Case study

Brazilian converter Baumgarten builds shrink sleeve label plant

Analysis

Latest developments in rotary and flatbed screen technology

Technology

Automated wet glue label processing line from the roll to banding

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Making the headlines recently has been the apparent conversion of some European flexo press manufacturers to the offset process. First Gidue teams up with Nuova Castagnoli, and now MPS announces an alliance with Drent Goebel, who will build offset print heads for MPS presses. More offset announcements are expected at Labelexpo.

In this issue of *L&L* we report on Baumgarten installing a Drent Goebel VSOP press for shrink sleeves — along with its battery of Nilpeter offset MO3300 presses — and the first labels installation of Muller Martini’s new offset web press. In issue three of the magazine we looked at Gallus’ first offset RCS330 installation.

All this has created a ‘buzz’ around offset, and the suggestion that it could challenge the increasing dominance of flexography.

But none of this means that (UV) flexo is dead. What this tells us is that offset has a clear niche at the highest quality end of the market where there is a particular demand from end users for photographic quality reproduction and the finest vignettes. But offset is still challenged in a number of areas compared to flexo: more expensive; more complex format and inking system changes; and less intense ink laydown, for example.

For these reasons, offset it is unlikely to challenge flexo’s dominance in Europe, North America and emerging markets like Latin America. But if you have the right end user, an offset press might be a useful complementary technology for a flexo label converter.

The fact is that each print technology found in label converting has its own niche.

Take digital as another example. Digital is not a replacement for conventional presses. Digital complements conventional presses by taking away unprofitable short run work, making it pay and boosting the productivity of flexo, letterpress or offset machines. Intermittent letterpress or offset press has its niche in more complex short run converting.

More converters are investing in multiple technologies, either as separate presses, or as add-on modules to existing presses, and this ‘Swiss Army Knife’ approach is likely to become more and more widespread.

Andy Thomas
Group Managing Editor
One of the reasons our business has been growing bigger every year is that we understand how important a good-looking label is to brand owners in the beverage industry. That’s why we’ve invested so heavily in a new lamination line specifically designed for thin materials. With our filmstock now thinner than ever, we’re helping make sure that beverages like water, beer, flavoured alcoholic beverages and spirits carry on growing in popularity.

But we haven’t only focused on how our labels look. We’ve made sure that our labelstock performs flawlessly, meaning no bleed in high-speed applications and no whitening regardless of humidity. In short, we’ve created a reliable label that carries elegant graphics and attaches invisibly onto the bottle. For labelstock that makes even the best brands look better, get in touch with UPM Raflatac. Passion for films. www.upmralfatac.com
Judging of the Label Industry Global Awards 2007 took place on the 30th May, preceding the FINAT World Congress at the Maritim Hotel Berlin, with the judging panel reviewing the nominations and on-line voting against the various Awards criteria.

Winner of the Lifetime Achievement Award for 2007 is Andrew Jack, Dow Corning, who has a career spanning over thirty-five years in the silicone industry, firstly with Midland Silicones and then with Dow Corning Corporation. As a global account technical manager in Dow Corning’s global business unit responsible for the development and application of silicone release systems for the pressure-sensitive adhesive industry, Jack has for many years been at the forefront of Dow Corning’s pioneering products in solventless silicones, water-based silicones and, more recently, the provision of advanced cost-effective products that offer improvements in applied silicone costs.

In 1985 he was responsible for the opening of a new Dow Corning application laboratory in Belgium, which also involved moving the Technical Service Department from England. This laboratory has become one of the benchmarks of the pressure-sensitive industry and the main silicone technical service centre in Europe, with Jack travelling all over the world in pursuit of global standards and product excellence in the label business, as well as speaking at many of the industry’s professional conferences.

A Chartered Scientist, Chartered Chemist and Fellow of the Royal Society of Chemistry, Andrew recently stood down after nine years as Chairman of the FINAT Technical Committee — a period under his Chairmanship in which the 6th and 7th Editions of the FINAT Technical Handbook, Test Methods, were produced, including a Chinese edition.

He is a member of the FINAT Board and was in 2006 awarded Honorable Life Membership of the Association. He remains on the FINAT Technical Committee. Married with three children and two grandchildren, Jack has been back in the United Kingdom for the past ten years and lives some 20 miles west of Cardiff.

Chairman of the judging panel, Mike Fairley, said that ‘Andrew Jack joined the pressure-sensitive industry in the early 1980s and has made a major impact over the years on the world of labels through his contributions to silicone release technology, and to the work of FINAT and the development of global standards. The judges felt that he exemplified all the requirements of the Lifetime Achievement Award criteria and were enthusiastic in announcing him as the 2007 winner.’

Finalists for the other Awards were also announced by the judges, although the winners will not be revealed until the Label Industry Global Awards presentations and Gala Dinner at Autoworld, Brussels, on the evening of the 26th September – the opening day of Labelexpo Europe 2007.

The 2007 finalists are:

**Label Industry Award for Continuous Innovation**
- Rotometrics
- Rotoflex
- Dow Corning

**Label Industry Award for New Innovation**
- Stork Prints
- DiMS
- AVT

**European Converter of the Year**
- Pago AG
- Schreiner Group
- Caposa Group

Judges for this year’s Awards under the Chairmanship of Mike Fairley were David Harrison, president of FINAT, John Hickey, president of TLMI, Andy Thomas, editor of Labels & Labeling, Jack Kenny, editor of Label and Narrow Web, and Tony White, Narrow Web Tech.
Flexible die specialist Electro-Optic has opened a new die production plant in Bavaria, doubling its production capacity.

The move was prompted by Electro-Optic’s global expansion, which has outstripped the capacity of its previous facility. Around one year ago its management decided to start from scratch with state-of-the-art machinery and an optimized production layout.

