels cost-effectively, thus satisfying customers' appetites for greater variety and meeting manufacturers' demand for more versions of labels to meet national linguistic and legislative requirements. Furthermore, the rapid-response turnarounds achievable with digital printing reduce inventories and dovetail beautifully with Just-In-Time logistics models.

Ink jet shares these advantages with other digital printing processes, of course, but the technology's pedigree in markets such as in-line addressing and unique numbering and coding means it wields a big advantage in the growing 'industrial printing' sector. Because of the ease with which it can be integrated into the labeling production process – operating, for example, in-line with filling operations – ink jet is in pole position to deliver the benefits that the market now demands.

Among these are two areas of benefit that we at Domino have identified as being particularly important. The first is the integration into a single-pass production line of the printing of high-quality labels directly onto the primary packaging, retaining the look and feel of a traditional label but eliminating an existing off-line production step. This is now feasible thanks to rapid developments in piezo drop-on-demand (DoD) technology – in particular, the combination of higher resolution printheads using UV-curable CMYK inks at production-level speeds. For example, Domino's new K200 printer (which makes its debut at Labelexpo) provides fast and accurate 316dpi printing at 90m per minute. Allied to the parallel and essential developments that are constantly improving ink jets inks and their compatibility with substrates, products such as the K200 take ink jet beyond 'part personalization' into the complete printing – in high-quality spot color and in a single pass – of whole items.

The second group of benefits are best described as security-related and embrace such issues as traceability and validation. Here too ink jet has the major advantage of being already integrated into the production process of a host of sensitive products. For example, at Domino we supply integrated camera systems and software solutions for in-line product verification, and have extensive experience of ink jet-based security applications such as sheet-edge printing of stamps, UV marking of banknotes, and traceability numbering of tickets, labels, gaming cards and promotional games.

Domino Bitjet moves the company into the label converting arena

As the quality and speed of ink jet increases, we are going to see it take on a wider range of applications and become a major weapon against the epidemic of counterfeiting afflicting global commerce. According to some estimates the annual worldwide losses through counterfeiting come to almost $960 billion and account for 5-7 per cent of world trade. Counterfeiters no longer concentrate on currency – they copy designer fashion, computer software, CDs, mobile phones, medicines, food and drink, and even car parts. Victims don't just include the brand owners – counterfeit pharmaceuticals can harm every one of us.

Ironically, while the ever-increasing capabilities of desktop ink jet technology have made counterfeiting easier, ink jet itself offers the solution by making it possible and economically viable to incorporate various security and anti-counterfeiting measures into packaging and labels. Faster printheads capable of high-quality print can deliver a range of fully-variable security features that are undetectable by the counterfeiters – and, again, do so in a single production pass.

Finally, no look at the advantages of ink jet for labeling would be complete without mention of RFID. After the first burst of hype about its potential, RFID is now appearing in valuable 'real world' applications: when Wal-Mart announced a pilot programme in April 2004 that required its top 100 suppliers to be RFID-compliant by January this year, RFID suddenly became one of the hottest topics around. This side of the Atlantic, further impetus has come from evaluation projects at the likes of Tesco and Marks & Spencer (the latter has christened the technology 'intelligent labeling').

For all the reasons described above, digital ink jet is a key enabling technology in RFID, allowing in-line printing of RFID antennae. At Domino we are already offering customers a range of modular and scalable RFID solutions within a total systems approach to this exciting technology. As an example, our Product Traceability System (PTS) is a fully-automated solution that applies 'smart' labels incorporating embedded RFID tags directly onto outer packaging. PTS can be integrated within an existing production line, or installed independently for batch-processing of specific customer orders. ■

Digital forum

HP Indigo's Worldwide Digital Label Experience brought together converters, brand owners and equipment suppliers to discuss the current status and future direction of digital printing. **Andy Thomas** reports from Tel Aviv

Digital label printing has taken a long time to become accepted as a mainstream technology, and much of this is due to the pioneering work undertaken by Israeli company Indigo, now backed by the global resources of Hewlett Packard. Today, HP Indigo claims to be the biggest supplier of presses to the European labels market.

So it was appropriate for HP Indigo to host an international conference to look at the current state-of-the-art in digital label printing, and to encourage end users and label converters to share ideas and experiences with digital equipment suppliers and journalists.

The two-day program opened with a panel session on 'what brand owners really want', introduced by L&L's Mike Fairley. On the panel were representatives from Unilever, Tetra Pak and Philip Morris.

Fairley noted that brand owners have moved their focus from quality and price – now givens – to service, and 'service' means development and protection of the brand. Key concerns include maintaining the integrity and consistency of the brand design/colors and deterring counterfeit attacks.

> "In addition, labels are now expected to work harder to sell branded products in a highly competitive retail environment. They must be entertaining and interactive, incorporating games, competitions and other promotions"

'In addition, labels are now expected to work harder to sell branded products in a highly competitive retail environment,' noted Fairley. They must be entertaining and interactive, incorporating games, competitions and other promotions as brands seek to establish closer ties with consumers through devices such as product versioning and personalization. This requires shorter runs and the ability to print unique images.

To hit moving consumer targets, brands will need to get products onto the shelf faster, and label printers can participate by deploying new technologies:

- 'virtual' simulation of new label designs and how they will look on 'virtual' supermarket shelves
- generating small quantities of high quality, finished labels for test marketing
- internet-based secure remote proofing and approval systems

Labels should also provide functional benefits which enhance supply chain management – including 'smart' technologies such as temperature change indication and RFID – and help end users meet legislative and multi-language requirements through the use of extended text labels.

Improved supply chain management is a key end user objective, with the aim of reducing, or eliminating inventory and 'out of shelf' situations. Fairley said that only seven per cent of manufacturing companies today are effectively managing their supply chains, and these companies are 73 per cent more profitable than other manufacturers.

Clearly, said Fairley, digital printing has a key role to play in helping brand owners achieve their strategic objectives, including package prototyping, personalization, increased speed to market, and reducing inventory. As an example of a 'smart' digital application, Fairley showed an RFID label which had been successfully printed on an HP Indigo ws2000 press in a joint project between HP Indigo and Rafsec.

Why then, if digital printing 'ticks so many boxes', has it not been more widely adopted by the big global brands? Fairley pointed out that brand owners were not impressed by the first generation of digital label print systems in the late 1990s. 'Issues included consistency of brand/house colors, the need to use primers, the consistency of pick tests on inks and primers, and the cost of digital labels,' says Fairley. 'The question is: are these any longer the real issues?'

Fairley then moderated a discussion between three Brand Owners: Zvika Lubowicz, printing producer at Unilever Israel; Klaus Lanvermann, supervisor of printing and converting at

Roger Pellow Managing director, Labels Group, Tarsus, gives the keynote

"We sourced the labels through an agency. HP then pointed out a particular printer as a user of their presses, which is when we found they were printing our existing labels digitally!"

Philip Morris; and Dean Bellefleur, special projects director at Tetra Pak.

Klaus Lanvermann agreed with Fairley that the main challenges facing Philip Morris International include more frequent design changes, more promotional items and a high demand from the marketing department for different 'tactile' effects. 'The tendency is towards evoking emotions, adapting to different lifestyle and attitude changes and strengthening our bond to the consumer through personalization.' PMI's objectives are to shorten lead times, be able to produce more cost-efficient short runs, to print on demand and incorporate last minute changes.

Given these strategic objectives it is not surprising that PMI looked at digital printing. 'It definitely has a future,' said Lanvermann. 'I'm not saying digital printing will replace conventional. Each process has advantages and disadvantages, and it will be hard to get digital inks to match the tactile properties of screen inks, for example. But soon we will have to apply different health warnings in each country in four colors, and that could be an application.' Lanvermann said this was unlikely to be a packaging line solution, since the speed of digital is too slow for pack production speeds of 7-800/minute.

A more promising arena is short run promotions, which could easily involve labels attached to cigarette packs. 'We need to differentiate and to build customer loyalty, so for promotions digital print must be used more,' said Lanvermann. 'We are already doing short run promotions which would be ideal for digital printing. If creative ideas come, we will do more. It currently takes 6-12 weeks to get a new pack idea to market, and that's too long.'

Lanvermann certainly has no issues with the quality of today's digital print. Delegates were amused to hear that Philip Morris was unknowingly supplied with digitally printed labels. 'We sourced the labels through an agency. HP then pointed out a particular printer as a user of their presses, which is when we found they were printing our existing labels digitally! I wouldn't be surprised if there were more out there!'

As Unilever Israel's print manager, Zvika Lubowicz's customers are the marketing, sales, logistics and purchasing departments at Unilever. He summed up a familiar list of packaging demands: just on demand, smaller quantities, added value finishing, personalization, packaging samples, and – of course - low price.

Unilever Israel already uses digital printing for marketing campaigns, for point-of-sale promotions and for shipping labels. Small quantities of digitally produced labels are used for marketing campaigns, samples and product R&D, and these will often include lamination/hot foiling and embossing.

Lubowicz presented HP with a 'wish list' of digital developments he would like to see:

1. A larger print format
2. The ability to produce bigger quantities of personalized labels
3. On-line finishing of printed materials
4. A high quality opaque white for background printing on transparent materials
5. On-line distribution on-demand
6. Economic, high speed printing in large quantities
7. A better break point with other printing methods

Lubowicz said digital printing needs to adopt new techniques such as laser die cutting and 'new finishing technologies' and must engage in a constant search for new markets. For good measure, digital printing machines 'should also be as user friendly as the personal and office printing machine, with simplified machine operation.'

Interestingly, Lubowicz said one way of cutting digital printing costs would be for printers to place digital presses at larger customer sites.

Tetra Pak's special projects director, Dean Bellefleur, revealed

INTERCOAT Restructure UK Operation

Intercoat UK Ltd established in 2000 was very swiftly and successfully accepted into the UK market, during 2004 a strategic decision was made to perform an MBO with the General manager Mr Adrian Hardy, this was accomplished in December 2004. This left Mr Adrian Hardy complete responsibility in the UK as the exclusive supplier for the whole Intercoat product range.

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"If we innovate faster, this becomes more important than anti-counterfeit solutions. The ability of digital print to introduce controlled variation could be important, although this entails the consumer being educated as to what to look for"

Klaus Lanvermann, supervisor of printing and converting at Philip Morris, described the opportunities for brand owners from digital printing

that Tetra Pak first looked at digital printing in 1998, then again two years ago. 'We came up against the issues of how to qualify the inks and confidentiality. We are like two dinosaurs looking at each other,' Bellefleur remarked. Potential applications for digital printing include short-term promotions, 'bargain of the week' and promoting perishable items.

The good news for label printers is that all three speakers are constantly looking for innovation to win market share. Dean Bellefleur pointed out that Tetra Pak, like other brands, is concentrating on its core areas of expertise – manufacturing control and marketing – and is happy to look at a business case for innovation brought in by a label printer.

Klaus Lanvermann lamented that printers are not proactive enough. 'We have very traditional printing suppliers. We will still do this, but it's not the future.'

The panel agreed that label printers with innovative ideas should approach marketing managers rather than label buyers. The packaging/labels buyer is simply working to a cost/technical specification, while marketing managers have access to development and other brand-related budgets. Interestingly, design agencies were not always seen as good sources of innovation, since they tend to follow the design brief closely and do not take risks.

Dean Bellefleur pointed out that successful innovation creates margins for suppliers too. 'We must not nickel and dime away what we are selling. Of course we need to control costs, but that is not the main thing. The question should not be, 'What is the cost', but 'What are the benefits you are offering us?'

Constant innovation was seen by the brand manager panel as a key anti-counterfeit strategy: 'If we innovate faster, this becomes more important than anti-counterfeit solutions,' said Philip Morris' Lanvermann. 'The ability of digital print to introduce controlled variation could be important, although this entails the consumer being educated as to what to look for.'

Digital Converter panel

To discuss digital printing in practice, HP Indigo brought together four of its international label converter customers: John McDowell, of McDowell Label in the US; Gary Fitch, Amberley Labels in the UK; Peter Overbeek, from Eshuis in the Netherlands; and Fernando Aranguren from Flexo Print in Mexico.

Fully 15 per cent of Eshuis' labels are now produced digitally on the company's three HP Indigo ws4050 presses – upgraded from the ws4000 – and Eshuis was a beta site for the shrink film package. 'This allows us to make just one sleeve, shrink it onto a pack and ensure than it works before we start production,' said Peter Overbeek.

Fernando Aranguren said 15-20 per cent of Flexo Print's business is now digital, and short run nutraceutical products are proving a particularly popular application. Fully 65 per cent of the company's jobs are under 1500 running metres.

Ironically, a problem identified by all four panelists was the high quality of the HP Indigo press. 'Far better quality than flexo

Converter panel advice

1. Build a business model and understand WHY you are moving to digital
2. Prepare well in terms of personnel and production environment before making the investment
3. Do not market a digital capability - market the ability to service the end user
4. The market for digital is huge and will grow
5. Attention must be paid to the business processes around the digital press

Mike Fairley, director of strategic development, Labels Group, Tarsus

"In the beginning it was quite difficult. We had to change our mentality from being production driven to service driven and digital has been a key tool here. Today 80 per cent of our new label jobs go digital"

Digital labels for apparel

A presentation on Marks&Spencer's global apparel strategy was given by HP Indigo's Christian Menegon in the absence of an M&S speaker. Menegon outlined M&S' ambitious goal of making approved variable data for labels and tickets available globally, 24 hours a day, to both its in-house printing operation and outside suppliers. The graphics information would be stored as PDFs for viewing over a secure internet connection.

M&S aims to achieve greater accuracy, reduce lead times, increase cost effectiveness, and incorporate higher levels of security into its global label and ticketing operations. More flexible local production with centralized control will be the result.

Currently, M&S' labels and tickets are produced mostly by rotary letterpress and thermal printing using locally produced plates and software.

So M&S is now looking at remote data distribution from a centralized database, outputting digitally imaged plates at remote locations anywhere in the world. This will provide the company with a faster response to changes in worldwide requirements in formats and size structures – so reducing lead times - and will allow consistent label production regardless of geographical location. This goes hand in hand with better security and better data management. It is ultimately more cost effective since it reduces the number of process steps to printing tickets and labels.

Of course, Menegon pointed out, it would be just as easy to put a digital press on the end of this automated data distribution system as a CTP platesetter. This would eliminate another process step and further speed up job turnaround.

or offset,' according to Peter Overbeek. 'This can give end users unrealistic expectations of conventional printing quality.'

Fernando Aranguren agreed: 'Once customers have a digital job they ask for digital next time. It is hard to go back from digital to flexo quality. This means we have to raise the quality of UV flexo.'

John McDowell, of McDowell Label in Texas, runs a ws4050 with an Omega finishing unit. 'We use the press for the short run market on all the same substrates we use conventionally. It has definitely allowed the company to go after new business, but this requires a closer understanding of the end user's requirements. Communication between converters and end users to find what they really want is a discovery process which requires some investment.'

Gary Fitch asserts that while digital printing has not necessarily brought new business to Amberley Labels, 'it can provide an expansion of existing business and new business from existing customers. It enhances our service and quality levels. Digital has also made us more efficient in our overall factory workflow.'

All the speakers stressed that setting up and exploiting a digital printing capability is a difficult and often stressful business. 'In the beginning it was quite difficult,' admits Peter Overbeek 'We had to change our mentality from being production driven to service driven and digital has been a key tool here. Today 80 per cent of our new label jobs go digital.'

John McDowell agreed: 'It takes a lot of effort to get digital up and running. It took us six months to get everybody to understand how to work with digital printing. But since the installation in November 2004, 40-50 per cent of our new business has been run on the digital press.'

Gary Fitch stressed the importance of getting the right team around the digital press. 'Your digital production people need to know printing, but they need to have a dynamic mindset. The

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> "One end user specifically asked us not to present digital labels. We ignored that, and went to them with a digitally printed sample They did not know it was digital and we got the business"

first instinct of the sales team is to "sell digital", but this is not the right way. They need to think more about what they can do for the customer.'

Fernando Aranguren agrees: 'We had a lot of mishaps because we tried to emulate conventional. With digital there are a lot more opportunities to sell at a "certain premium". We have to change the mindset of the sale people in the production arena. A lot of them were reluctant to change and we're trying to push them to thinking digital'.

But changing mindsets internally is only half the battle. Peter Overbeek echoed Gary Fitch's point that customers must also be educated to think in new ways. 'Many customers buy in the old fashioned way, where higher quantities are less expensive, and many bigger companies are used to holding up to 15 months stock.'

A problem is that the labels buyer is not responsible for the whole supply chain, and very few end users are providing the detailed production forecasts which would make true JIT working a reality.

Fernando Aranguren agrees that there is 'not much gain in decreasing inventory costs' to end users, 'even though we get the product quicker to the client.'