But the company had noticed an increasing demand for offset print quality in the narrow web market. In reaction to this trend, they asked Drent Goebel if they would be interested in supplying MPS with the necessary offset technology for their narrow web flexo presses.

‘MPS is convinced that hybrid technology is the future for label and packaging printing. Not just because of its fantastic flexibility and capability, but the packaging market needs solutions for optimised (brand) color accuracy, brightness and sharp details,’ commented Eric Hoendervangers.

Drent Goebel specializes in the development, production and worldwide supply of customized web offset printing solutions for printers of label and flexible packaging, direct mail, commercial printing, business forms, paperboard and security documents including banknotes and stamps.

Electro-Optic doubles die capacity

AVT and Mark Andy expand cooperation

Advanced Vision Technology (AVT) is expanding its business and technology cooperation with narrow web printing equipment manufacturer Mark Andy.

As part of this agreement, AVT solutions have been installed at Mark Andy’s European Advanced Technology Center in Basel, Switzerland.

The partnership between AVT and Mark Andy began in 2005, with the first integration of AVT’s PrintVision/Helios platform and Workflow Link solution on a Mark Andy press. This installation introduced the concept of complete workflow quality management for narrow web printers. The companies have since struck joint marketing and R&D initiatives, defining full workflow solutions for the label market, and automatic inspection solutions for the growing RFID tags manufacturing market. AVT solutions were integrated last year on Mark Andy presses and rewinder machines at Mark Andy’s Advanced Technology Center in St. Louis, Missouri and now at the new and expanded European Advanced Technology Center.

Greg Palm, Mark Andy vice president of sales and marketing, said: ‘Working with AVT’s team has given us an opportunity to provide a single process workflow and quality system that is unmatched in the industry.’
superior quality, exceptional design...

...in shrink sleeve, slitter rewinder and doctor machine® technology

For over 60 years Stanford has been a leading manufacturer of Doctor Machines® and Slitter Rewinders. Now we’re meeting the needs of shrink sleeve applications with several new patent-pending innovations that are guaranteed to give you the competitive edge.

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Attending a Board Meeting of the Turkish Label Association, Roger Pellow and Mike Fairley of Tarsus had a comprehensive discussion on the requirements for a possible Label Summit in Istanbul in 2008: the target speaker and delegate base, conference languages, joint marketing and promotion with the Association, and likely venues. A final decision to look at confirming the date and venues for this proposed Summit – which was originally being considered with another country in mind – will be taken in the near future.

Additionally, the joint meeting reviewed the planned attendance of a delegation of members of the Turkish Label Association (TLA) at Labelexpo Europe in Brussels in September, the siting of an Association booth, as well as looking at the growing number of Turkish exhibitors for this and other Labelexpo events in the future.

Co-operation between the TLA and Tarsus has been ongoing for some time. Last year, a Turkish language version of the Encyclopedia of Labels and Label Technology – first published by Tarsus in 2004 – was produced by Turkish label company Canpas and Aydin Okay, president of the company and of the Turkish Label Association, and launched at a seminar in Istanbul. This was the first translation of the Encyclopedia into another language. Mike Fairley was the keynote speaker at this event.

Currently, a Turkish version of the Tarsus publication: ‘RFID Smart Labels – A How to Guide’ is also being finalized by Canpas, the TLA and Mr Okay and this will be published and launched in Turkey within the next few months.

Further discussions at the joint meeting explored the need for education and training material for the Turkish label industry and Tarsus set out some of the initial work it has been undertaking to develop a global program of training modules and trainee log books that can be incorporated into or co-exist alongside existing education and training schemes.

Following the Board Meeting, Roger Pellow, Mike Fairley and Mr Aydin Okay were taken to the nearby television studios of Expochannel TV and were interviewed on a live business TV program about the Turkish and international label industry and global label trends. For those that might be interested in viewing this TV program it is now available as a video stream on www.labelsandlabeling.com.
Suppliers partner with Label Traxx

Three material suppliers – Acucote, Technicote, and Spinnaker Coatings - have partnered with Tailored Solutions to interface with Label Traxx, the print business management system for flexographic label printers and converters. Customers of these suppliers can connect securely and reliably through their Label Traxx software to place orders, says the company.

In partnering with Tailored Solutions, Acucote, Technicote, and Spinnaker Coatings join roll stock vendors Fasson, Green Bay Packaging, MACtac, and UPM Raflatac, all of which permit ordering via Label Traxx. ‘In addition to entering orders quickly and reliably, Label Traxx users can check shipment status, manage inventory, and automatically receive order details from the vendors,’ said the company in a statement.

Spanish Encyclopedia

The Encyclopedia of Labels and Labeling Technology is now available in Spanish, joining editions in English, Chinese and Turkish.

The translation has been undertaken in co-operation with Conversión magazine, and 5,000 copies will be printed for the large Spanish-speaking label converting markets in South/Central and north America, as well as Spain.

For ordering details visit www.labelsandlabeling.com
FTA Forum 2007 crosses the border

Approximately 1,800 people attended the ‘07 FTA forum held in Montreal, Quebec, May 6-9. ‘The FTA made a few well received changes to the forum agenda this year,’ says Mark Cisternino, FTA president. ‘We re-evaluated our social and networking opportunities to intentionally keep people together to conduct business.’

Session topics included the role of flexography in global counterfeiting, the growing strength of India and China, and printable electronics opportunities. Keynote speaker, Don Carli, from the Institute for Sustainable Communication, spoke about climate change and the demand for sustainable print.

Jean Jackson of Allison Systems Corporation was announced as the second female and youngest ever inductee to the Hall of Fame.

Markzware files lawsuit against Enfocus

Markzware has filed a lawsuit in the Federal Court in Los Angeles against Enfocus Software, owned by Artwork Systems.

The lawsuit alleges that products manufactured and sold by the defendants infringe upon a Markzware US Patent for a ‘Device and method for examining, verifying, correcting and approving electronic documents prior to printing, transmission or recording’. Markzware preflight products for digital documents include FlightCheck Professional, FlightCheck Designer, FlightCheck Studio, FlightCheck Workflow and FlightCheck Online.

Patrick Marchese, president of Markzware commented, The preflighting described in the ‘641 patent and owned by Markzware, has been used without our consent. Accordingly, we plan to protect and defend our patent which is fundamental to our flagship product line, FlightCheck.”

Markzware is the developer of quality assurance, data conversion and workflow solutions for the international graphic arts, printing, publishing and digital multimedia industries.

More news @ www.labelsandlabeling.com

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‘We’re competing successfully in high-value markets as a result of our new press investment’

“With the Nilpeter FA-4, we’re delivering outstanding quality with absolute consistency – whether it’s on self-adhesive labelstock, unsupported thin film or carton board. And thanks to its fast set-up and user-friendliness, too, we’re able to position ourselves as the highly flexible supplier of narrow-web packaging.”
Pamarco Global Graphics Europe and Dantex Graphics UK have announced a strategic sales alliance within the label anilox marketplace in the UK.

Dantex Graphics UK has been appointed exclusive distributors in the UK for Pamarco Global Graphics Europe label anilox rolls and label anilox care products.

The agreement was signed between David McBeth, VP sales Pamarco, and Richard Danon, CEO Dantex UK.

David McBeth commented: ‘Dantex are market leaders within the labels segment in Europe, they have a team of extremely experienced technical sales representatives that are focused on servicing the label marketplace.’

Richard Danon said: ‘We are extremely pleased to sign this agreement with Pamarco for the distribution rights within the UK. This is an important step for us in developing our domestic market especially with the growing success of Toreflex our water wash flexo plate. Our relationship with Pamarco goes back a number of years as we have been working with them through our subsidiary companies in Germany, France, Poland and Holland and have enjoyed great success within these countries.’

IIMAK and InkSure join forces to offer covert barcode solutions

InkSure Technologies, a provider of covert machine-readable authentication solutions, and IIMAK, manufacturer of thermal transfer ribbons, have entered into an exclusive international authentication distribution agreement for the joint development and marketing of TrackSure covert barcode solutions for the prevention of product diversion.

The agreement provides that IIMAK will be InkSure’s exclusive thermal transfer ribbon (TTR) supplier, and InkSure will be IIMAK’s exclusive supplier of security taggants, where TTR technology is used for the printing of covert barcodes. Both companies agree to market the InkSure-encoded IIMAK TTR for the printing of covert barcodes directly and through their respective distribution channels.

Commented Rick Wallace, senior VP of marketing for IIMAK, ‘the TrackSure solution provides security in the form of covert barcodes that will not be detected by tools commonly used by gray marketers, such as black lights. More importantly, these barcodes cannot be seen by the naked eye, even when authenticated by our proprietary reader. In addition, TrackSure utilizes existing barcode symbology for plug-in connectivity to our customers’ existing logistics and information systems.’

Don Taylor, InkSure’s VP of global marketing, said: ‘With millions of thermal ribbon barcode printers already installed, the capability to implement TrackSure’s covert barcodes becomes relatively easy.

IIMAK has also agreed to supply InkSure with color and invisible TTR incorporating InkSure security taggants for brand authentication, and the companies have agreed to work together to develop conductive ink TTR solutions for InkSure’s new SARcode chipless RFID technology.

ETI brings Cohesio to Labelexpo

For the first time in five years, ETI Converting Equipment has announced it will exhibit a Cohesio line at Labelexpo Europe 2007, demonstrating how label converters can manufacture bespoke laminates in-house. The ETI Cohesio will convert pre-printed face stock into a clear-clear finished label, including in-line coating of silicone and adhesive, die-cutting and finishing.

‘We thought that it was time to show our equipment again to the market,’ commented ETI founder Francois Bayzelon. ‘The technology has matured since we presented the equipment in Chicago a few years ago. Our production of clear-clear label, as well as our system for in-line siliconizing, has never been presented in a show. Label printers are curious about it.’

Pamarco and Dantex sign UK sales deal

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**Muehlbauer opens factory in Malaysia**

The Muehlbauer technology group has opened its first production location outside Germany in Melaka, Malaysia. More than 10 years ago, Muehlbauer opened the office in Melaka as its first subsidiary in Asia.

'The close connection as well as the enormous potentials in this country prompted us to this step. It is our goal to strengthen our presence not only in Malaysia but in the whole Asian region,' said Josef Muehlbauer, CEO of Muehlbauer AG.

Currently, more than 60 highly trained Malaysian employees are already working in the site in Melaka in the divisions of research, development, and assembly, as well as in service and in sales.

The company has also reported that first orders have already been taken at the new site. Chinese company Solid Packaging Technology, based in Shanghai, has ordered 14 machines (three different models).

**Avery expands Vietnam distribution**

Avery Dennison Vietnam has announced the opening of a new distribution center to support the company’s continuous investment in the high growth market of Vietnam.

According to Asia Monitor, May 2007 report, Vietnam is the second fastest growing economy in the Asia-Pacific region after China, posting robust growth of more than eight percent consistently over the past three years.

'We believe the growth prospects in Vietnam will continue to be very strong,' said John Quinn, vice president and general manager, Roll Materials Asia Pacific. 'This investment is part of our on-going strategy to help our customers assist end users develop more pressure-sensitive decorating applications.'