Gary Fitch of Amberley Labels gave some examples of complex work carried out on the HP Indigo which would be difficult, if not impossible to print conventionally, and spoke of his occasional frustration with end users who have an outdated view of digital print.

'One end user specifically asked us not to present digital labels. We ignored that, and went to them with a digitally printed sample which they could compare to the conventionally printed product on the shelf. They did not know it was digital and we got the business.'

An obstacle for bigger customers is repeatability, according to Aranguren. 'Repeatability is an issue. It's not an issue for very short runs, and I'm not sure it's an issue for the smaller nutriceutical clients, but our bigger clients still have a long way to go to accept the consistency of digital printing.'

What of the mechanics of running a digital print operation? Firstly, for the HP Indigo machine, specially coated substrates are required. So how easy it is to obtain substrates which match those used in your conventional operation?

John McDowell has an interesting observation. 'All the substrates we use for the conventional press are also available for our digital press. But it takes some time to change over

materials on the press, so we like to keep the same materials on where we can.'

Gary Fitch admits the costs of coated materials is a challenge. 'Because there are not many HP Indigo users in the UK, the costs are premium. We must drive the materials suppliers to decrease costs.'

For Fernando Aranguren substrate matching is a big issue. 'We have to re-specify materials for digital printing because of the need for primers and the additional cost.'

A question asked by all those interested in moving to digital is the break point between digital and conventional. John McDowell says his average run length on the digital press is 25-30,000 labels. 'But there's no fixed rule – we have run 90,000 labels. If it's one copy and one color, it goes UV flexo. If there are ten different variants and eight colors, the job goes digital. We do not market our ability to print digitally – it simply gives us increased production flexibility.'

Peter Overbeek agrees, and says bigger run length jobs are going digital – up to 4,000 running metres. Gary Fitch observers that while short run is becoming the norm, the digital break point is moving. 'We now look at customer needs before run length.' ■

HP Indigo developments

During the two day event, Indigo conducted tours of its manufacturing facilities and unveiled some interesting developments around the ws4050 series digital press:

Esko Graphics alliance

Esko Graphics and HP announced a combined workflow solution featuring the Esko-Graphics FlexRip. FlexRip is a component of Esko-Graphics' Scope workflow environment, outputting to a wide range of output formats and devices.

Esko's Jan de Roeck said the key goal is to combine digital and conventional label printing into the same workflow, so jobs can be output to CTP, proofers or digital press without having to leave the Scope environment.

FlexRip's device-independent color engine, Kaleidoscope, is particularly strong in color management of Pantone and house colors. It combines CMYK (colorimetric) profiles with profiles derived from spectral measurement of special colors, and translates this into the 6-color HP IndiChrome system.

Jan de Roeck said trapping is not an issue with the HP Indigo press, since the image is built up on an offset blanket before transferring to the substrate in one hit – so there is no possibility of colors moving in relation to each other. But the FlexRip software can simulate flexo dot gain when the digital press is required to match flexo quality.

The FlexRIP also allows the color sequence in the HP Indigo press to be changed. This is a useful facility when whites have to be double or treble bumped to achieve higher opacity on transparent substrates.

De Roeck also discussed the anti-counterfeiting possibilities opened up by Esko's software in tandem with the HP Indigo print engine – guilloches, hidden text, security screens, and 'moving' graphic elements between runs.

Inks

HP Indigo unveiled an invisible ink for anti-counterfeit applications. Unique codes printed with these inks are revealed by an appropriate red light source. Also introduced were fluorescent inks, with a metallic ink under development.

The company announced that solid pantone colors will be available with a lead time of 3-4 days for European customers. The mininum order size will be four cans.

Dedicated packages

HP Indigo is now offering dedicated packages to the pharmaceuticals market – a cGMP-compliant system including an AVT web inspection system - and to the shrink film market. The ws4050 digital press is qualified to handle shrink and other extensible unsupported label films. The flexible packaging market is being studied by HP Indigo, and a dedicated package will be made available.

Increased speed?

During the factory tour, the printing speed of the Indigo engine was discussed. The imaging speed of the system could theoretically be increased by some 60-70 per cent by developing the optics. But rapid changeover of colors and cleaning the press is a more important priority for HP Indigo engineers than increasing the speed, since for short runs, overall start-up time is the critical factor.

The future

At the end of the two day event, an interesting consensus had evolved around the Indigo ws4050, including a 'wish list' of future developments:

Positives

- Excellent print quality (sometimes too good!)
- Ability to handle shrink film as well as PS labels
- Allows re-engineering of conventional print operation
- Offers end users unique and value added services such as product prototyping

Recommendations:

- More work needs to be done on the business processes around the press.
- More work in speeding up job change (press cleaning, roll change)
- Higher opacity whites
- Cheaper and wider variety of digital substrates
- Laser die cutting will be the future
- Persuade bigger end users of consistency and abilities of digital print

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).

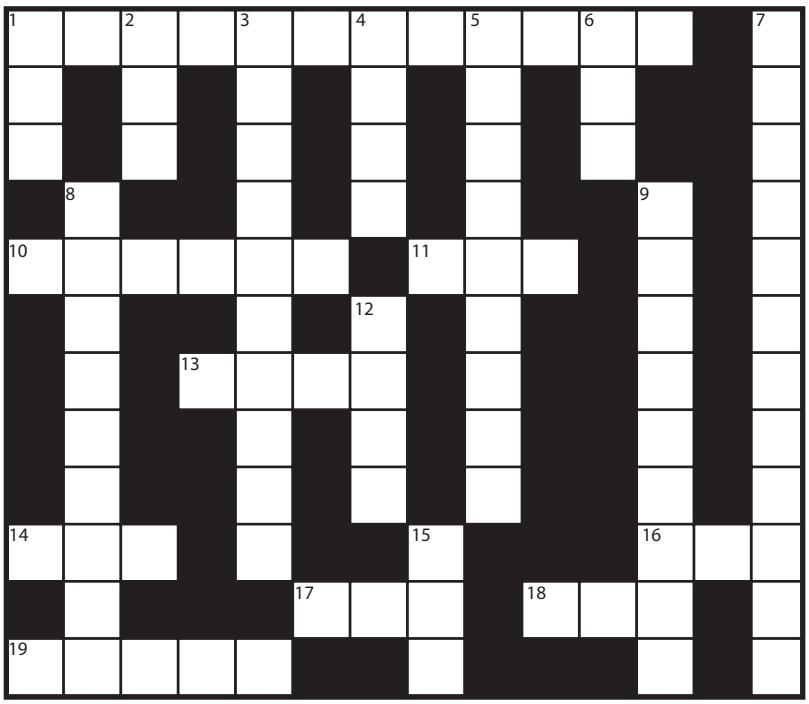
7 A set of characters or bars in a bar code which represents both alphabetic and numeric characters as well as symbols (12).

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)

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Labelexpo Asia preview

The second Labelexpo show to be held in China will take place in Shanghai between 7-9 December, and will showcase a wide range of Chinese suppliers as well as key Western press, consumables and ancillaries suppliers. The following is a selection of participating companies. Check on the website www.labelexpo-asia.com for the latest updates. All information supplied by exhibitors

Opening ceremony of Labelexpo China 2003. Labelexpo Asia 2005 is already twice the size

Avery Dennison

The Avery Dennison China plant in Kunshan has recently installed one of the region's most advanced coaters. Customers in mainland China, Hong Kong and Taiwan can now expect a wider range of products as a result of this new coater, and some companies have already benefited from its introduction.

The new coater is one just of the many expansion plans by Avery Dennison in China. The company plans to invest approximately $100 million to expand its businesses here over the next five years, including the construction of a new research and development center, and an additional plant to manufacture specialty tape products, as well as several new plants to produce tags and tickets for the retail and apparel industries. Avery Dennison entered the Chinese market in 1995 with its first pressure-sensitive adhesive materials manufacturing facility in Kunshan – this year marks Avery Dennison's 10th year in China. In addition to the Kunshan site, the company has operations located in Shanghai, Guangzhou, Tianjin, Beijing, Chengdu, Wuhan, Nansha, Fuzhou, Qingdao, Taiwan and Hong Kong.

Biesse Adesivi

Biesse Adesivi, a worldwide supplier of Flexographic Special Adhesive Tapes for over twenty years, intends to consolidate its presence on the Asian market by participating in the Labelexpo Asia 2005 Exhibition. In recent years the overall Asian market, and in particular the Chinese one, have been showing outstanding development trends in addition to great receptiveness for new technologies. Biesse offers a wide range, including most advanced products of interest for this market.

Biesse's research efforts have focused on designing and developing a full range of 'Compressible Double-sided Tapes' able to satisfy the most demanding printing requirements, ranging from pure process work to solid printing.

Research work carried out jointly with co-suppliers in the sector (inks, plates, sleeves, anilox cylinders and printing machines producers) has led to the development of a full range of double-sided adhesive tapes that satisfy the requirements of flexographic printers. Biesse's four ranges of cushion tapes include a variety of products at five levels of compressive strength, especially designed to produce the highest definition, whatever the type of printing.

Cham Tenero

The Cham Paper Group is a dedicated manufacturer of speciality papers and offers solutions for packaging and functional and intelligent labeling. Worldwide, high profile manufacturers are labeling, packaging and presenting their popular branded goods in papers manufactured by the Group.

Applications include bread, jam, chewing gum, coffee or cigarettes, wine, beer, mineral water, soft drinks or spirits – where creative packaging, protective packaging, functional and intelligent labels play a key role in selling products, particularly branded products.

Chris Finished Machinery Limited Company

Shanghai Chris Finished Machinery Limited Company, which is mainly in printing and packaging machinery, majors in the designing, manufacturing, installation, and technology support in the field of series of flexo-printing packaging machinery products. The company has many experienced engineers and designers and has developed its own label-printing machines, and auxiliary systems. The company's product development and manufacturing is in compliance with the ISO9002.

Dow Corning

Dow Corning showcases its new Syl-Off Advantage Series crosslinker system for high-speed coating operations, which set a new world speed record for siliconizing paper at 1,1610 meters per minute. This new solventless silicone coating system provides excellent coverage with no visible silicone mist at the coating head – a common problem in high-speed coating. The product line includes a comprehensive selection of base polymers, crosslinkers, release modifiers and catalysts that enable flexible control of cure characteristics, release profile and costs.

In addition, Dow Corning will promote its line of solventless silicone release coatings for use on filmic substrates. Syl-off 9100 Series lets pressure sensitive label manufacturers coat many different types and grades of films, from temperature-sensitive substrates like PE to low-cost unprimed PET, using proven, cost-efficient, thermal-cure technology. With 9100 Series, coaters can obtain the anchorage they need without limiting themselves to costly films or compromising their product's clarity.

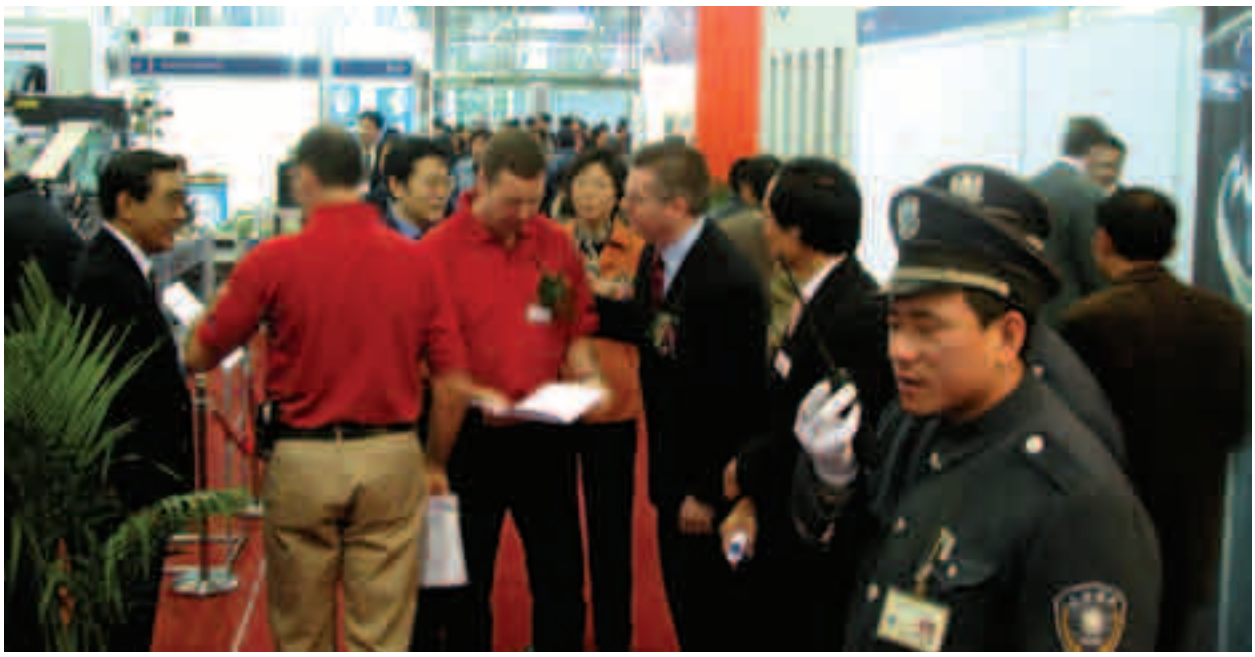
The Chinese language version of Dow Corning's updated Syl-Off silicone release coatings selection guide will also be available. The new guide features information about recent additions to the Dow Corning product line, including both Advantage Series and 9100 Series products. Dow Corning offers seven distinct families of release coating technology: solventless, solvent-based and emulsion coatings and a choice of four cure chemistries – platinum, low platinum, rhodium and tin. The guide compares the relative advantages of these technologies and helps users determine which one best meets their processing, application and end-use performance needs.

DoWell Swiss International

DoWell Swiss International Ltd will be exhibiting the L 330 label press in conjunction with label finishing and label application. The labels will be printed and processed to the top personal care and cosmetic market sector quality requirements. A labeling applicator unit will label a round container front and back using the labels printed.

The display DoWell Swiss L 330 label press will be equipped with one UV rotary gravure printing unit, five UV flexo printing units, a single rotary hot foil stamping unit with foil saver and UV rotary screen printing unit. All these units can be exchanged with any other printing station in any position on the press.

AB Graphics International Ltd will be joining DoWell with their



inspection and rotary die cutting unit for detecting any defective labels. There will be also GRE Digital Solution Ltd with a VP2020 digital ink jet printer powered by HP technology.

DoWell are also partners with Harper Anilox Rolls and Bangkok Prepress Ruam Zub Chareon Co. Ltd.

Drello

On the occasion of this year's Labelexpo China Drello presents two latest-generation systems, which feature modern high-resolution digital camera technology combined with easy operation.

Drelloscop V4000 is a low priced and compact system with manual and motorized traverse, particularly for label printing. Drelloscop V7000 features a high resolution digital camera technology. Resolution is 1024 pixel points x 768 lines resp. 1280 pixel points x 960 lines optionally. Viewing area: is approx. 110mm x 85mm, and optionally 220mm x 160mm or 430mm x 330mm. The optics are based round a 16:1 motor-zoom lens, with around 50-fold magnification. The system is available with automatic fault detection.

For applications on inspection machines, slitters and rewinders, Drello presents the flashlight stroboscopes Labelescope 3115 and 3125. Synchronizing the Labelscope can either be done through machine signals or through photoelectric pick-ups (external control). In addition the flash frequency can be adjusted manually.

The flash intensity is adjustable for adaptation to various basic materials and print colours of the label web.

For representation of UV-reactive colours, for example during security paper print, special attachable UV-discs are available.

Dupont China Ltd

Will show DuPont Tyvek. Tyvek is made of pure polyethylene fibres randomly laid and compressed to form a tough printing substrate that is ideal for all applications where durability is of prime importance. It combines the performance of paper, film and fabric. Because of its unique physical properties, Tyvek has already been successfully used for a wide variety of applications such as envelopes, tags and labels, banners and signs, maps and guides, and general graphics.

The labels using DuPont Tyvek can be sewn or glued on without losing strength. They are tear and abrasion-resistant, protecting details and specifications, and will last as long as item it's attached to. Aesthetically pleasing, they have excellent archival qualities (neutral PH, rot and mildew resistant) and are durable without yellowing or deteriorating. The printing survives exposure in archaeological digs or under water on shipwreck artefacts.

Electro Optic

Electro Optic will present the Dura LINE Special-C (DLS-C) at Labelexpo Asia in Shanghai. The system fulfils the highest requirements of flexible die users with a longer service time and suitable for high runs, difficult materials and aggressive adhesive variants. DLS-C combines the sharpness and 'precise parallelism' of the Electro Optic Quality 'Gold Line' with a long run capability.