The new distribution center is 28 percent larger than the previous facility and is now more centrally located. The facility, which also houses the sales office, is fitted with the latest slitting equipment. TG Yeo, vice president and general manager, materials ASEAN add, 'Vietnam represents an important growth opportunity for Avery Dennison. That’s why there is a new distribution center opening in Ho Chi Minh City, where most business activities are situated.'

**Smart label to monitor temperature**

Albertson’s LLC has announced that it will require temperature monitoring devices on all inbound produce, fresh meat and seafood shipments to its distribution centers.

The preferred monitor is the PakSense TXi Smart Label provided by PakSense – a supplier of sensory solutions for packaging. PakSense Labels track the temperature of a perishable product’s environment during distribution.

‘Providing our customers safe, high quality products is our highest priority at Albertsons. We have always monitored the temperatures of our perishable products during shipping,’ explained Dave Dean, group vice president of procurement for Albertson’s LLC. ‘But we found that traditional temperature monitoring devices were bulky and expensive. A quick return-on-investment analysis on the PakSense Label convinced me that making the switch would save us a substantial amount of money – and provide better quality assurance for our customers.’

A flat, 2” x 2” disk, PakSense labels are sealed in food-grade packaging. Lights on the sensor alert quality assurance personal if temperature specifications have been breached and all data collected by the label can be downloaded and graphed, enabling Albertsons LLC to pinpoint if, when and for how long, temperature excursions occurred. PakSense Labels are intended for one time use and are priced accordingly. There are no laborious rebate programs to adhere to in order to recoup money invested in temperature monitoring devices.

**Die manufacturer goes global**

Israel-based die specialist Suron ACA has announced itself as a new player on the world stage with the international launch of its flexible dies. The company has been involved in photo chemical machining of precision metal parts for 30 years. A flexible dies operation was established three years ago, and Suron now claims to account for 85 percent of the Israeli flexible die market.

The company says its flexible dies are manufactured by an advanced engraving process with a coating line which allows the production of hard and smooth flexible dies suitable for long runs. Suron specializes in micro-perforation, available on arcs and complex shapes.
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Quality and change-overs under control

www.gidue.com
New US company offers digital labels

Digitalabel, based in Durham, North Carolina, has announced its national launch as a digital printer specializing in labels for customized, short-run and prototype packaging projects.

‘We are ideally positioned to help customers whose brands need coordinated packaging graphics across several product families with multiple items in each such as for wine and other beverages, gourmet food items, cosmetics, candles and more,’ said national product and sales manager Peter Schambs.

Schambs’ career includes managing labeling and packaging projects for such national product giants as American Greetings, Ashland-Valvoline, Borden, Eagle Family Foods, J.M. Smucker Company, Nestle, Plastipak Packaging, and Procter & Gamble. Throughout the past decade, he has developed an expertise in labeling for regulated products such as tobacco, nutritional content, and pharmaceuticals requiring maximum efficiency, high quality and total accuracy.

‘Digitalabel partners with each customer to coordinate the pricing, printing, warehousing and distribution of their packaging to keep the supply chain running smoothly,’ noted Schambs.

Digitalabel prints not only pressure sensitive, but also substrates that are without adhesive. It converts a variety of paper and film stocks in up to eight colors. Vinyl also is available for labels requiring exceptional durability.

Coatings may be applied to further protect labels from moisture, temperature changes or manufacturing processes, or to differentiate a brand identity. In addition, a variety of finishing applications may be incorporated into the digitally printed label orders. Digitalabel’s AB Graphics Digicon converting equipment can laminate, underscore, die-cut, strip, slit and roll labels in a single pass. The company’s HP-Indigo WS4000 industrial web press accommodates labels up to 11x16-inches.

Variable printing will be a key focus. ‘Packaged product marketers have awaited the day when they could have so many variations and possibilities available to them. It’s a revolution for the printing business,’ concluded Schambs. ‘High-end digital printers now provide the same or better quality as traditional presses. That means short runs are cost-effective, long production times have disappeared, and customers don’t have to be satisfied with marginal quality when they need to print variable information.’

Kodak adds digital flexo plates

Kodak is expanding its package printing solutions portfolio to include digital flexographic plates, giving customers access to a full line of integrated prepress solutions from a single provider that includes workflow, proofing, digital plate imaging and printing plates.

Kodak will now offer MacDermid Printing Solutions’ Digital Must, Digital Rave and Digital Epic printing plates to customers worldwide.

Said Vic Stalam, director of market segments and vice president, packaging products, Kodak’s graphic communications group. ‘This agreement with MacDermid will make it easier for our customers to access a complete digital solution including workflow, proofing, imaging and plates to exceed expectations.’

‘Our flexographic printing plates have enjoyed much success in North America and Europe helping package printers improve quality, reduce turnaround time and exceed customer expectations,’ said Daniel H. Leever, CEO, MacDermid. ‘This agreement with Kodak is important to MacDermid because it expands our reach and ability to help packaging customers around the world.’

Newfofoil expands in North America

Newfofoil Machines (USA) LLC, associate of Newfofoil Machines Limited, a manufacturer of roll-fed hot-stamping label printing and die-cutting machines, has expanded its Connecticut-based sales office with a new service department. Peter Taylor will lead the new service department. Taylor will offer local service, training, and advanced sales efforts into North America and regions of Latin America.

Taylor began working for Newfofoil Machines in December 1988, where he was a sales engineer. Taylor soon became the sales director for North and South America, Africa, and the UK. He left in 2005 to join Smag International.

‘Peter has many years of experience in the print and label industry, especially with Newfofoil equipment,’ stated Rebecca Krumm, manager of Newfofoil Machines (USA) LLC. ‘Having technicians based in the United States will allow Newfofoil to provide customers with faster and more efficient service and will be a valuable sales asset.’