The extremely resistant, black ion coating DLS-C is especially suitable for high editions, abrasive materials such as coated papers, thermo-sensitive papers, Tyvek, thin cardboard types, polyester, special foil laminations. DLS-C also shows positive characteristics in the through-cutting of abrasive inks such as density

white, silk-screen ink, metallic ink, luminescent ink as well as writeable color and writeable lacquer,

Modern adhesive applications require ever more aggressive adhesive variants, especially within the range of technical stickers and anti-counterfeit stickers and product safety devices. The particularly 'slidable' surface of DLS-C prevents an adhering of adhesives, and it shows good results in the case of semifluid and viscous adhesives.

Esko Graphics

Demonstrates its latest range of digital pre-press solutions.

Focus

Focus will launch the new Reflex single color flexo converting press, available with automatic re-register facility.

The Reflex is available in widths of 250mm, 330mm and 430mm and is designed for the production of blank labels, floodcoated labels, laser sheets and all single color flexo products for narrow web applications. The Reflex is supplied as standard with pneumatic unwind, web guide, splice table, die station, sheeting station, slitting, waste rewind and rewind.

Visitors will also see the new generation Proflex, with web widths of 250 and 330mm wide. This is a fully expandable, in-line, modular press. The Proflex model on show will be a 6 color, 250mm wide press with full UV drying, and rotary cold foil transfer.

The new press has been purposely designed to print and convert a wide range of substrates, from 20-micron film, to foils, vinyls plastics, labelstock, tickets and lightweight carton board.

Focus will also show the latest Centraflex C.I. press. The Centraflex is a compact 10" wide, 6 color central impression press, with infrared drying, UV varnishing, three die stations and up to two rewinds. For fabric label production, Focus will launch a new version of their Letterflex press, alongside the existing L6 (6 + 2 colors) model with in-line ultrasonic cutting. The new model will incorporate many new features, which will be announced at the exhibition.

Visitors can also see the Platemate video platemounting system for quick and accurate mounting of all photopolymer plates. The Platemate is simple to use and can be mounted on any bench top surface. An efficient tape dispenser is also included in order to eliminate tape wastage.

Gallus

With the co-operation of their partner Heidelberger Druckmaschinen AG, Gallus will demonstrate the new Gallus EM 280 that incorporates redesigned and upgraded printing units, plus a completely new central touch-screen control panel. Easy to operate, it combines the ultimate in printing process flexibility with ultra-short set-up times. A great advantage for the new booming markets in Asia, where consumers are said to be more sensitive to attractive package decorations that convey the brand message.

GEW

New from GEW at Labelexpo Asia will be the e-Brick, a modular and compact, space saving electronic power supply with less than 30 per cent of the volume and 20 per cent of the weight of conventional systems. High frequency square wave electrical output increases UV output by 10 per cent. The 3-phase input balanced under all running conditions and high power factor results in up to 30 per cent less energy consumption on some systems.

Also showing will be JetCure, a small, compact UV lamp head engineered for curing ink jet applied inks offered in both a shutterless and shuttered design

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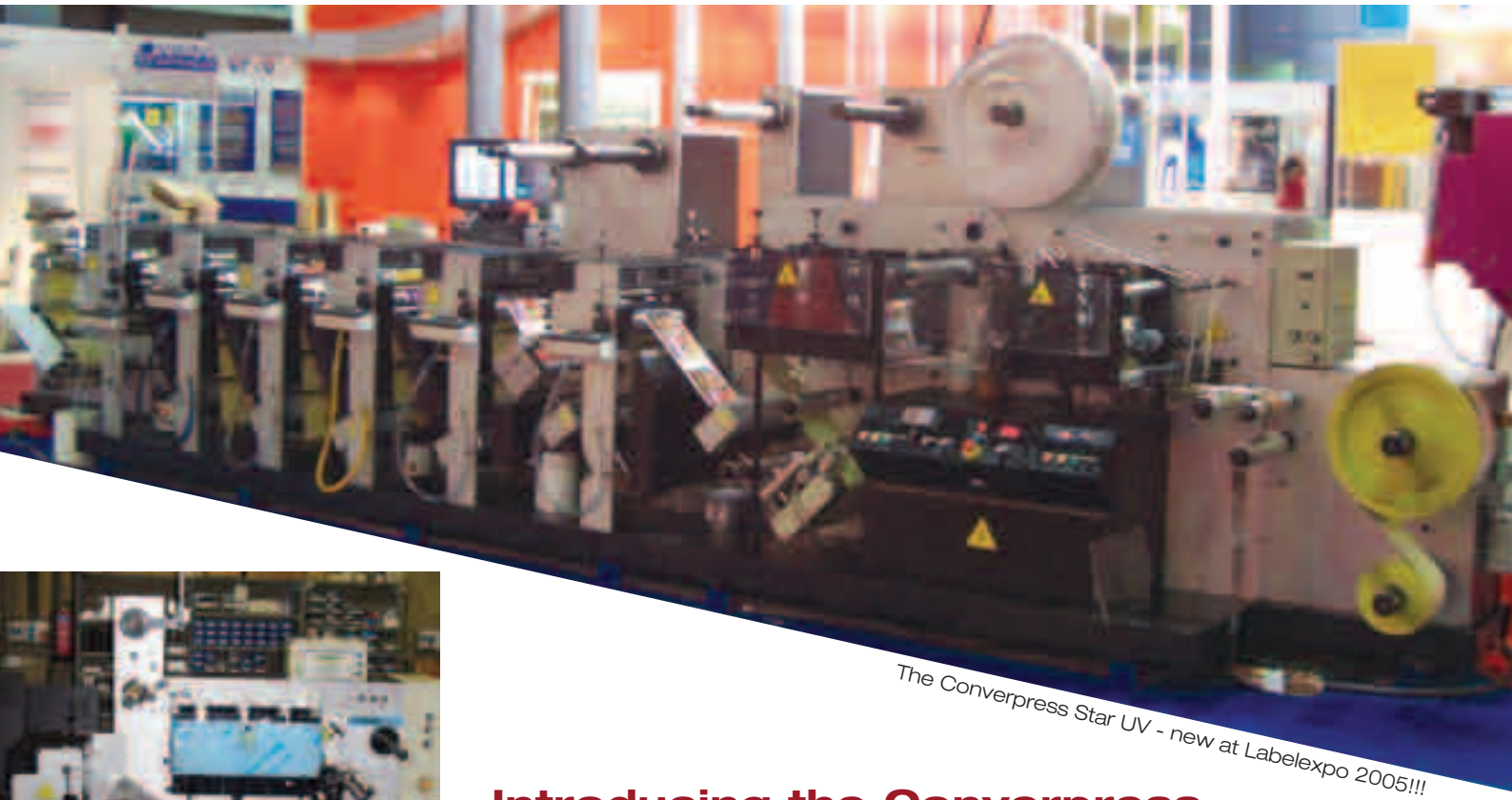

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depending on whether printing is a continuous or intermittent operation.

In addition, the company will show its NUVAplus N2 modified atmosphere curing system for faster curing of free radical silicone release coated liners and reduced photoinitiator inks for food packaging applications. NUVAplus high performance UV curing system for wider web applications optimised for curing heavy lay-downs of both traditional and cationic inks and coatings on thermo-sensitive substrates at high press speeds.

HP Indigo

HP Indigo will show a ws4050 digital press with an ABG Digicon 'E' finishing line incorporating coating, laminating, die cutting and foiling functions.

Innovia

Innovia Films will introduce two new high performance speciality BOPP label face stock films.

Rayoface VTT is an ultra high yield, top-coated white facestock film, designed primarily for use in the industrial, chemical, logistics and transport labeling markets and for labeling outdoor garden and DIY products.

Available in 70 micron, the film offers up to 20 per cent increased yield over comparative materials, making it an ideal replacement for paper labels, especially in applications requiring a high degree of resistance to moisture, oil, and chemicals.

UV stabilisation of both the BOPP base film and the paper-like topcoat ensures outdoor service of the label up to two years. The topcoat is printable across a wide range of traditional print processes and for variable information printing (VIP) by thermal transfer or dot matrix printing.

Rayoface WZPA is a white pigmented, squeezable label facestock film, ideal for demanding applications requiring resilient, high label conformability on flexible containers. WZPA features new polymer technology and offers an alternative to traditional vinyl and polyethylene label substrates.

It complements the clear Rayoface CZPA that has enjoyed marked success in the marketplace since its introduction in 2004.

Photo: The new UV system MBS-5 from IST Metz offers considerable possibilities for reducing costs. Thanks to its very compact design it is also possible to install the system into printing presses which have limited integration space.

WZPA benefits from Innovia Films' unique proprietary print-receptive top coat, which ensures excellent ink adhesion and scratch resistance. The film may be printed using all the conventional ink systems and print processes.

IST Metz

IST Metz presents a new lamp module, MBS-5, for the Labelexpo Asia Show. The pivotal attribute of the module is its efficiency, bringing up to 40 per cent more UV energy onto the substrate surface.

The MBS-5 system incorporates new

solutions, including the URS reflector technology. Its core feature is a new surface coating that also enables any desired geometry when using so-called 'cold mirror' reflectors. This has enabled the IST designers to adapt, by means of advanced software, the reflector geometry for the MBS-5 lamp module to the specific production requirements in label printing. Energy-saving UV lamp modules, such as the MBS-5 system, aid printers to curb excessive energy costs.

J.M. Heaford

JM Heaford will exhibit a Table Top Video Plate Mounting Machine – Model 500 ELS. This unit is the most popular mounting machine of a wide range offered by Heaford and is designed to very precisely support any variety of plate cylinders. Plate mounting is very simple, quick and above all extremely accurate. The use of print sleeves is becoming more apparent on narrow and mid web in-line presses so Heaford's latest range of mounters features special cantilever air cylinders to support these sleeves.

Heaford also manufactures a range of Table Top Video Plate Mounting and Proofing Machines which offer the same benefits of precision, simple and quick plate mounting, coupled with the possibility to produce a paste ink style proof for pre-production checking of general plate printability, registration and text.

Heaford offer a mounting system combined with a special drum proofer for applications that require production-quality proofs on production substrate using plates or laser engraved rolls and production inks applied with an anilox roll. This machine is invaluable in critical areas where digital simply does not perform satisfactorily or in areas where the plate print quality must be seen prior to printing. It also pays back quickly where print customers are absorbing production press time on proofing activities.

Kar Ming Technology Development

Will exhibit the Powerscope 3000, the new model from the BST Web Video Inspection System, which has the following special features: quick zoom, dynamic image update, auto scan, and split screen. This model is considered an effective means of in-line quality control for the narrow web label press.

Besides the manual version, Powerscope 3000 can also be in motorized version, which enables the camera positioning and auto scan across the web with a motor.

The company will also exhibit the latest model of BST Web Guiding System, equipped with the ekrPro Com40 controller, working together with infrared and ultrasonic edge sensors.

KinoFlex

The company manufactures flexographic presses for converting pressure-sensitive labels, flexible packaging and cartons in a wide range of web widths. The presses are manufactured in Weifang City, China, using state-of-the-art CNC tooling. The company was established in 1996 and it sells around 2,000 presses a year

KinoFlex presses are of modular construction and up to ten print units, and include the full range of web control systems such as electronic web guiding and output tension unit. Die cutting includes in-line and transverse slitting and video web inspection is standard. The presses are available in widths 330mm, 420mm and 640mm. Maximum web speeds are up to 150 meters/minute and drying options include warm air, IR and UV.

Kocher & Beck

Kocher & Beck will display the new generation of the Gapmaster system, the Gapmaster Plus.

The system contains a special anvil cylinder enabling the label printer to adjust the airgap between the anvil and magnetic cylinder, in order to compensate for any variation in thickness of the backing material. The system also extends the life of rotary dies by allowing the printer to compensate for the wear taking place on the dies during use.

The second development is Magnetic Printing Cylinders for letterpress. Label printers are using these types of cylinders to cut the make ready time of the press to a minimum, saving costs on down time and mounting tape.

The third attraction will be the new generation of the Kocher & Beck 3L - Laser Long Life Flexible Die. A unique laser hardening process in combination with a patented edge polishing process, provide outstanding results both in durability and reliability.

Mark Andy

The brand new Mark Andy LP3000 is introduced as the premier member of the Label Productivity family. This highly productive label press design delivers the next generation of productivity, operational design and consistent quality.

By combining the latest production efficiencies with state-of-the-art quality, the LP3000 responds to converter demands for faster and more efficient equipment that brings value to their business.

Martin Automatic

Martin Automatic will demonstrate the latest version of their STS and STR automatic splicer and rewind for narrow webs. Designed to reduce waste and increase throughput the STS and STR turret splicer and rewind feature advanced Martin Automatic roll changing technology and a compact design for minimum footprint. Available for up to 13" webs, the STS and STR feature simplified operations and maintenance. The STR winds rolls without web foldback at the core and provides greater winding control.

'We are exhibiting at Labelexpo China in support of our many OEM relationships,' says David Ho, regional manager for Martin Asia Pacific. 'Major flexographic press manufacturers throughout Europe and the United States offer Martin's automatic splicing and rewind technologies on their high performance printing presses.'

Meco Equipment Engineers B.V.

Meco's new development is the Flex Antenna Plating system (Meco FAP), billed as the solution for tomorrow's low cost antenna production where high volume, product flexibility and process robustness become key.

Nilpeter

Nilpeter will show representative samples of all its press lines at Labelexpo Asia. This includes the FB-3300 flexo press with Drop-In screen unit and two print units from the MO rotary offset line, along with all the cassette types. It will also show the new FA-line press in the 16" version in units.

A key feature of the stand will be combination printing, offering the freedom to combine, for example, offset with any other printing process, such as flexo, screen, gravure and foil stamping. An open platform architecture is ideal for adding on and taking advantage of any new printing technologies.

Martin Automatic demonstrates the latest versions of their STS and STR automatic turret splicer and rewind

Omet

Omet will present the new Holo-foil king – nominated as possible winner of the next Print and Innovation Awards 2005 – as well as a twin-cut die-cutting unit and new Flexy-S printing press with servomotors.

This Holo-foil unit can deposit up to six hologram reels with independent pitch and foil-saver technology, in line on the Varyflex press (available in 420-520-670 mm widths), which has no gears on the printing cylinder. This unit can make in-line hologrammed production of labels, plastic film and flexible carton, starting from a standard roll of material.

Flexy-S is Omet's new narrow-web printing machine with two brushless motors for each printing unit – one for the plate-holding axis and another one for the printing unit. This gives better control of print register compared to traditional mechanical-transmission printing machines, and also offers print pre-register, automatic print-register control and die-cut. Moreover, it provides for print at infinitesimally changeable pitches, going beyond the restraints of the pitch in eighth inch.

The Twin-cut unit can be installed in line on Flexy-S to produce self-adhesive labels, allowing production of all print formats without having to change magnetic cylinders.

Pagendarm

Pagendarm has developed a new application system in the field of UV networked acrylics that will shortly be supplied to BASF AG. At the same time a 2.40m wide installation with a UV hotmelt application system has been installed and will go into operation at the end of the year. With this contact-free coating procedure, clear on clear products in particular can be manufactured at a speed of up to 350m/min. Likewise, this year Pagendarm will supply a conventional Hotmelt coating machine with which, on a working length of 2.40m, thermal hotmelts can be applied at a speed of 450m/min.

Raflatac

At this year's Labelexpo Asia, Raflatac will focus on the expanding range of multifunctional filmics for end-uses ranging from personal care to beverage available to the Chinese market.

The no-label look is becoming the expression of choice in the personal care and beverage industries. Raflatac is well equipped for this expanding market with a large

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portfolio of pressure sensitive labelstock including the highly successful Raflaclear. Raflatac is also positioned to offer a range of products that meet the growing beverage segment's needs for style and functionality.

Raflatac recently announced the construction of a world-class pressure sensitive labelstock production facility in Changshu, adjacent to UPM's existing paper mill in the Jiangshu province. Scheduled to begin operations in the beginning of 2007, the new USD 40 million-production unit will supply paper and filmic labelstocks for standard and special applications and of world-class quality. With the new facility, Raflatac will be able to provide a wider product range and respond to the increasingly demanding needs with new technologies and advanced process management.

Currently, in China, Raflatac has production in Shanghai, a terminal in Tianjin and a sales office in Beijing. Other factories in the Asia Pacific region are located in Malaysia and Australia.

Rhodia Silicones

Will display a wide range of release coating products under the name of Silcolease. This product range covers solvent based, water based, non-solvent thermal and non-solvent radiation systems. They have found proved applications on all types of substrates, with different types of adhesives, by various processes, under all conditions.

With more and more applications found for film coatings, there is clearly an increasing demand for silicone systems for film coating as well. As one of the leading suppliers to this industry, Rhodia Silicones has developed a comprehensive release coating solution to film coating applications. This includes UV systems, where high speed coating and low temperature processing are critical; the solvent based system, both the traditional polycondensation system (which allows coating onto difficult substrates such as PVC, and also lower temperature curing) and the locally developed polyaddition system which gives very good anchorage even after ageing; and the recent option from the non-solvent thermal range for film coating applications, with improved curing and anchorage performance.