Along with service, sales and technical support, Newfofoil Machines (USA) LLC is also expanding its parts inventory. Customers will be able to get parts faster and at lower freight costs by offering the expanded parts inventory from the Connecticut office. Providing parts locally and offering full service after sales are sought after benefits for buyers in the North American industry.
MACtac Europe celebrates 40th anniversary

40 years ago MACtac expanded its operations to Europe, since when the company has become truly global. L&L reports

MACtac Europe was founded 40 years ago on June 24, 1967, when the cornerstone of a new manufacturing plant was laid in Soignies, Belgium by Burt Morgan, founder of MACtac America, in the presence of Jean Godefroid, founder of MACtac Europe.

The MACtac name is derived from Morgan Adhesive Company (MAC) and ‘tack’ (tac). Founded by Burt Morgan in the 1940s and based in Stow, Ohio, Morgan Adhesives Company specialized in the manufacturing of both medical and masking tapes.

In 1968, MACtac Europe comprised one coating line, two slitters, one sheeter, one packaging table and just 20 employees. Today, the MACtac Europe plant has expanded to eight coating lines, 23 slitters, two sheeters and 760 employees. Coating Line 8 has fully automated coating and finishing equipment and was considered a groundbreaking development in the self-adhesive industry when commissioned in 1997. The coating lines handle jumbo rolls of paper and films ranging from 1.5m to 2m widths and utilize solvent, emulsion, acrylic, rubber and hot-melt adhesive technology along with silicone coating and a full range of laboratory facilities.

Supplemental to its manufacturing plant, MACtac Europe has grown to incorporate subsidiaries and sales offices in Singapore, Shanghai, Australia/New Zealand and Europe. MACtac Europe serves the Middle-East, African and South American markets through a network of agents and specialized distributors.

Markets have evolved greatly since 1967, when MACtac 40 years ago expanded its operations to Europe, since when the company has become truly global. L&L reports

“Given the continuing growth of the labels market across all geographical sectors covered by MACtac Europe, it is not unreasonable to predict another 40 years of profitable growth.”

Europe produced self-adhesive rolls and sheets for the label market. In 1976, products were introduced for screen printers and a few years later CAD/CAM colored vinyls were developed for sign manufacturers. At the same time, MACtac Europe also became active in the photolab market with its mounting and overlaminating films, and introduced double-sided tapes for technical applications. More recently, the wide-format digital market has entered MACtac’s product portfolio. In 2005, MACtac acquired the Belgian company Multi-Fix, which increased its production capacity of graphic and decorative products and provided access to new markets.

Given the continuing growth of the labels market across all geographical sectors covered by MACtac Europe, it is not unreasonable to predict another 40 years of profitable growth.”
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New products

Shark inspection system enhancement
BST Pro Mark

BST Pro Mark has announced the availability of a number of new features, enhancements and options for its Shark 100% inspection system.

PDF inspection connects 100% inspection on the Shark to the pre-press PDF file, linking the integrity of what is actually printed with the customer approved proof.

Work flow management provides an easily implemented systematic approach to identification, marking, and removal of waste on press and/or on re-winders, and to the linking of various machines in the process.

Multiple camera options - Shark now offers a choice of color or black & white line scan cameras, to maximize performance and identify smaller defects at higher speeds.

The Shark to PowerScope link links the Shark system with a PowerScope visual inspection system, with controls for both integrated into the Shark touch screen. This provides 100% inspection and identified defects are automatically highlighted using the magnification and visual capabilities of the PowerScope.

Shark was designed for use on a re-winder or narrow web press, and will perform 100% inspection of webs up to 20”, effectively identify missing print, reverse type fill-in, splash, spots, mis-register, hiccups, dirty print, web crease, haze, scrumming, smudges, streaks, hairs, die-cut variations and incorrect matrix removal.

SRN3030 silkscreen press
Orthotec

Orthotec has launched its latest SRN3030 reel-to-reel silk screen press, which runs at up to three times faster than its previous model. A double sliding shaft gives the faster speed along with steady pressure of the squeegee blade, while material wastage is reduced by the method of printing across the web.

A high-speed air-suction control system holds the materials flatter during printing and releases the air-pressure while feeding paper to ensure precise registration. Each unit has two UV dryers to dry the inks at the lowest possible temperature. The servo-driven feed system incorporates a scanner for second pass printing, for example 2 + 2 colors.

Battery-powered CartMover
Appleton

The new battery-powered CartMover from Appleton Manufacturing is safe and convenient for workers needing to move heavy containers on wheels, such as core carts, product carts, mobile material racks, dumpsters and parts bins. With no cords to manage or trip over, the battery-powered CartMover is readily portable and easily maneuvered. Workers simply operate and guide the CartMover using the hand-mounted controls.

Industrial-grade battery packs can be changed in seconds. With high-density, non-skid wheels and a powerful gear motor drive, the CartMover is capable of moving loads in excess of 20,000 pounds.
Automated anilox and gravure cell volume and plate inspection

MicroScan

MicroDynamics has launched its MicroScan software for the advanced model 3DQC anilox and gravure cell volume measurement/plate inspection 3D microscope, providing superior micron volume accuracy and user friendliness.

The three advancements to the system are auto-focus positioning, which automatically positions focus based on roller diameter typed in by the operator; auto adjusting pixel saturation and the addition of a one-button help screen.

In converter print quality applications, the 3DQC provides quick inspection of cell engraving quality and volumes inspection, providing enhanced process quality for advanced color controls prior to running anilox or gravure rollers in press. For printing plate inspection quality, inspections can include surface roughness, dot formation integrity, size and relief. These quality checks should be made when new anilox surfaces are received and after a roller is cleaned. Repeatable volume accuracy runs at +/- 5 percent.