Roland

At Label Expo Asia, Roland will demonstrate its unique digital printing and die-cutting inkjet devices, including the VersaCAMM and the SOLJET SC-545EXW printer/cutter with new white ECO-SOL INK. Designed for both novice and advanced users, the VersaCAMM comes in two models, the 30-inch SP-300V and the 54-inch SP-540V. Its powerful combination of four-color printing and digital die-cutting in a single, low-cost device significantly improves production speed and ease of use.

The 54-inch-wide SC-545EXW prints white as well as CMYK graphics onto transparent substrates and other specialty media. White ECO-SOL INK can be printed both as a spot color and as an undercoat on transparent film substrates to increase the opacity and brightness of four-color printing. To ensure brilliant color with rugged durability on a wide variety of both coated and uncoated media, Roland also recently introduced ECO-SOL MAX ink available in CMYK plus light cyan and light magenta.

RotoMetrics

RotoMetrics will showcase the latest in narrow web products at Labelexpo Asia 2005, including adjustable clearance anvils, vacuum dies, multi-port air-eject dies, meter rolls, male/female folding carton dies, hot foil security imaging, flat magnetic bases, hot foil magnetic cylinders and UniFlex enhancements. Additionally, RotoMetrics will display a comprehensive line of rotary dies and accessories, including CNC and EDM solid dies, flexible dies, magnetic cylinders, print cylinders, specialty dies, sheeters, hot stamping and embossing tools, pressure gauging systems and more.

Stork's laser engravers can finish a typical plate for a label job in 20 minutes;

Saelim

Will present the HI-PRO series label, a patented superior removable plastic material suitable for various applications such as silkscreen printed outdoor vehicle advertising and point of purchase labels.

Also on show will be labels for bar-coding and laser printing, reflecting the increase in the need for printing barcodes for print labels, logistics labels, and various control labels.

Saelim will show tire labels, which can also be categorized as Prime labels. The distinction is necessary because tire labels require a different construction from normal prime labels. Both the face material and the adhesive have to be made differently to overcome the harsh environment.

SIHL

Digital printing is fast becoming as important a part of the printer's life and daily routine. When printing on films the job can prove even more challenging. The PicoFilm program offers a wide-range of matt and gloss coated films, mainly PET, to make this task easier.

The PicoFilm range makes it possible to print digitally for instance with Xeikon, Nexpress and Xerox equipment just as reliably as with conventional presses.

Printing variable information (EAN or 2-dimensional barcodes) is also possible with both 4-color laser printing systems or thermal transfer printers.

The printer may achieve all of his aims using one single product range – horticultural tags, industrial labels, event ticketing, transport applications, membership and club cards, menus, site survey papers, and point-of-sale.

Siliconature Spa

Siliconature Spa will exhibit its vast range of siliconized PET in different thicknesses (from 12 to 175 my) available with several release values from very easy to very tight.

The silicone coating of polyester for no label look applications is one of the main products the company exports all around the world

Stork

At Labelexpo Asia, Stork Prints will be showing its laser engraving program for the creation of printing formes; the company will also show its latest innovations in rotary screen printing units with the launch if the RSI Compact, specially designed for the label printer.

In direct laser engraving the printing image is formed in just one process step. This means the label converter can take control of a greatly simplified workflow, offer shorter turnaround times and significantly raise competitiveness.

The biggest quality advantage for laser engraving is that you do not depend on the path of light to create the image. Neither chemicals nor film is used, and minimal water is needed.

At Labelexpo Asia, Stork Prints gives the technology its first showing at a major Chinese event. They will exhibit systems for flexo, letterpress and rotary screen-printing. These include Agrios 413X, for dedicated flexo applications, Morpheus 611X, for flexo and screen – both these units can accommodate printing formes for wide and narrow webs. The new addition is Helios 6010, specially for narrow web markets, for flexo, letterpress and rotary screen. This is designed to greatly simplify the workflow situation for hybrid label presses.

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Stork's units feature advanced software, giving the operator great freedom to shape the plateau, shoulder and base of the dot. Dimensions and angles can be specified to 0.01 mm, and 0.01 degrees respectively. Pixel-correct repeat-step functions enable 3D designs to be reproduced at the touch of a button. Stork's engravers feature CO^2 lasers can engrave at up to 18 m/s. A typical plate for a label job can be engraved in about 20 minutes (these results are determined by the polymers used). Both Morpheus and Agrios laser engraving systems are able to achieve a resolution of up to 2032 dpi; Helios 6010's maximum resolution is 2540 dpi.

Also displayed will be Stork's new RSI Compact – a small, lightweight rotary screen unit. It is specially designed to help label converters enter high value markets, like health and beauty products, wines and spirits, and household products, for a fast return on investment.

Weighing just 40kg, the RSI Compact can be set up manually, very easily, and can be integrated into the printer's existing press and print smoothly – at up to 100 m/min (328 fpm) alongside flexo, gravure, offset or letterpress stations. Available in 10" or 13" widths, its repeat sizes go from 12" to 18". Automatic screen suspension for automatic tension control, and automatic slow-rotation mode, are among its key features.

Teknek

Teknek will show the latest developments in their range of Web Cleaning systems. The highly successful NW model has evolved and is now succeeded by the NWP (Platform) model. Developed in conjunction with OEM partners and customers, the NWP incorporates design improvements which make the unit easier to install and use. A wider range of sizes is available and the platform design ensures increased availability, which reduces delivery leadtimes.

The new Teknek Mini Web Cleaner (patent pending) will also be shown. The Mini Web Cleaner is designed as a low cost model for web widths from 100 - 345mm, with a maximum speed rating up to 65m/min. Extremely easy to fit and capable of multiple point installations, the Mini Web Cleaner was extremely well received by customers at Labelexpo Brussels and the recent India Flexo show, with a number of orders received at both.

Amongst other developments, Teknek's unique Pre-Sheeted adhesive rolls (patent pending) will also be on show. The Pre-Sheeted adhesive roll means no knifes are required to cut the paper, which improves health and safety, guarantees 100 per cent usage and is quicker and easier for the operator to refresh.

Unilux

The Unilux product line to be shown at Labelexpo Asia 2005 includes portable, battery-powered strobe lights and fixed-mount units running on standard electric power. They can be used by equipment operators on narrow and wide-web presses, slitters and rewinders

UPM

UPM will present its comprehensive range of Label Papers at LabelExpo Asia 2005. The company is a leading supplier of both release base and face papers. In base papers the range consists of glassine, SCK (super-calendered kraft) and CCK (clay coated kraft) type of release liners. The C1S (one side coated) face papers are successfully used in self-adhesive laminating, converting, printing and labelling.

UPM has made a decision to develop the release paper production at its Tervasaari mill in Finland. The rebuild of PM8 means that UPM next year will be able to meet customers' expectations even better. After the project, with an increase in annual capacity of 45,000 tonnes, UPM's total release paper capacity amounts to 250,000 tonnes per year.

Vetaphone

Vetaphone shows its new combined corona web cleaner CC-plus for the narrow web industry. The CC-Plus corona web cleaner is a narrow web system for contact web cleaning and corona surface treatment. This unit is designed for tomorrow's performance including easy thread-up, reduced space requirement, easy handling, complete machine integration and an all over improved film surface quality.

The systems from Vetaphone and Kelva are integrated in one product. This combination of web cleaning, corona treatment and static neutralization drastically reduces space requirement and increases functionality.

Retrofit to existing equipment is easily done without technical expertise. Mounting can be done cantilevered with all connections at the back. There are no doors or parts that need to be opened for the easy film thread-up.

The Corona Web Cleaner includes the easy to use maintenance system with quick-change cartridges and a possibility for full interface to the main system.

Vetaphone's compact corona treater station for narrow web will also be on show. Vetaphone has developed a range of small and solid compact treater stations for single or double-sided treatment and with treatment widths up to 560 mm with the patented Quick-Change electrode System (QC).

Wenzhou Xinfeng Group Corp

Will show release paper, with a maximum width of 2500 mm, and silicone paper for all kinds of self-adhesive products, especially the application on self-adhesive film and labels field. The group can supply release paper (including Glassine paper) with both solvent and solvent-less silicone system, and will extend its business into PET film with silicone coating, impregnated crepe paper for masking tape.

Xeikon Print Solutions

Shows its Labelsprint digital converting solution, incorporating the Xeikon 330 digital press and the D-Coat finishing line which can include a full range of converting solutions from coating and super-laminating to slitting, rewinding and foiling. The press is driven by the new X-800 front end which allows the creation of barcodes on the fly and also handles color matching on the 5-color print engine. This is a CMYK+White print engine, and the 5th station can also handle spot colors or security inks.

Xsys Print Solutions

Xsys Print solutions will present both the ink and plate division at this year's Labelexpo Asia, including information about the market's widest range of inks for narrow web printing.

New inks being shown include: the Flexocure XS - a free radical UV-flexo ink for shrink sleeves that delivers maximum shrinkage; Lithocure 3G – a next generation UV-offset ink that offers real on-press stability, no waste and downtime; and various inks for security and brand protection.

Xynatech

Converting of folding cartons with flexible dies has arrived in China. Flip top cigarette cartons, gable top milk cartons as well as other tobacco and food cartons are being cut and creased on Xynatech PC dies. These dies weigh a kg or less, minimizing shipping costs which, in combination with their low purchase price, places the advantages of rotary die cutting within the reach of printers, large and small.

A short audiovisual presentation will be shown in the Xynatech stand, showing a die being mounted, started up and taken to full line speed. Experts will be available to discuss applications, economics and anything else.

In addition, Xynatech's one-pass label die will be on display. These dies represent the ultimate in cost efficiency when cutting paper and paperboard materials whether pressure sensitive or single ply.

Zeller + Gmelin

The manufacturer of UV curing printing inks and varnishes is extending its special range for the printing of labels and packaging with three new products for the UV flexo-printing sector:

1. Uvaflex YS - Radical UV flexo ink series for shrink-sleeve labels.
The 'shrinking' of sleeve labels by means of IR radiation, steam or hot water places quite specific requirements on the printing inks used. In close cooperation with shrink-sleeve printers and processors, the Uvaflex YS series has been developed, a range of inks specially designed for the printing of sleeve films.

2. Uvaflex YT - Radical UV flexo ink series for the printing of thermal materials
The chemistry of the thermo-reactive layer of thermal materials (e.g. logistics labels, labels for self-service scales, parking tickets etc.) is very sensitive and susceptible to external influences. Zeller + Gmelin has developed the Uvaflex YT series a special range of inks which meets these requirements.

3. Uvaflex YB - Z3- New, mono-pigmented UV flexo colour mixing system
Under the designation Uvaflex YB-Z3 a new, mono-pigmented color mixing system has been developed for the printing of labels, which optimizes the mixing of special shades. This is a print-ready system provided with maximum color intensity. Furthermore the flow characteristics of this system have been conceived in such a way that it is optimally suited to use in color dosing stations.

Nestlé adopts RFID solution Pallet

Metro Group has brought together SATO and Rafsec to implement an RFID system for Nestlé Deutschland, as part of a strategic redesign of its logistics system

Ever since Metro Group and other major retailers in Europe and the US issued mandates and launched RFID initiatives, everyone's been talking about RFID. The ultimate aim of tagging with RFID labels is to automatically track pallet and case movement and enhance transparency across the entire supply chain. Metro's largest suppliers are currently in the first phase of RFID technology roll-out. Initially, the suppliers are to apply UHF-RFID tags to pallets. Tagging cases with RFID labels will follow in the near future. At Nestlé Deutschland, one of Metro's most important suppliers, the RFID project was not considered merely a necessity, but was seen as a strategic opportunity. Nestlé went to great lengths to seek a practical and effective solution. With the support of the RFID specialists from SATO and UPM Rafsec and extensive testing at the two Nestlé distribution centers in Lüdinghausen and Rangsdorf, this project actually led to a significant breakthrough. The readability of UHF-RFID labels is highly dependant upon factors such as the position of the label on the pallet, the type of product on the pallet and the packaging materials used. This is why a great many obstacles had to be overcome to make the UHF-RFID technology fit for everyday industrial use, and to render automatic pallet labeling with UHF-RFID labels possible without any manual intervention. This led SATO and UPM Rafsec to the creation of a completely new development in RFID labeling technology: the FlagTag. The resulting solution that was implemented at Nestlé sets a new standard for the suppliers to METRO and the wider supply chain.

Partnership between Nestlé, SATO and UPM Rafsec

Nestlé Deutschland AG is the German subsidiary of the Swiss Nestlé Group. With more than 14,000 employees and sales in excess of EUR 3.4 billion in 2003, Nestlé Deutschland is one of Germany's foremost food and beverage companies. The head office of Nestlé Deutschland AG is in Frankfurt. From the outset, Nestlé Deutschland saw the RFID issue as a project of strategic significance. Their approach was to introduce RFID in a way that realized benefits not only for METRO but also Nestlé itself.

Collaboration on the RFID pallet labeling project with SATO and UPM Rafsec began at Nestlé in June 2004. It was obvious that no 'off-the-shelf' RFID labeling solution would do the job. The key objective was to be able to utilize a single RFID tag design and to automatically apply the tags to all pallets.

SATO is a manufacturer of the portable labeling device, of thermal transfer printing, and is a manufacturer of label and barcode printers. Further, as a Gold partner of the METRO Group RFID future store initiative, SATO is playing a key role in the roll-out of the new UHF-RFID technology.

UPM Rafsec is a producer of RFID transponders. The company's headquarters and research and development (R&D) center are located in Tampere, Finland. UPM Rafsec is a subsidiary of UPM Kymmene Corporation, the largest printing and label paper manufacturer in the world. Supported by UPM Group, UPM Rafsec has gained extensive experience in the development and production of RFID tags, and is a Silver partner of Metro's RFID future store initiative.

Pallet labeling using UHF-RFID tags

The RFID inlay is the heart of every RFID label. The inlay consists of a thin RFID semiconductor device and radio antenna. In addition to the data stored within the RFID device, text and barcode information is also surface printed onto the label using a conventional thermal transfer printer. The great advantage of pallet labeling using the newly developed UHF-RFID labels is that the data content of the RFID device, and hence the pallet identity can be read automatically when the pallet passes through a gateway fitted with a RFID reader. What makes the new generation of UHF-RFID tags so effective is that the higher

radio frequency provides a reading range of two to three meters. The European frequency standard for the Ultra High Frequency RFID tags is currently 869 MHz. This is why, generally speaking, pallet labeling has only become truly practicable with the advent of the new UHF-RFID tags.

Live tests

The three partners – Nestlé, SATO and UPM Rafsec – began the pallet labeling project with thorough live tests. June 2004 saw the first series of tests carried out at the Nestlé distribution center in Lüdinghausen. Nestlé's Maggi range is distributed through the Lüdinghausen facility, which is operated for Nestlé by logistics company GEODIS. The Maggi products come in a vast array of different forms: dry and liquid goods, in cans, jars, foil and aluminum packing. Jürgen Schweitzer, RFID project leader at Nestlé, explains the approach: 'It was important for us to test the entire spectrum of possible packaging and contents under realistic conditions, as we wanted one single, universal RFID tag solution for pallets with different contents.'

Testing under realistic conditions was essential, as while these tags do have the greater reading range needed for pallet labeling, in practice the range which can be achieved is extremely sensitive to variations in the type of packaging and the contents within. In the worst case, the resonant frequency shift and the absorption caused by the materials on the pallet are so great that the antenna in the RFID tag generates a signal so weak that a UHF-RFID tag applied in the normal manner can scarcely be read at all – no matter how close the UHF-RFID tag is to the antennae of the gate. This is to say that the antennae on the gateways which generate the radio field have to be 'de-tuned' to compensate for the frequency shift caused by the palletized product and packaging. Alternatively, the tags to be applied need a modified antenna design and resonant frequency to compensate for the frequency shift.

On two days of testing in Lüdinghausen, the test team passed more than 70 different pallets with 70 different products through the gates. To test readability and reading range with different application variants and different pallet contents, the pallets were repeatedly driven through the gates by elevating platform trucks and electric stacker trucks – in all, more than 2,000 test runs were conducted. Liquid products and metal packaging materials proved to be particularly problematic. Andreas Kolb, Strategic Business Development Manager for RFID at SATO recalls: 'In some cases it was like a wall. Nothing got through.' In most cases it was possible to overcome the problem of insufficient field strength by applying the tag to a suitable point on the pallet – often, the UHF-RFID tag was affixed to a place with a hollow space behind it – but that was not viable for a universal pallet labeling solution. 'For our real aim was not, of course, a slap & ship solution but an automatic print & apply,' explains SATO RFID specialist Kolb. 'The RFID tags were not to be printed and then applied by hand, but applied automatically after printing, without human involvement and in the same way for all pallets, no matter what they contained.' This is why the first approach at solving the problem – the spacer – was quickly dismissed. With this idea, the actual RFID label would have been applied to a spacer made of cardboard. Although the distance to the surface of the pallet would have met the relevant reading criteria, the spacer approach still relied on manual application.

Testing of the RFID system under realistic conditions was essential, as in practice the range which can be achieved is extremely sensitive to variations in the type of packaging and the contents within

Achieving a working solution

Once the practical problems had been identified in tests involving the Lüdinghausen products, the next test phases in July and September 2004 at the Nestlé distribution center in Rangsdorf finally produced the desired universal solution. Nestlé products such as Nescafé, Nestlé cereals, Humana baby foods, Smarties, Lion bars and Nesquick are distributed through the Rangsdorf location, which is operated by Nestlé partner TTS Global Logistics. In early 2004, Nestlé had already decided that the RFID pallet labeling would be started in Rangsdorf. The Rangsdorf tests were carried out

with the antenna configuration also deployed by METRO Group; two pairs of Kathrein antennae per gate, set at two different levels so that double-deck pallets could also be automatically captured while passing through the gate.

Development of the FlagTag

What finally produced the breakthrough during the series of tests at Rangsdorf was the FlagTag. Under a patent registered by UPM Rafsec, a FlagTag is created when the narrow, flat strip of the RFID label that contains the actual RFID tag, i.e. the chip and antenna, is folded over, so that it protrudes from the label, and stands vertical to the surface of the pallet – as the term suggests, like a small flag. Proceeding from the FlagTag idea devised by UPM Rafsec, SATO then hit upon a solution, the patent for which has since been registered, whereby the flag is folded automatically by the applicator immediately before application. The SATO RFID applicator uses negative air pressure to suck in the area of the flag bordered by three perforated lines and forms the flag by creating a fold along the middle perforation and pressing the two adhesive surfaces together. The result an automatically formed, vertically protruding FlagTag. Thanks to the FlagTag concept, universal readability is assured irrespective of the point of application and content of the pallet; moreover, the design can be used in an automatic application device.

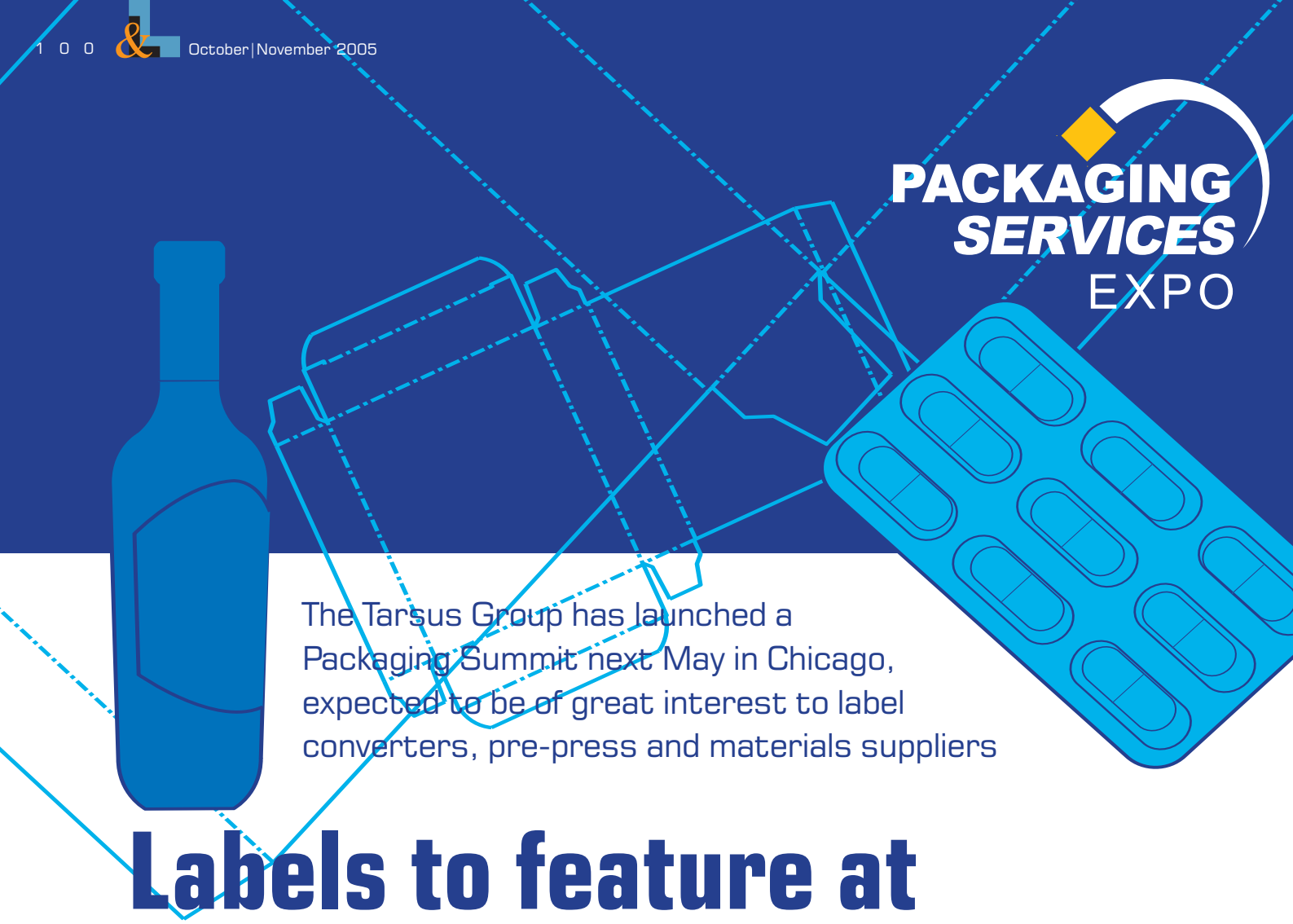
In Rangsdorf, Nestlé, SATO and UPM Rafsec also tested the resilience and robustness of the FlagTags. Labeled pallets were loaded onto a truck, transported and then unloaded. All the pallets were subsequently passed through an RFID gate, after which the loading began all over again. The entire procedure was repeated approximately 30 times to see how the FlagTags performed with a variety of loading methods. The outcome; the resilience of the FlagTag is in no way inferior to that of a regular flat RFID label applied to the pallet.

Since it would be illogical and costly to equip pallets with RFID tags when the recipients cannot yet read the data they contain, Nestlé initially opted for a twin-track solution. To this end, SATO developed a parallel tagging system comprising two SATO S-Type print modules. One of these imprints and programs UHF-RFID labels while the second produces conventional barcode labels. Depending on the recipient of the pallet, either the UHF-RFID module or the barcode module is activated to perform the label printing task. The printed label is automatically fed to an applicator, which, if required, automatically folds the FlagTag and applies the label. In the case of double-deck pallets, the applicator automatically elevates in order to apply the label to the upper pallet as well. SATO plans to install a fully automatic system, with two print modules and a double-deck applicator in Rangsdorf.

Successful implementation of a pilot UHF- RFID pallet labeling solution

Nestlé wanted to introduce the UHF-RFID technology at a highly automatic level with the aim, among others, of integrating RFID technology into existing processes and applications. An offline solution with SATO RFID print modules is already in operation at Rangsdorf, but the integrated solution for the variable barcode and RFID labeling, with a link to the warehouse management system, will follow. It was important to realize a vertical integration of RFID. Only in this way can the potential of the technology be fully realized. The METRO RFID initiative is in the first roll-out phase. Thus, RFID labeling is currently being carried out at Nestlé at pallet level only. And these pallets from Rangsdorf are at present shipped to two central METRO distribution centers and to two METRO Cash & Carry markets. Through the collaboration with SATO and UPM Rafsec, a truly innovative technological solution for automatic pallet labeling with RFID tags has been developed. ■

PACKAGING SERVICES EXPO



The Tarsus Group has launched a Packaging Summit next May in Chicago, expected to be of great interest to label converters, pre-press and materials suppliers

Labels to feature at Packaging Summit 2006

With major packaging association support, The Packaging Summit 2006 includes three important packaging events in one venue. Scheduled for May 16-18, 2006 at the Donald E. Stephens Convention Center in Rosemont, Illinois, The Packaging Summit 2006 is comprised of Packaging Services Expo, Packaging Containers & Materials Expo and the Packaging Summit Conference.

This event was designed for professionals needing contract packaging and other packaging services as well as those involved in purchasing materials and containers. The Conference component presents ideas and concepts to help in the development of better packages.

With a target audience involved in material and container issues – including both structural and graphical elements – Packaging Containers & Materials Expo is of particular interest to those needing labels and labeling material solutions because it provides a focused marketplace, which includes innovative label technologies as part of the event's overall concentration.

Many exhibitors will offer the latest advances in labeling technologies, spanning across the spectrum of end-user industry sectors. Highlights will include suppliers of labels ranging from pressure-sensitive, sleeve, film, laminates, paper, foil, security, and more. Also displayed will be an array of adhesives and tapes, inks, resins, and coatings used for label converting.

One key element to the event is that there will be no packaging machinery or equipment on display.

'The event is ideal because it allows attendees and exhibitors to network and discuss business at hand without the distraction of operating machinery,' explains Don Browne, show director, Packaging Containers & Materials Expo. 'The intent is to allow a focus on material innovations while presenting ideas and concepts to boost packaging design efficiencies and operations.'

While the Packaging Containers & Materials Expo will have a label and labeling aspect, the event will provide synergy between converters, suppliers and end-users by emphasizing how each can most effectively work together. This will result in high-level packaging efficiencies as well as functional, aesthetic package design.

Although attendees may be looking for materials for their labeling needs, they may also be looking for contract packaging and services solutions, which would be available at the Packaging Services Expo. Packaging Services Expo provides a unique window to the $23 billion contract packaging and services market.

Packaging Services Expo encourages face time among brand owners, manufacturers and retailers with leading packaging services providers. It also helps packaging services providers to better serve product manufacturers, retailers and brand owners as well as connect with the appropriate packaging decision makers.

Packaging Services Expo showcases leading packaging services providers in:

- Contract Packaging
- Package Design
- Package Testing Assembly
- Logistics
- Specialty Packaging

Conference attendees are senior-level managers, and they are members of the team within companies that conceive, develop and execute packaging initiatives. They also include staff at consumer packaged-goods companies and institutional and industrial products companies. The attendees employ materials or packages to improve market acceptance of brands, improve packaging efficiencies, and reduce packaging costs. Attendees also include product development personnel from supplier companies who have the role of integrating customer needs by using multiple packaging technologies.

Areas of interest to be explored at the Packaging Summit Conference include:

- Material and Container Innovations
- Consumer Packaged Goods
- Outsourcing
- Packaging for Market Segments

'As a whole, The Packaging Summit, is a synergistic event, bringing all aspects of packaging together under one roof,' comments Don Browne. 'For those involved in labels and labeling, the whole event is a win-win-win event – with label material choices abound, a variety of labeling services options and high-concept idea generation.'

Packaging Containers & Materials Expo was developed in cooperation with the following packaging trade associations:

- Closure Manufacturers Association
- Flexible Packaging Association
- Glass Packaging Institute
- Paperboard Packaging Council
- National Association of Container Distributors
- Tag and Label Manufacturers Institute Inc.
- The Tube Council

Packaging Services Expo was developed in cooperation with:

The Contract Packaging Association
International Safe Transit Association
Packaging Summit Conference was developed with the cooperation of the Institute of Packaging Professionals (IoPP).

For more information, visit www.pkgsummit.com.

Digital substrates

As HP Indigo digital presses penetrate the labels sector, the demand is growing for a wider range of dedicated digital label stocks. L&L talks to **Avery Dennison** about how it sees this market developing

Labelstock suppliers, HP Indigo, and many reel-to-reel converters who are using digital print today are co-operating to deliver optimal solutions as market demand accelerates. The HP Indigo Digital Label Experience, held in June in Tel Aviv, Israel, was a good example: an occasion when suppliers across the value chain as well as converters, graphic software developers, ancillaries suppliers and end users came together to discuss how best to define, and then meet, current and future market needs.

Andreas Walzberg, country sales manager for Avery Dennison Roll Materials Europe – International South – was present as representative for the extensive Fasson dedicated labelstock range for the HP Indigo presses. He comments: 'As more and more label converters find digital printing to be the most cost-effective technology for the fast turnaround of high quality, short-run, custom labels, the number of specially-designed materials available has also increased.

'Printers have often been disappointed by what they see as a limited range of pre-coated substrates available compared to what they would normally use, but some companies are developing new substrates to service the growing digital market all the time. For instance, Avery Dennison Roll Materials Europe is continuing to generate enhancements to the Fasson range of dedicated substrates, pre-coated only for the digital Indigo reel-to-reel presses, in close co-operation with HP Indigo.'

Working together, the two companies have pooled their skills to create a portfolio of more than thirty specially-optimized products for use in conjunction with HP Indigo's ElectroInk – including the versatile new 'industry standard' paper labelstock, Fasson Digital Indi MC85 Top, which is currently much in demand. The facestock is a semi-gloss, machine coated, supercalendered white woodfree printing paper, especially topcoated to deliver the best possible transfer, adhesion, and aesthetics of HP Indigo ElectroInk. Partnered with a general purpose permanent, acrylic-based adhesive – Fasson S2000N – and BG40 Brown 60gm2 supercalendered backing paper, Fasson Digital Indi MC85 Top is suitable for the wide variety of labeling applications today where a semi-gloss appearance and multicolor print are requirements.

Also recently added to the range, and designed specifically to offer an HP Indigo option for the pharmaceutical industry, is Fasson Digital Indi Glosscover Top.

Avery Dennison Roll Materials Europe also offers its stock standard range of Indigo-optimized materials with a choice of a fully-gummed web or with gum patterns on 330mm rolls – a valuable additional service for promotional 'peel off' labels – and will also adhesive-coat its HP Indigo materials to order with customized gum patterns for special requirements. Minimum order quantities for Fasson HP Indigo stocks are low – just 800M2 – and reels can be slit to customers' requirements.

> "Printers have often been disappointed by what they see as a limited range of pre-coated substrates available compared to what they would normally use"

Additionally, the Fasson Specialty 'Mix and Match' service also enables customers to select – from the standard Fasson portfolio – their own combination of facestock, adhesive, and release liner to achieve the results their customers want – a capability which means that printers using HP Indigo presses can partner optimal facestocks with technically-appropriate adhesives and release liners. Indeed. HP Indigo-certified facestocks are also available via the Fasson Specialty platform as 'Piggyback' constructions to

meet bespoke requirements.

Kristin Käseberg, product manager for Avery Dennison digital materials, explains Avery Dennison's original approach to the field of reel-to-reel digital print: 'Our first aim was to identify new markets for growth, markets that required very short, limited runs. To meet the demands of these markets, we needed to focus on a printing press that offered flexibility combined with high speeds. HP Indigo was the obvious solution'.

The Avery Dennison/HP Indigo partnership goes right back to the very early days of reel-to-reel digital print as Christian Menegon, business development manager, Industrial Products, for HP Indigo, recalls: 'Our two companies pioneered digital label print together: the breakthrough in substrates came with the development of the dedicated Fasson primer coat for Indigo presses. Originally, there were just two Fasson qualities offered – but today there is a wide and ever-growing range of products– a good choice of paper facestocks, including antique laid and metallized paper, as well as white and clear PE and PP films.

'Avery Dennison's continuing commitment is proof of their belief – which we share – that digital print has a bright future,' continues Menegon. 'The volumes today make ongoing innovation in substrates a viable investment, and the key to continuing success is matching new substrates to the HP Indigo technology as it evolves, to give the customers – the label buyers – exactly what they want.'

Ongoing co-operation with converters such as Rako Etiketten in developing an optimized digital labelstock range, as well as with HP Indigo, has proved an important strategic activity for Avery Dennison.

Says Kristin Käseberg: 'We are eager to take advantage of our position as leaders in self-adhesive HP Indigo substrates by creating an ever-evolving product range that is innovative enough to cope with new developments in markets and to provide materials for emerging processes – and we understand that this means real teamwork.'

All the collaborators, as the HP Indigo Worldwide Digital Label Experience confirmed, believe that the use of HP Indigo presses can extend beyond short-run specialized jobs, and that the combination of simplified make-ready, improved printing speeds, and cheaper consumables could also make reel-to-reel digital print suitable for mid-sized jobs.