The MicroDynamics MicroScan 2.6.2.8 version provides low and high-resolution imaging in both standard microscope inspection images and 3-Dimensional imaging modes, by combining digital zoom with optional fixed magnifications of 5x, 10x, 20x and 40x. These features provide users with enhanced QC, or research ability for examining detailed cell volumes in cubic microns, plate inspection capabilities, and surface-smoothness testing, all with 360-degree axis capability.
Kodak Security Solutions creates virtual fortress to fend off counterfeiters

Eastman Kodak Company has announced the launch of Kodak Security Solutions, a suite of products and services designed to help protect against the growing global problem of counterfeiting and piracy. Kodak’s proprietary technologies include new invisible markers embedded during the manufacturing or printing process that can be instantly and reliably authenticated in the field in a way that no counterfeiter can bypass.

Targeting everything from currency to product safety labels, Kodak’s technology can help diminish counterfeiting, which is estimated to cost the global economy as much as $700 billion annually because it touches virtually every industry and market. Counterfeiters have access to technologies that can be as good as those used by authentic producers and, according to law enforcement and business trade groups, they are using them to defraud consumers, businesses and governments worldwide on an unprecedented scale.

‘Counterfeiting undermines the confidence people have in the products they buy, the medicines they take, and the financial and government systems that help society operate,’ said James Langley, president, Kodak’s graphic communications group and senior vice president, Eastman Kodak Company. ‘Kodak is in a unique position to combat this activity because nobody knows more about imaging and materials science than we do. We are harnessing our experience with specialty materials and the power of our digital technology, delivered through the printing process, to build a virtual fortress that will help the world fend off counterfeiters.’

At the highest level of protection, Kodak launches the Kodak Traceless System, a forensically invisible authentication technology that deploys a combination of proprietary markers and handheld readers. The Traceless System creates items with unique material properties that can only be detected using Kodak’s reading technologies.

The Traceless System marker materials can be mixed with inks, toners, varnishes and other items for analog and digital printing, as well as paper pulp, plastics, powders, pigments, liquids and textiles. The Kodak system’s markers have no affect on the characteristics of the end products or packaging. Users license the Kodak technology under multiyear agreements, and have secure control of the markers, the readers and associated software. This system prevents counterfeiters from duplicating the products or their packaging.

Kodak Security Solutions technologies are utilized to implement other hidden features, such as digital watermarks, magnetic ink character recognition (MICR), and a variety of forensic markers.

New products

Press for combined screen/offset printing
Kammann

Kammann has announced the K61-OS, a web printing machine for combined screen/offset applications.

Says Steve Gilbertson, president of Kammann Machines, ‘The K61-OS was developed to address the increasing need in the marketplace for precision in-line printing and finishing with shorter production time and less rework.’

A unique feature of the K61-OS is its patented 30° angled screen, for consistent edge-to-edge definition and reduction of friction. The angled screen is claimed to provide optimized ink transfer which results in higher-quality printing than is possible with traditional flat-screen methods.

The K61-OS has a continuous web transport for tight tolerance production and servo-controlled screen printing stations.

It has automatic registration adjustment.

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It’s an exciting time to be a part of our industry.

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Brazil’s Baumgarten Gráfica has a proud claim for membership of the world’s converting elite. The company is Latin America’s leading converter of cosmetics labels, and is one of the continent’s largest integrated package print operations.

The privately held company was founded 125 years ago, and remains a family owned operation run by Baumgarten brothers Hercilio and Germano and their nephew Ronaldo Junior.

Baumgarten has a long history of innovation, first in sheetfed labels, then as the first converter in Latin America to install a Nilpeter M3300 roll offset press, all driven by the company’s strategy ‘to become a partner in driving its customers’ profitability.’ This willingness to innovate and anticipate its customers’ needs led Baumgarten to its latest giant leap forward as first label converter in the Americas to print offset shrink sleeves.

Shrink sleeve labels first started appearing in Brazil some 10-12 years ago, but growth has really accelerated in the last four years. Foreign converters, offering superior quality, made heavy inroads into the market. The Brazilian market as a whole is estimated to consume 250 tonnes of shrink sleeve labels a month, of which 100 tonnes comes from suppliers outside the country.

‘Four years ago we saw that more customers were moving into shrink sleeves for promotions,’ recalls Hercilio. ‘Coca Cola for example runs promotions with sleeves, while limited editions of beer also appear in shrink sleeves.’ In the cosmetics sector products like the Muriel Vita Capili beauty cream range have moved permanently into shrink sleeves.

There is huge potential for future growth. One example is mayonnaise, which in North America is packed almost exclusively in upside-down, shrink sleeve packs, but is still sold in glass jars in Brazil – similarly with products such as mustards, jellies and ketchup.

Baumgarten decided on a radical strategy to take on this market. ‘We set out to differentiate ourselves by bringing offset quality to a market sector dominated by flexo, aiming to print photo-quality labels at 200 line screen, something not possible with flexo,’ says Hercilio.

The company set up a separate shrink sleeve label division under the leadership of 29-year Baumgarten veteran Vilmar Antônio Werner – known to all as Brahma – and purchased a Drent Goebel VSOP web offset press. The press is 520mm wide, specified with six UV offset units, two UV flexo units with double lamps, and ancillaries including a Teknek double-side web cleaner.

Interestingly, one of the UV flexo units is used to lay down the final opaque White. ‘Flexo can put down a thicker film than offset, although the flexo units slow the press down from a maximum speed of 300 m/minute, to around 200 m/minute,’ points out Brahma.
Stanford Products was chosen to supply the sleeve finishing equipment, delivering an SM10 Seamer and DM10 Inspector. Baumgarten’s management team first met Stanford Products president Seamus Lafferty at the Label Summit Latin America, in Brazil in 2005. ‘Stanford offered better technology even though they had not been in the sleeve market for that long,’ comments Brahma. ‘The speed of the system and the solvent application system are key technical elements in its success and we are very happy with its operation.’