Kristin Käseberg considers this to be just the beginning: the future for digital printing is looking extremely promising as increasingly printers and their end-user customers understand, and capitalize on, its flexibility and versatility. 'Our range of substrates is changing very fast – influenced by demand from the market, which is also changing almost daily. Responsiveness is key', she continues, 'and here in Avery Dennison we have now reached the stage when we can instantly make product changes, and add new facestock features, working with our supply chain

This short run promotion for the Axe brand was printed by RAKO on an HP indigo press

partners – and still offer first-class quality and service. I'm not joking when I tell you that, more and more customers honestly expect us to be able to offer virtually every product in our Fasson standard product range for conventional print in a pre-coated HP Indigo version on request – PLUS all the Fasson Specialty constructions!'

At this very moment, Kristin Käseberg's team is working on qualifying two new HP Indigo papers and a new film facestock.

There will also be developments in non-adhesive Fasson print substrates for the HP Indigo presses, such as flexible packaging films and shrink sleeves, in the Fasson Rapid-Roll portfolio. All the HP Indigo topcoated Fasson Specialty facestocks – without adhesive or release liner – can already be accessed through the Fasson Rapid-Roll portfolio The new HP Indigo W4050 can print very successfully on thin unsupported films and offering such materials with the necessary topcoating will create new markets both for the HP Indigo presses and for the consumables.

In fact, according to Avery Dennison Roll Materials Europe, sales of Fasson HP Indigo stocks to the end of August 2005 already exceeded total sales for 2004 – and the growth rate is accelerating. Reel-to-reel digital print is certainly proving to be a powerful example of how supply chain co-operation can create new markets for print – and add value for all players in a variety of ways. ■

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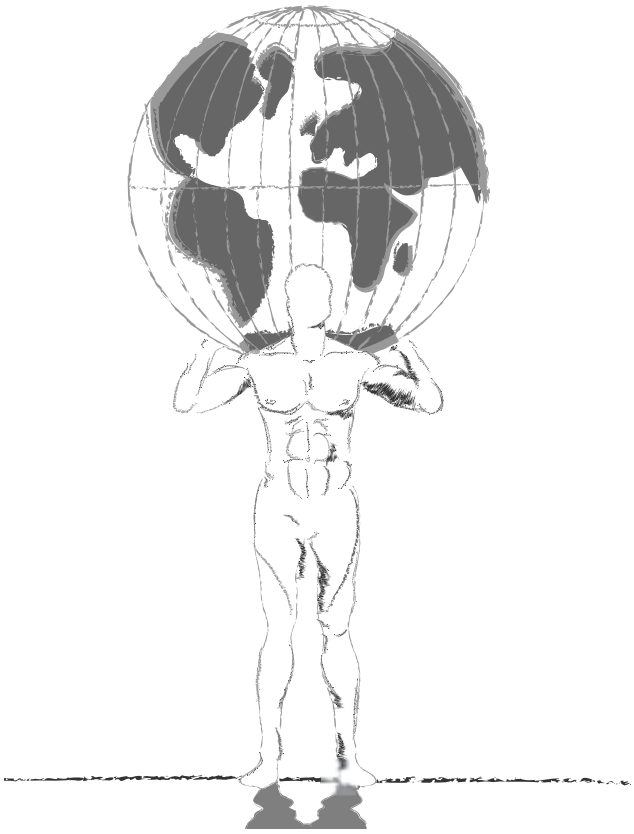

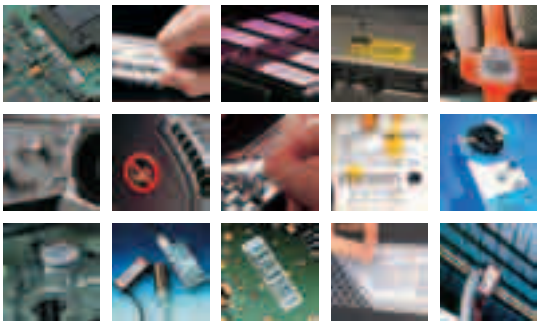

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MÜLLER MARTINI

The Adhesa Unique grade paper combined with hotfoil stamping creates a metallic effect that can be seen from all perspectives

When launching a new product, it is essential to understand the target market and end use applications. As the Cham Paper Group launches a new paper facestock, L&L follows the thinking – including consumer research - behind the launch strategy

Paper choices

The division responsible for base papers for self-adhesives at the Cham Paper Group is now in the process of launching its Adhesa Unique label paper. This gave L&L a unique chance to look at how the product originated and how it was carefully targeted at a specific end use. There are important lessons here for launching any new product onto market, whether from label supplier or converter.

Cham points out that there are two routes by which the paper facestock which carries a brand's global image is specified. 'Trends clearly indicate, both on the self-adhesive and wet-glue label markets, that a label paper should have a high-gloss effect and work to enhance the value of the product, adorning it with elegance and nobility. Major brand owners therefore select a grade with these properties and successfully realize their brand recognition strategy by placing the brand name on center stage and cementing this via aggressive marketing; television & radio; magazines; events. The actual choice of the paper is not as important for these major brand owners – it is the marketing and communication strategies (in-house and with their agencies), which sell the products,' says a company representative.

However smaller companies, such as a family-owned wine making company, must differentiate itself quite significantly and above all achieve much greater shelf appeal. A consumer will pick up a bottle of Veuve Cliquot because he already knows the name – the labeling or packaging in that sense is a mere complement and not the eye-catcher.

'The labeling and packaging of the bottles from the unknown wine producer must be outstanding on the shelf, creating appeal by the special effects such as unique color tones, holograms or haptic qualities for example,' points out Cham. 'If a label paper therefore succeeds in offering both optic and haptic special effects there is already a much higher probability that the

Cham has not only focused on the look and feel of the Adhesa grade, but also on its structural properties

consumer will take the product into consideration and even purchase. Indeed the consumer is more likely to purchase the product again because he can recall it immediately to mind as he easily recognises the special effects of the paper, the labeling or the packaging.'

It is exactly for such niche markets that the Cham Paper Group created the Adhesa Unique product – a high quality grade, which combines special optic and haptic effects.

Adhesa Unique is a new technology – a structured, coated paper, which is not embossed. Other current technologies are either structured or coated, but not both. The fine structure of the grade achieved by the top coat creates a special feel to the paper while the aesthetic properties have also been developed for a positive optical effect. The paper therefore fulfils in one grade a haptic-optic combination.

In comparison to embossed grades, Cham claims that Adhesa Unique has a superior printing quality, while excellent metallic effects can be achieved via hotfoil stamping. During this process the structure of the grade promotes anchorage, which means that when the label is on the shelf the metallic effect can be seen from all perspectives – the light can refract in both directions, which almost simulates a hologram effect. Similar results have been achieved with other printing processes – in offset for example, where even very fine lines show good results. A particularly interesting effect can be produced with letterpress, where the printing process runs so finely that a soft pastel effect is created.

Important for Germany, Switzerland and Austria in particular, the Adhesa Unique label can be easily removed from a wine bottle, for example, when a water removable adhesive has been used. At the same time the structure is claimed scratch resistant and so prevents mechanical wear and tear during bottling and transportation processes.

Product development involved the analysis of a demographic assessment evaluating the properties of the paper carried out by the Pro Carton association and was complemented by a specific questionnaire asking the public at large about the Adhesa Unique paper. The results showed that this paper appeals to young and old, according to Cham's research. 'More importantly properties of the paper appeal to our more finely tuned senses: touch, smell and taste. This is significant for the relatively 'unknown' brand which cannot secure a sale via television or radio, but who must stand out on the shelf.'

The optic-haptic combination is vital in this case. 58 per cent of the people questioned about the look and feel of the paper confirmed that their purchasing decision was definitely directly affected by the packaging of a product. 85 per cent proceeded to say that a packaging with structure – such as that of the Adhesa Unique paper – was preferred because of its attractiveness and high-quality image. The actual surface of the paper was described using a number of adjectives, but the most popular included: grooved; rough; pleasant; good grip; high value.

This kind of research allows label designers to duplicate 'feeling's such as a special warmth, a pleasant touch, the impression that there is more content, a natural and rustic image or a colorful dynamic. This closes the loop between technical paper development and establishment of a brand image. ■

Direct thermal reaches full potential

There is a misperception that direct thermal labels are not durable and therefore can only be used in short-term warehouse and supply chain applications.

To some extent, this was true. When direct thermal was introduced 40 years ago, it was relatively fragile. But direct thermal products have come a long way since Appleton pioneered them in the early 1960s. An ongoing stream of innovations and advances in direct thermal technology and chemistry have lead to materials that offer more than enough resilience to withstand the challenges just about any supply chain can dish out. Consider that:

Two of the world's largest global delivery firms rely on direct thermal labels to track approximately 18 million packages a day. Virtually all airlines choose the strength and reliability of direct thermal to track more than 1 billion pieces of luggage checked at airports each year.

Documents such as airline tickets, concert tickets and lottery tickets that must be redeemable for 12 months or more have been produced with direct thermal for many years.

Bar codes produced on direct thermal labels have been repeatedly shown to be scannable 48 months after printing, even under less-than-ideal conditions. In most supply chains, that's way beyond the lifespan labels need.

Direct thermal label technology is being deployed throughout the healthcare industry in such areas as medical wrist bands (eliminates patient ID errors, FDA compliance using bar code patient-drug matching, gray-scale photo match, highly durable); slide labeling (mini bar codes, eliminates ID errors, over-coated for high resistance to repeated solvent exposure—acetone, alcohol, toluene, etc.); prescription drugs (reduces drug errors, state qualified, archival for 25 years in office conditions, secure legible script, PDA/wireless printing); drug supply chain (compliance with pedigree laws, brand protection, RFID-anti-terrorism).

Nonetheless, despite these successes and growing acceptance of direct thermal products, the primary claim against direct thermal labels in the supply chain arena is that they yellow more quickly compared to thermal transfer labels, thereby limiting their use. Unfortunately, this and other misconceptions about the long-term durability of direct thermal continue to be anchored in the past.

UV resistance — the next generation

Any pressure-sensitive adhesive (PSA) label stock, both direct thermal and thermal transfer, will gradually turn yellow over time, causing the label to appear old. The main cause for yellowing is exposure to ultraviolet (UV) light—and warehouse and supply chain applications typically experience a mix of fluorescent and indirect sunlight. The problem, however, is customers may perceive they are receiving old goods if they receive cartons with discolored labels.

The truth is, even severely discolored labels remain fully scannable. So, in terms of label performance, yellowing is not an issue. But appearances do matter, especially in the customer's mind. And if the perception is negative, that's a big hurdle to overcome. Whether it's true or not doesn't matter; what does matter is what the customer thinks. It also matters what warehouse, distribution and supply

chain end users think.

To overcome the issue of yellowing and the related concerns about long-term applications for direct thermal labels, Appleton has developed LightSafe Technology—an exclusive way for PSA labels to retain their original clean white appearance for extended periods of time. The patent-pending technology has been incorporated into an exclusive direct thermal label paper called LightSafe 300, which stays white for two years or more under warehouse lighting—long after thermal transfer labels have noticeably yellowed.

Researchers at Appleton used carefully controlled methods to determine the discoloring effects of UV light on label stocks over 12 months in a variety of warehouse conditions.

The laboratory testing involved the QUV Accelerated Weathering Tester. This device is the standard in the industry for measuring the effect of UV light on color change. It provides consistent, reliable and scientifically valid results in brief periods of time. Using the QUV tester, materials are subjected to intense UV light. The rate of color change can be statistically correlated to real-world color change under the UV intensities commonly found in warehouse lighting.

In laboratory and real-world applications, color change caused by UV exposure is measured with a digital reflectometer. The device produces a reading of the discoloration, which is identified as b-Value. An average person can detect a shift of no less than 3 points on the b-Value scale. Appleton used this value as the threshold for determining perceptible color change in reporting its test results.

Longevity Test Results—Normal Warehouse Conditions

Material	Months Before Perceptible Color Change
Thermal Transfer	12
LightSafe 300	48

Longevity Test Results—High-Light Warehouse Conditions

Material	Months Before Perceptible Color Change
Thermal Transfer	4
LightSafe 300	24

Speed and efficiency driving change

Warehouse, distribution and supply chain operations are moving at an increasingly fast pace. The objective is to keep productivity as high as possible and at the same time keep the number of physical contacts with a product or package as low as possible. It all requires a delicate balance between speed, efficiency and dependability.

Currently, 20 percent of warehouse and supply chain label applications use direct thermal technology, while 80 percent use thermal transfer. But compared to thermal transfer, direct thermal delivers operational efficiencies and other benefits that make it easier and more cost-effective to use.

Today's competitive marketplace demands leaner and smarter operations. Improving and simplifying the speed and efficiency of label operations are the core capabilities of direct thermal across warehouse, distribution and supply chain applications. Direct thermal now comes in grades that are more than resilient enough to withstand the challenges of just about any logistics application—including exposure to UV light.

Eliminates ribbon problems

Direct thermal labels avoid ribbon hassles like wrinkling, smudging, misalignment, imaging troubles and security issues. Even a slight ribbon misalignment or improper installation can result in wrinkling, drop outs and unscannable bar codes. The resulting downtime, along with rejected and lost shipments, is a costly outcome.

Direct thermal also eliminates higher maintenance costs and downtime associated with ribbon issues or routine roll changes, as well as high ribbon waste from printer feed issues. And, direct thermal is a lot easier to deploy because it doesn't require matching the ribbon with the paper and the printer, like thermal transfer does.

Direct thermal is much less prone to electrostatic discharge (ESD) problems common in thermal transfer. ESD is a growing concern as RFID tags become more common. As a result, direct thermal label papers can be used effectively in the production of RFID labels.

Time and cost savings

Thermal transfer uses two consumables, label stock and ribbon, and both have to be matched to a specific printer. But with direct thermal, the printed image is formed within the paper, so there's only label stock. It's a one-piece proposition, and that means:

- **Less work** – fewer on-floor change-outs cut downtime and increase productivity.
- **Less ordering and inventory** – saves time and reduces storage costs.
- **Less waste** – no spent ribbon to dispose.

Thermal printers typically can be switched to direct thermal

If a warehouse or supply chain outlet uses thermal transfer, it can most likely run direct thermal labels with no hardware changes because almost all thermal transfer printers are manufactured to run direct thermal as well.

With so much riding on the scannability and reliability of labels, is it any wonder a key competitive advantage for warehouse, distribution and supply chain operations is their label technology? The engineering behind today's direct thermal paper makes it the perfect print medium for a truly wide range of applications by delivering the most dependable and most productive labeling process. And, it definitively puts to rest the host of misconceptions that have circulated for more than a few decades. ■

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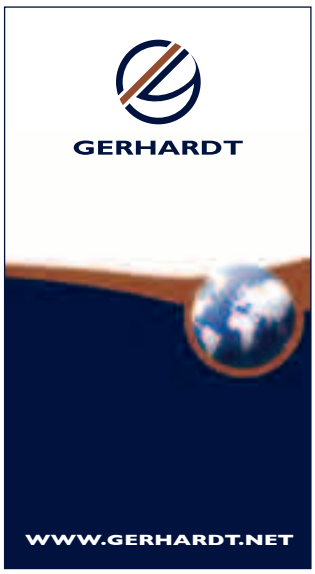

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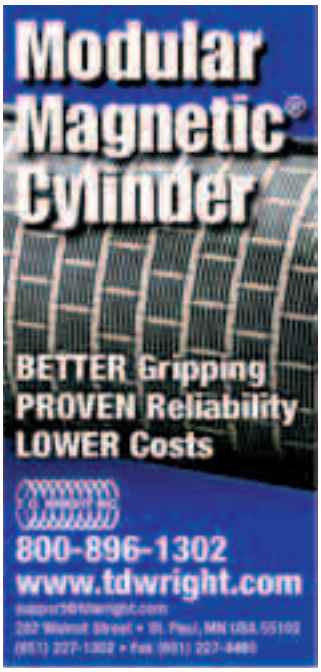

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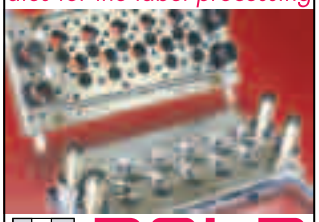

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Labeling news

Breakthrough claimed in no-look PS label for returnable beverage

Spear and IlloSpear have commercialized ThermoWash, a pressure-sensitive label construction that allows beverages packaged in returnable bottles to employ the same labeling techniques of one-way containers. The ThermoWash label 'washes off' the bottle during the cleaning process, allowing a new label to be used for each bottle trip.

ThermoWash matches the graphics, label performance, and application speeds of traditional non-returnable, pressure-sensitive label constructions. It has the ability to utilize all existing print methods, including screen, gravure, UV Flexo, letterpress, and combination printing, along with providing the clear, no-label look.

It also applies at speeds equal to current pressure-sensitive labels up to 1,000 bottles per minute and withstands filling and distribution environments, including ice-water baths for 72 hours with no adverse effects.

ThermoWash is a polypropylene material that, using current industry processes, detaches from bottles in fashion similar to paper labels. With ThermoWash, the labels curl, but do not shrink, to aid in removal from the bottle. They can be removed in a washing range from 60 - 80°C, with 75°C ideal.

The label face stock and adhesive remain in one piece during the removal process while the adhesive 'de-tacks' during bottle washing, allowing for easy removal. The process provides acceptable caustic pollution levels – external accreditation is in process. VLB approval along with Krones, KHS, and SIG washer approvals are also in process. Once removed, the labels can be incinerated.

Multiple patents are pending for both the ThermoWash product and process.

● Illochroma Labelling Group and Spear have merged their European operations. The new company will operate under the name IlloSpear.

Illochroma is a world leader in the supply of wet glue and film wrap labels, with production facilities in Germany, France, Belgium, Italy and Poland. Spear is a world leader in the supply of clear film pressure sensitive labeling services with plants in the UK and USA.

IlloSpear was initially created as a joint venture in November 2003 to develop and sell clear labeling systems for the beverage industry. Market success in Europe, Africa, Asia and South America has led the companies to finalize the relationship with the merging of their European assets.

Spear will continue to operate as an independent company and will be responsible for supplying the IlloSpear product line in North and South America. IlloSpear will have responsibility for these products in the balance of the world.

Drent Goebel acquires Canadian RDP Marathon

Drent Goebel has acquired Canada's RDP Marathon. This follows the merger of Drent and Goebel in 2001 and the acquisition of Giebeler in 2003, and is expected to strengthen Drent Goebel's position in the US and Canadian markets.

RDP's principal market is in the long run commercial printing market. RDP builds the V-series blanket to steel and the P-series blanket to blanket machines for this market. These presses with web widths up to 965 mm (38-inch) will fit into Drent Goebel's portfolio.

Rob Teunissen, CEO of Drent Goebel, says the success of Drent Goebel's Variable Sleeve Offset Printing (VSOP) press in the North-American market makes the acquisition a logical step.

'We already had our own service and sales organization in Chicago. Looking at the potential of the VSOP in the North-American market, this acquisition was the best possible way to strengthen our organization. RDP Marathon is the perfect partner for this, having not only a particularly good reputation in the market, but also outstanding presses with a large installed base and a fully tooled-up sales, service and manufacturing organization.'

Eric Short, President of RDP Marathon, commented: 'What we are going to achieve is synergy between the two companies'.

Labelexpo opens office in China

Labelexpo and *Labels & Labeling* magazine have opened a new office in China, the fastest growing market in the world. The office, which will be located in the prime Xu Hui district of Shanghai, underpins Labelexpo and *Labels & Labeling's* commitment to developing its Chinese business and will support its expansion drive in the region.

Labelexpo Asia 2005, taking place at the Shanghai New International Expo Centre on 7-9 December 2005, is set to be over twice the size of the last event in 2003.

Nestlé conducts full-scale smart label trials

Nestlé Foodservices UK is to conduct full-scale commercial trials with a timelapse smart label technology developed by Timestrip plc.

Timestrip's smart labels contain a liquid which migrates across the label, enabling users of perishable food and other products to monitor for how long an item has been open or in use. The technology can be implemented as an external label or can be fully integrated into products and product packaging.

The Nestlé trials, to be conducted in the fall, will involve the integration of a Timestrip smart label into the packaging of a branded product within the Nestlé range. Should these trials conclude successfully, Timestrip expects that Nestlé Foodservices UK will look to incorporate this technology into other areas of its business.

Mike Carter, Innovations Manager, Nestlé Foodservices UK commented: 'The adoption of Timestrip's smart-label technology is an exciting packaging development that we are confident will deliver a meaningful point of differentiation for our products by assisting restaurants and caterers to manage their perishable foods with confidence and ease. The integration of a lapsed time indicator has been of great interest to Nestlé Foodservices UK and we are delighted to have partnered with Timestrip.'

The Timestrip technology is relevant to a wide range of food and non-food products which, once opened, should be used or replaced within a recommended time. Timestrip's main route to market is through supply and license agreements with manufacturers and packaging companies who will integrate Timestrip labels into their products or packaging.

Siegwerk confirms acquisition of SICPA

The Siegwerk Group International, headquartered in Siegburg near Cologne, Germany, has closed its acquisition of the packaging ink activities of Swiss group SICPA Holding SA. This agreement took place on September 8 in London, after approval from the relevant antitrust authorities.

The new entity will be called Siegwerk Ink Packaging, an operating company of the holding company Siegwerk Group International. Siegwerk Group International also holds a second operating company, Siegwerk Ink Publication.

Siegwerk Ink Packaging's product range includes ink for flexible packaging, tobacco packaging, labels, paper and board, sheet fed and UV, and decorative applications.

SICPA Holding will retain its activities in security ink and security systems and will continue operating from its headquarters in Lausanne, Switzerland.

Herbert Forker, CEO of Siegwerk Group International, said the new company will focus strongly on the growth markets in Southern and Eastern Europe, Asia and Latin America. 'In Asia, for example, market researchers are expecting the production of quality packaging products to increase tenfold by 2010. Similarly, consumer buying patterns in Southern and Eastern Europe are shifting towards increased purchasing of packaged goods. Thanks to our rigorous focus on quality packaging ink, we anticipate having a significant share in this growth.'

New Jetrion facility

Jetrion LLC, the wholly-owned industrial inkjet products and services subsidiary of Flint Ink Corporation, has announced that it will begin moving its operations in early 2006 to a facility with more than three times the space of its current building.

Located in Ypsilanti, Michigan, just 15 minutes from Detroit Metropolitan Airport, the new facility will provide Jetrion with 35,000 square feet of floor area. Much of the new space will be used to accommodate a major expansion of Jetrion's inkjet ink manufacturing capacity. All of the company's other operations, including hardware, integration, R&D, sales and administration will also eventually be located in the facility, moving in stages throughout 2006.

The new facility will also include a fully-equipped Customer Demo Center for ink and hardware products in Jetrion's four primary inkjet markets: mailing, labeling, wide format, and packaging and specialty.

Rafsec RFID ahead of schedule

UPM Rafsec, the RFID tag and inlay manufacturer, announced that its new RFID tag production facility in Fletcher, North Carolina (USA) has begun operations ahead of schedule and is now supplying RFID tags to the company's customers in North America. Ramp up of production was originally planned for the latter part of Q4 2005.

Christer Härkönen, senior vice president of UPM Rafsec, commented, 'We are very pleased that the Fletcher site has opened ahead of schedule - ramp up of production proceeded truly without a hitch.'

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Labeling news

Label Industry Global Awards winners

More than 750 suppliers, converters, trade associations and media came together at the second annual Label Industry Global Awards. The worldwide label industry voted online for nominated individuals and companies to win the awards – and a judging panel met in Italy in June to review the votes for each of the four awards, and decide the winners.

As previously announced, The R. Stanton Avery Lifetime Achievement Award Sponsored by Avery Dennison was won by Lars Eriksen, Nilpeter A/S. Mr Eriksen is owner and President of the family-owned company, Nilpeter A/S, Denmark.

The Label Industry Award for Continuous Innovation, sponsored by Labels & Labeling, Label & Narrow Web, and NarroWebTech was won by Gallus Ferd. Ruesch AG

Since its foundation in 1923, Gallus Ferd. Rueesch AG has been a world leader and influencer in the narrow-web industry and has been instrumental in guiding the label industry from craftsmanship to industrial production. Key technology advances in which Gallus have been market leaders include rotary letterpress, rotary screen, combination process presses and servo drive technology.

The judging panel commented: 'There are very few global label industry suppliers that have reached the standards of quality products, innovative developments, pioneering solutions and reputation of that achieved by Gallus – and certainly not over such a long period of time.'

The Label Industry Award for New Innovation, sponsored by Gidue and HP Indigo, was won by MPS Systems bv.

Founded just nine years ago to develop innovative next generation UV flexo press technology, MPS Systems BV has rapidly become one of the world's fastest growing press manufacturers in the fields of label and flexible package printing solutions.

The European Converter Award for Continuous Innovation, sponsored by Xsys, was awarded to Skanem. The award was for a European label converting company that has a long record of continuous innovation and has developed pan-European product sales in their chosen market, or have become global suppliers in specialist or niche areas of operation.

Originally founded in 1905 as the Stavanger Printers and Engineering Workshop, the company changed its name to Skanem in 1973. It acquired SE Labels in 2002 and is now one of the largest producers of self-adhesive labels in Europe, with 10 factories and around 900 employees in five European countries.

Mike Fairley, Chairman, Label Industry Global Awards Judging Panel, said, 'On behalf of all the Judges I would like to congratulate Lars Eriksen, Gallus, MPS and Skanem for winning this year's Label Industry Global Awards. All the nominees were of an excellent standard and the public voting was very close. I would like to thank all the sponsors of the Awards and all those who worked so hard to put them together, and I look forward to the next Awards in 2006.'

The Judging Panel consisted of:
Chairman – Mike Fairley, Tarsus Group
Andy Thomas – Editor, Labels & Labeling
Jack Kenny – Editor, Label & Narrow Web
Wolfgang Klos-Geiger – Editor, NarroWebTech
Scott Pilsbury – President, TLMI
David Harrison – President, FINAT

CCL acquires Inprint Systems

CCL Industries Inc. has continued its expansion with the acquisition of Inprint Systems Ltd. Headquartered in Ashford, England, Inprint Systems is a privately held manufacturer of specialty label products with plants in the Netherlands, United Kingdom, Italy and the USA. The company is a world leader for labeling solutions requiring 'expanded content' in the form of folded printed data attached to a pressure sensitive label.

Inprint Systems had revenues of approximately C$53 million in 2004 and an adjusted EBITDA of C$11.2 million. The purchase price was approximately C$64 million and was paid in cash.

Geoffrey Martin, president and COO of CCL Industries said, 'Inprint Systems is an acknowledged industry leader in designing and developing expanded content label solutions for the highly regulated label demands of the healthcare and chemical markets. Their strong European presence in the UK, Holland and Italy complements our existing businesses in this sector in Scandinavia, Germany and France, as does the US plant with our existing North American operations. We are delighted to welcome them to CCL's global network of 34 label plants.'

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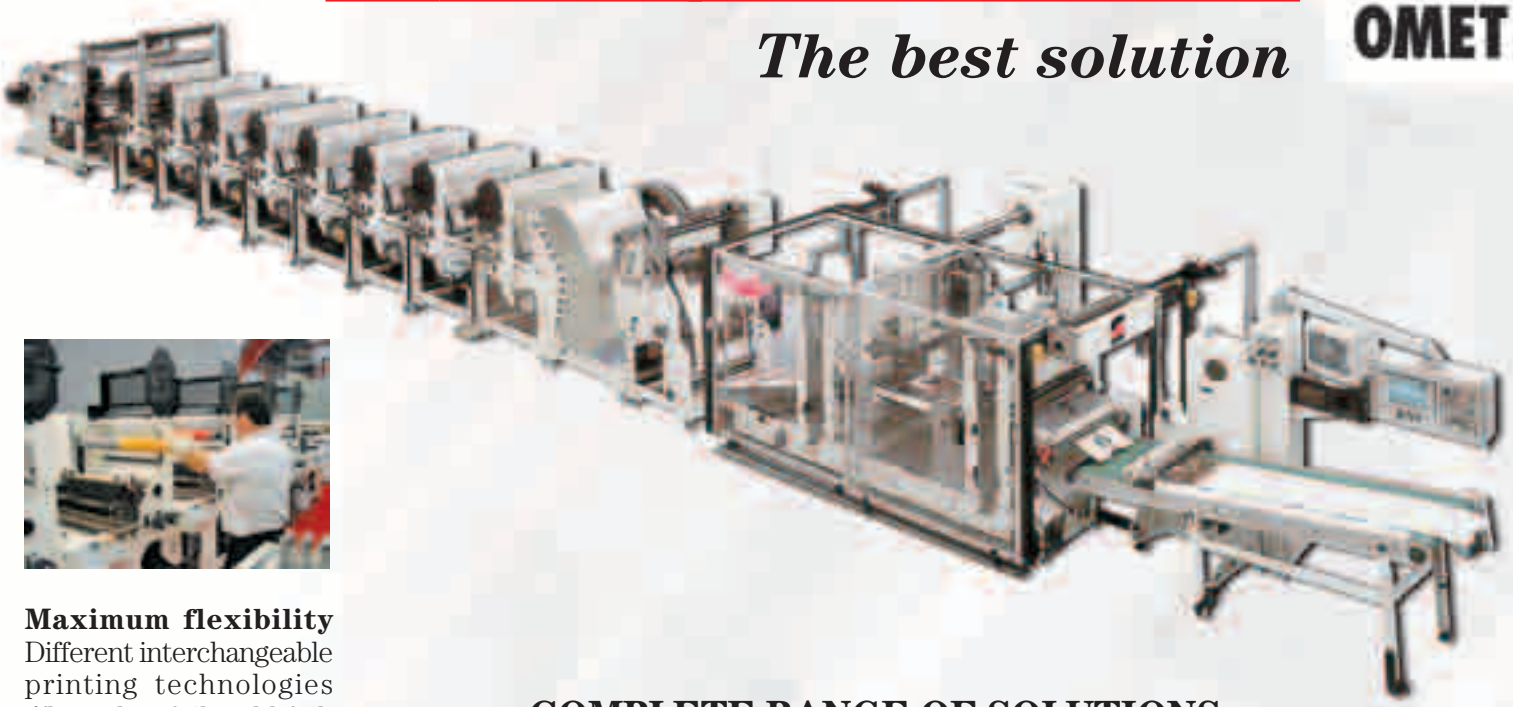

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L&L readers tell storm fury stories

As Hurricane Katrina tore through the southern states of America at the end of August, no one was left unaffected by the devastation, *writes James Quirk*. With the damaged estimated at over $200 billion, it surpassed Hurricane Andrew as the most expensive natural disaster in U.S. history.

Irrespective of how closely situated to the epicenter of the hurricane, Label Converters in Louisiana and Mississippi are all fighting back from the effects of the disaster. The offices of Walle Corp, in the suburbs of New Orleans, were only saved from water damage by virtue of being on higher ground.

'Power and communication outages have been the biggest problem', says president Michael Keeney. 'We weren't physically affected by the levies bursting because of our location. We also had a hurricane plan in place: to secure facilities and machinery, baton down the hatches and raise the products off the floor.'

But while physical damage to the premises was avoided, the knock-on effects of the hurricane were serious. 'Our revenue during this period was minimal, while costs remained the same,' continues Keeney. 'We paid employees full salaries while they were absent from work, and some are only just returning. We hired back former members of staff to boost the workforce, but we are lucky to have loyal employees who are coming back to work after being displaced.'

Walle Corp were fortunate to have a sister plant in Kentucky who could help absorb some of the problems. 'There was an overwhelming response from the Kentucky facility,' agrees Keeney. 'They took on outstanding orders and helped with communications. The staff and community there also collected clothes and household items to donate, and filled an 18-wheel lorry to send down to us.'

300 miles away in Bossier City, Louisiana, Custom Printed Products actually benefited from workers nearer to the disaster being displaced. General Manager Brian Evans says: 'We had a bigger pool of trained workers to use, because so many had been relocated from companies closer to the hurricane. We gained business because customers of affected companies came to us and others in the area.'

For Taylor Made Labels, in Richland, Mississippi, being 200 miles inland from the coast was no protection against winds of up to 100mph. Owner Taylor Lyle reveals: 'The wind knocked down the fence around our plant, and we covered up our equipment with plastic in case of roof damage.' Another concern was for customers closer to the disaster. 'We have still not heard from about four customers in Louisiana,' says Lyle.

Despite its distance from the coast, the company suffered a 30 per cent decrease in sales because of the hurricane. 'In the last month sales have picked up again and are back to normal,' says Lyle.

However badly affected by the disaster, Label Converters are working hard to bounce back. As Walle Corp's president Michael Keeney says: 'We will battle through this and come out stronger on the other side.'

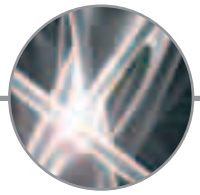
Quality Park announces Katrina relief effort

PrintXcel, a Quality Park Brand, is leading a campaign designed to assist the victims of Hurricane Katrina. Founded in 1949 in Fairhope, AL, PrintXcel has many employees and customers who have been impacted by this storm. PrintXcel distributors will have the option of contributing to the Red Cross when they place orders at any of their document's facilities.

According to senior brand manager, Deanna Day, PrintXcel has had a strong presence in the South since its founding. Several of their plants are on the Gulf Coast and while all locations came through this storm with no damage, they have all been impacted. 'Many of our employees had relatives who lived directly in the path of this storm and lost everything. Many of our customers have lost their homes and their businesses. It is difficult to believe the destruction left behind and how it can ever be rebuilt. Hopefully, we can provide some assistance to them,' said Day.