Impressed with the reliability of the Stanford equipment, Brahma specified a 1038 Stanford slitter dedicated to the shrink label division.

The division started operating in September, and has already hit 50 percent of its planned 45 tonne production capacity, with a target of 70 percent capacity by the end of this year. The division plans to produce 150 tonnes of shrink sleeve labels in the next three years.

There is great potential for further efficiencies at the plant. For example, Baumgarten sheets around half the shrink labels it produces. The Stanford seamer runs at a maximum speed of up to 500m (1640 feet)/minute, which is halved when feeding the sheeter. As the number of automated sleeve applicators increases in Brazil, more work will move to roll. In addition there are potential efficiency savings using bigger rolls on the seamer, which is capable of taking rolls up to 30.4in diameter.

The dedicated building which houses the shrink sleeve division has enough space for two more Drent Goebel VSOP machines and associated equipment. Baumgarten is currently considering what width the presses will be, and an 850mm wide press is under consideration. ‘We will be driven by what the market demands,’ says Brahma. ‘An important trend is for sleeves to be used for very bigger containers, so we will need the wider web width.’

**Integrated operations**

The new sleeve division is one of four labels divisions at Baumgarten: the Label division covers prime label applications, the Etiquetas stickers and tags division covers all other types of pressure-sensitive labels and tags, and the wet glue Hermann division specializes in the pressure-sensitive sheet, cut & stack and wet glue markets, using smaller format Heidelberg presses and targeting the wine and beverage sectors. There are separate divisions for the carton and tray converting operations.

The labels business specializes in toiletries and cosmetics, and is home to no less than four Nilpeter MO3300s, with a fifth on order – the first in Latin America with a gravure head. ‘The gravure unit will be used primarily to print golds and silvers,’

**Alliances**

As part of its expansion across the Americas, Baumgarten has established an alliance with Mexican label printer Flexoprint. Despite the fact that the Brazilian and Mexican cultures are so different – Mexico has a more ‘American’ quality culture, while Brazil looks to Europe – the alliance has been successful, according to Hercilio Baumgarten: ‘We have run label jobs which we printed at both plants and we negotiate on behalf of our partners where it makes sense for them to print a job.’ There has also been a significant exchange of technical data and best practice.

Not all such alliances work out. Recently an alliance with a Chilean label converter was terminated.

Baumgarten is now looking to extend its network of alliances into North America and then into Europe. ‘We expect that these will be big companies specializing in cosmetics labels and serving global end users,’ notes Hercilio. ‘They should be able to provide a high level of technology exchange. We want to form a consortia to buy materials and machines jointly, as well as to set global print standards.’
comments Brahma. ‘This is less expensive than hot foil, and better quality than rotary screen or cold foil.’ The 9-color press, configured with rotary screen heads, is Nilpeter’s latest servo drive version. ‘The servos on the print units will reduce makeready times and save waste on expensive substrates,’ comments Brahma. Over 90 percent of materials used by the label division are films.

The label division also operates two Gallus R200 letterpress machines for shorter runs of multi-process work, and a Nilpeter flexo FA3300 used for specialty jobs. Inspection-rewind duties are handled by a battery of nine Rotoflex machines.

Each division in Baumgarten is run as a self-contained business and a separate cost center. This means that sales teams often compete for the same customers – although information is shared where a customer is likely to move between decoration methods. For example, while Baumgarten sees a clear trend from wet glue to pressure sensitive labels, some customers in the wine and beverage area are running the same jobs in sheets and pressure sensitive rolls with both Hermann and Etiquetas divisions.

Similarly, and uniquely in Brazil, brands often use shrink sleeves to break into a market – then revert to pressure-sensitive labels once the product is established.

Baumgarten has implemented a ‘5S’ quality control and Lean Manufacturing program across all its divisions. The carton division has pioneered direct machine monitoring, with the real-time information feeding into a SAP based management information system (MIS). If a press stops for more than 30 seconds and the operator has not explained why via his touchpad, power to the press is cut until the issue is resolved. The MIS system is now being extended to the label divisions.

Baumgarten has an intense commitment to the professional development and well being of its employees, which is nowhere more evident than in the landscaped grounds where meditation areas are home to abundant local wildlife. ‘It doesn’t cost a lot, but it makes a big difference,’ points out Hercilio.

The building of a dedicated plant for the shrink sleeve labels division is the first step in a breathtaking expansion plan at Baumgarten. The company has already purchased a 254,000 square meter plot of land next to the river which runs through Blumenau, and plans to build a ‘graphics park’ on 125,000 square meters which will eventually concentrate all its divisions into purpose built buildings with a common entrance and centralized services. The remaining 129,000 square meters will be permanently preserved.

**European outlook**

The town of Blumenau has a large German-speaking population and even its own Oktoberfest, fuelled by the excellent Eisenbahn beer. This is symbolic of Brazil’s European outlook. Both Brahma and Hercilio Baumgarten agree that they benchmark to Europe’s print quality standards – one factor which drove them down the offset route for shrink sleeves. ‘Print buyers here are very demanding regarding high quality, with low prices,’ says Hercilio. ‘In the past they wanted European quality with Chinese prices. Today they want better than European quality with lower than Chinese prices!’

Stanford Products president Seamus Lafferty sells high quality shrink sleeve label finishing equipment globally, and has been impressed with Baumgarten’s obsession with quality.

‘Among all the companies I deal with globally they are setting a trend by going straight for the best equipment from day one,’ he says. ‘That takes confidence and vision. They do not have the legacy of equipment you find in Europe which is blocking investment in the latest technology.’