PrintXcel is a brand of Quality Park, the identity under which companies such as Discount Labels, Dealer Label, Lancer Label, PrintXcel, Wisco Envelope, and Quality Park Products operate. It is a leading print supplier to the resale market operating a network offering printing, envelopes, labels, documents, design, distribution, and more.

There's a little secret behind great labels



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Labeling news

GiDue attacks Awards decision

Federico d'Annunzio, joint managing director of GiDue, has questioned the decision to award MPS the New Innovation award at the Global Label Awards ceremony which took place during Labelexpo Europe in Brussels.

D'Annunzio told journalists at the GiDue press conference the following day that he had a different opinion than the Awards judging panel concerning the meaning of innovation.

In an interview with L&L, D'Annunzio said, 'The meaning of innovation is that you inspire the industry. GiDue is such a true innovator which has inspired the industry. Most of the manufacturing players in the label industry have changed their designs following GiDue's introduction of the Flower principle of opening the print head, and having all the printing elements separated and immediately available. Specifically the design of the print cylinder on the new MPS press lines is very 'inspired' by our Pithagora concept of side bearers on the print cylinder, and the same principle 'inspired' also other press lines of Nilpeter and Gallus. We are very proud of the innovation we brought in our industry, and we see these 'inspirations' as a true contribution to the progress of our industry.'

D'Annunzio said that a further GiDue innovation is Windows-driven digital control on the I-Combat and Athena presses, which turns printing presses into machine tools and stop the operator being the key performance driver.

'If we lose against Esko, then we lose. But to lose in our own field against somebody who has been inspired by others, this is not fair,' said d'Annunzio. 'I feel I must complain and stand up for our company's rights.'

Mike Fairley, chairman of the judging panel for the Awards, said that the Label Industry Award for New Innovation is awarded by the judges against a range of criteria which include being an innovative and pioneering company, a commitment to the future development of the industry, participation in industry associations and events, being instrumental in introducing new science, product or technology solutions and operating with business integrity.

'It was the unanimous decision of the judges to make the Award to MPS,' said Fairley. 'Their view was that "any company that can build a global reputation for innovation, quality and performance in just nine years more than deserves the New Innovation Award."

'I am disappointed that Federico should not only question the decision to make the Award to MPS but also the whole integrity of a judging panel drawn from the global media and key industry associations. Personally, I have been on many label industry award judging panels around the world for almost thirty years without question and this is the first time that an individual has attacked respected industry companies, individuals and associations in public about the nature of an award. It does not reflect well on this great industry.'

Label technology book published

Label and packaging converters looking for a comprehensive reference source on all aspects of paper and paperboard packaging – including labels – can now draw on information contained in a detailed 448 page textbook (with 80 illustrations) just published by Blackwell Publishing.

'Paper and Paperboard Packaging Technology' is the first book devoted exclusively to packaging based on paper and paperboard. All the main types of packaging and labels are discussed in terms of the type of paper or board used, how the package or label is manufactured, and the applications. Contributions are drawn from respected packaging manufacturers, associations, consultants and writers. The label chapter was written by Michael Fairley, Director of Strategic Development for the Labelexpo shows and Labels & Labeling and Managing Director of Labels & Labelling Consultancy.

The book discusses the raw materials for paper and paperboard manufacture, how they are processed, and the ways that they are made into the various types of paper/paperboard packaging. In the case of labels, the 44-page labels chapter of the book also discusses label technologies and solutions competing with paper, including film, sleeving, wrap-around film, in-mold, as well as pressure-sensitive and glue-applied labels.

The volume provides a comprehensive work of reference to this major sector of the packaging industry (some 40% of packaging needs are paper or paperboard), which has enormous relevance across the supply chain and a wide range of product sectors. Chapters in the book include: Paper and paperboard materials and processing; Paper-based flexible packaging; Labels; Paper bags; Composite cans; Fibre drums; Multiwall paper sacks; Folding cartons; Corrugated fibreboard packaging; Solid fibreboard cases; Paper-based liquid packaging and Moulded pulp packaging.

'Paper and Paperboard Packaging Technology' is published by Blackwell Publishing and costs $239.99 or £119.50. For further information and order details visit www.blackwellpublishing.com

Labeling news

Pamarco to open Canadian anilox plant

Pamarco Global Graphics has announced that a new plant located in Mississauga, Ontario, Canada – a suburb of Toronto – will be fully operational in the manufacturing of laser engraved anilox rolls from next January.

Terry Ford, president of Pamarco Technologies stated: 'Canada has always been an important market for Pamarco's products and services and we are now making a long term commitment to this area. For our current and future Canadian customers this will greatly ease logistic issues of shipping product across the US border, will reduce reaction time of processing rolls and will greatly increase our overall service.'

This plant will be fully equipped with state-of-the-art plasma coating and laser engraving equipment capable of processing rolls up to 165" in length, and the latest Cellbase Inspection and verification equipment. The plant will be producing Pamarco's full range of Laserflo and Thermaflo engravings currently being produced in Europe and the United States.

'The expansion into Canada will serve as a model for future Pamarco ventures into other targeted international markets,' says Terry Ford. 'Coupled with the strength of our new sales agents in Canada, Edward Graphic Supplies Ltd, we feel very positive about this move.'

Appleton divisions restructured

Appleton has announced a restructuring plan for its business segments aimed at reducing costs, and positioning the company to pursue international growth opportunities. The company will be organized into three divisions: technical papers, flexible packaging and international.

"Our restructuring is part of an ongoing effort to align our business priorities and to increase value for our customers and shareholders," said Mark Richards, Appleton's chief executive officer. "We have created a new division structure and aligned our technology resources to increase market focus and operating efficiencies and accelerate our product development and growth efforts."

Alien launches sub-13 cent RFID tags to industry

At the opening of the EPC Global Conference in Atlanta, Alien Technology Corp. announced the availability of EPC Class 1 RFID labels priced at 12.9 cents. This represents a 44 per cent decrease in the price of 96-bit RFID labels from Alien in the past 12 months, reflecting significant progress towards the goal of widely available, economic RFID labels. The Alien Technology ALL-9338-02, a fully converted EPC Class 1 tag, can be purchased today for 12.9 cents in order quantities of 1 million or more.

The Alien Squiggle, available as the ALL-9338-02 pressure sensitive label, is suitable for use in general supply chain applications such as those being implemented by major retailers, their suppliers and the DoD around the world. The label is one-half inch by four inches in size, small enough for use on a wide variety of products.

'Customers are expecting and demanding dramatic reductions in RFID tag costs to improve the business case and ROI for their RFID implementations,' says Keith McDonald, Senior VP, Alien Technology Corporation.

The 12.9 cent RFID label offered by Alien is made possible by the company's patented manufacturing process, Fluidic Self Assembly (FSA), and Alien's new cost-efficient High-Speed Strap Attach Machine assembly technology.

Water Ink moves Mid-Atlantic branch to NJ

Water Ink Technologies' Mid-Atlantic branch has moved to Cinnaminson, New Jersey. The move was made necessary due to an increase in sales as well as the addition of new products for flexo printers and converters. The Cinnaminson location will provide sales and technical support for the region that includes Pennsylvania, New Jersey, Maryland, Delaware and New York. From Cinnaminson, Water Ink will provide same-day and next day service to most locations for its complete line of water-based and UV products.

New products

Precisia LLC
FleX Wing printed RFID antenna

FleX Wing is a low-cost RFID printed antenna that uses silver-based conductive ink technology to deliver performance comparable to similarly-sized, traditional copper and aluminum antennas.

Available now in volume quantities, the Precisia FleX Wing is compliant with all EPCglobal protocols (Class 1, Class 0+, Gen 2) and adapts to virtually all of the industry's most used chips. The design of the FleX Wing provides full universal functionality at all UHF frequencies, eliminating the need for global companies to provide customized antenna designs to meet individual RFID regulations in various regions. The antenna measures 91mm x 24mm and is positioned at price points lower than similarly-performing, traditional metal antennas. Precisia offers the FleX Wing in three separate formats – as a printed antenna, an inlay, or a completed label – to serve the differing needs of RFID customers.

BST International
Shark 100% inspection

BST International has launched its first 100 per cent inspection system for the label market. The Shark system provides 100 per cent real time inspection of an entire web area at high speed. Shark was deigned for use on a rewinder or on-press and can inspect webs up to 500mm for missing print, reverse type fill-in, splash, spots, mis-register, hickeys, dirty print, web crease, haze, scumming, smudges, streaks, hairs, die-cut variations and incorrect matrix removal.

BST claims that Shark has a defect management software package designed to evaluate defects and take appropriate action more quickly than alternative systems. A defect management screen contains all the information needed to access the severity of identified defects and take action fast. Having a simultaneous display of the full repeat, a close-up of the defect identified (and highlighted), and a close-up of the golden master, supplemented with a zoom function, allows fast examination of defects and decision making. A Defect Review icon allows a review of the most recent defects identified, with the touch of the screen. Shark also has a patent-pending lighting system for consistent lighting, which is critical to reliable line scan defect detection.

Shark also has standard features such as real time display of total numbers of labels inspected, with ratios of good and bad labels. The system allows you to define different areas of a job with different defect tolerance level and automatically generate a roll compliance report at the end of every roll. It also has an output to re-winder or a web flagging device and remote service support via modem.

Shark will identify random and repeating defects and is suitable for use on all kinds of substrates, including highly reflective materials.

Valéron Strength Film
Valéron DT

Valéron has launched a direct thermal printable Valéron Strength Film (Valéron DT) for high strength tag and label applications. Traditionally, direct thermal receptive substrates like coated paper or BOPP, are laminated to Valéron film when extreme durability is needed. This product will allow converters to eliminate the lamination step for applications like airline baggage tags, ski lift tags, freight tags and hunting and fishing licenses.

The direct thermal topcoat on Valéron Strength Film eliminates the need for thermal transfer ribbons. Valéron DT is also fully flexo printable for full color labels and tags.

Valéron offers resistance to tearing due to its proprietary cross-lamination technology. There is no need for red fiber patches, metal grommets, or expensive reinforcement tape with Valéron Strength Film. Valéron DT will be available from authorized distributors initially in a 6.9 mil C1S grade.

Tenza Technologies Ltd
TenzaGuard anti-microbial labelstock

Tenza Technologies has launched a new anti-microbial face material, TenzaGuard, which can be combined with of Tenza's different adhesive and release liner combinations to produce a wide variety of anti-microbial labels. The anti-microbial labels have a number of potential applications, but will be targeted at the pharmaceutical industry and health organizations faced with the increase in hospital acquired infections such as MRSA.

The active ingredients in the new anti-microbial face material are over 99 per cent effective in limiting the growth of MRSA. It also successfully fights against other harmful bacteria including listeria, E-coli and salmonella.

UV Process Supply
New UV Intensity Labels

An alternative UV measurement tool, these paper-thin, photochromatic, pressure sensitive labels change color upon receiving a UV dose. This improved version has an easier to identify color shift that enables comparison to a dose chart representing UV dose in millijoules. The labels will not change color due to elevated temperatures and once the label has changed color, it will not continue to change unless exposed to more UV.

The New UV Intensity Labels measure UV doses from 0mJ/cm2 to 1500mJ/cm2. Due to the paper-thin profile and thermal stability, they can be used in all applications where a radiometer is not possible, including: web printing, sheet fed printing, exposure verification of exposed products, 3-D curing, and personal UV exposure level testing.

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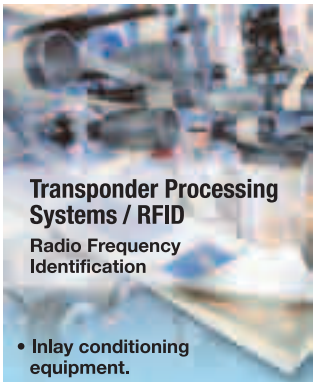

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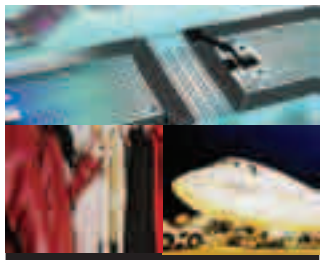

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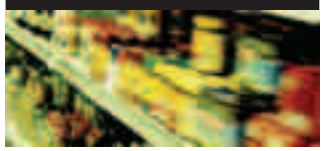

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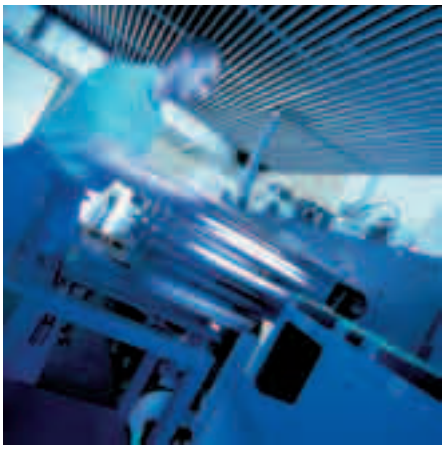




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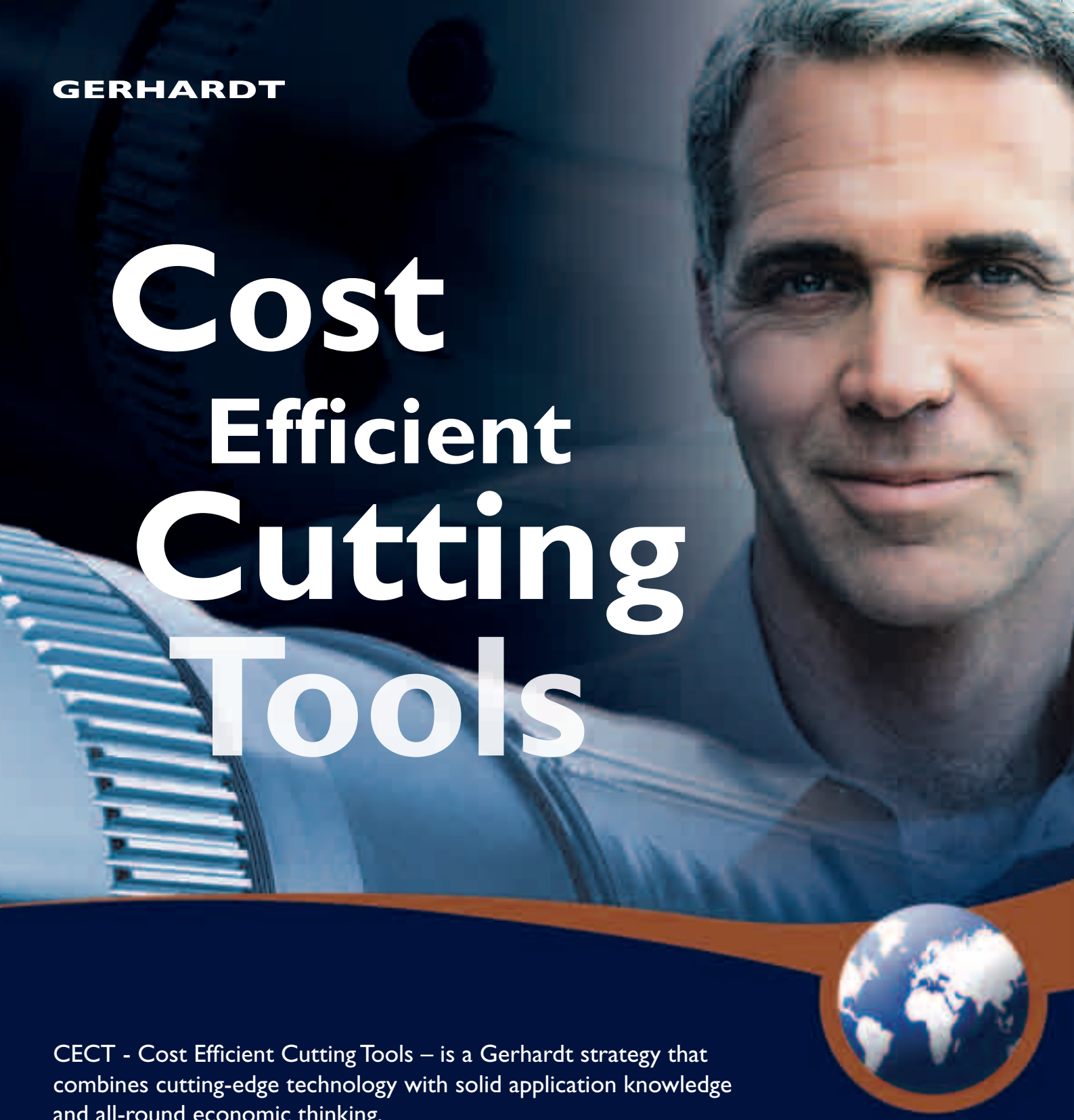

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