Lafferty points out that it is not only a question of buying the most advanced equipment, but also the ‘best ingredients’ – the films are being imported from Klockner in North America, the inks from Siegwerk and Xsys, and the solvents from US company Flexcraft Industries.

‘Baumgarten also has a strong commitment to training. We have had technicians here bringing their people up to the stage where they are completely educated in what it takes to produce world class shrink sleeve labels. As suppliers we need to help facilitate growth in this market and education is a big part of it.’

Drent Goebel sales manager Wil Beek agrees that the sale of the VSOP press to Baumgarten demonstrates the rapid changes in the Brazilian label market as a whole. ‘Our first contacts with Baumgarten probably go back 15 years. Our machines were not suitable for their market at that time. Our markets as well as their markets have changed through the years. Several trips and contacts with Hercilio, Germano and Brahma have now resulted in the delivery of this VSOP offset press.’

Seamus Lafferty is a strong believer in the future potential of this region to support world class investments. ‘The US in particular tends to underestimate these markets of Latin America. From what I’ve seen, they are catching up and the gap is closing fast. They are open, amenable to absorbing knowledge and, to the extent that they combine this with the right technology and a belief in their market, I see the region’s growth potential as substantial.’
Gallus Rotascreen: give your products that sensual touch

The recipe for greater, faster success: Gallus Rotascreen. With rotary screen printing, your labels become truly eye catching, point of sale decision tools. Add to this the option of combining screen with flexo, letterpress and offset and you really do open up whole new dimensions for your customers products in the simplest way possible, because Gallus rotary screen can easily be integrated into all new or existing machine systems. From film to finished stencil you are ready to print in under 30 minutes!
Innovation pioneer

A move into shrink sleeve labels and a formidable promotional project engineering capability has pushed Smyth to the leading edge of the PS labels sector: Andy Thomas reports

Smyth Companies, Inc is 130 years old this year. Since the late 1980’s the company has been led by the great-grandchildren of founder G.G. McGuiggan. Three of them, John Hickey, William J. Hickey III, and Daniel Hickey are involved in day-to-day management and have shepherded the company through an era of growth, including the acquisition of Piedmont Label in Bedford, Virginia. John and Bill Hickey also have prominent roles in leading industry associations; John is president of the TLMI, and Bill past president of the LPIA.

Smyth has a long history of innovation. Over 100 years ago the company was the first printer west of Chicago to employ lithography commercially, and more recently the first US label printer to adopt a computer-to-plate workflow before going on to pioneer commercial 6 and 7-color ‘Optimyser’ high fidelity printing. Smyth’s Red Rock Technologies group holds the patent on the world’s fastest label applicator, which supports their turn-key promotional label offerings. These services are used by the likes of McDonald’s for their Monopoly game as well as leading consumer product goods companies and retailers such as Coors, Conagra and Old Navy.

The company entered the roll fed flexographic label market in the 1980s. ‘When Pillsbury moved from cut&stack to PS, my father said “we have to move to PS” and it became the fastest growing division,’ recalls Bill Hickey. A willingness to invest heavily in new technology to pursue growth opportunities has remained a key component of Smyth’s success.

Today Smyth has three main production facilities. The Minneapolis plant – where this interview was conducted – converts flexographic PS and shrink sleeve labels, while two sheetfed offset plants in Austin, MN and Bedford, VA produce glue applied paper and film cut&stack labels. Smyth also specializes in IML, recently installing a Mitsubishi Diamond 3000LX 8-color press, able to handle the very thin film substrates required for blow and injection IML labels.

The traditional paper label sheet fed business is declining as an overall percentage of Smyth’s business. It now accounts for less than 40 percent of overall sales as traditional cut&stack paper label accounts like Hormel Foods continue to move products into shrink sleeve and pressure sensitive labels. The shifting marketplace brought Smyth to close its sheetfed plant in St Paul and expand its capabilities into the Bedford and Austin operations.

The Minneapolis plant, which accounts for approximately 40 percent of Smyth’s revenue, was, until recently; an all-Comco/Mark Andy house. Four 16in Comcos, each with between 8-12 stations, and often heavily customized, provide a wide array of label printing capabilities, while a series of Mark Andy 2200s perform a wide range of work from standard 4-color food labels to complex multi-ply promotional products. One 2200, described by the company as a ‘promotional coupon machine’, is an excellent example, customized with creasing unit, fan folder, DPI electron beam unit, multiple webs, inter-unit die cutting and a mix of hot air and UV drying for applications such as overprinting scratch-off inks.

Smyth’s Comcos have supported customers’ moves into clear film, rotary screen combination printing and inkjet personalization. UV flexography has also become more used. ‘I like working with UV inks more than water-base because they are more precise in color matching and more operator and environment friendly,’ comments Dave Moris, Smyth’s in-house ink technician.

Finishing and inspection work is handled by Arpeco and Rotoflex machines.

Into shrink

Smyth’s latest move has been into full body shrink sleeve labels, which are showing double digit growth rates in the US. ‘Shrink sleeves are not only threatening pressure sensitive work – they are increasingly opening up opportunities for label converters to attack the carton market, as brand owners replace cartons with shrink sleeved plastics containers,’ says Bill Hickey.

The company chose an Omet Varyflex to convert its shrink sleeve labels – but not before a lot of soul searching. ‘We were feeling pricing pressure, and to counter it we had to get better,’ says Bill Weernink, VP operations. ‘We introduced a 6 Sigma program and felt we had squeezed everything from our Comcos. We asked our existing suppliers why it was taking them so long to change their print stations to print-sleeve and servo technologies.’

Smyth looked at CPMC, but the choice came down to the
‘Shrink sleeve labels are opening up opportunities for label converters to attack the carton market, as brand owners replace cartons with shrink sleeved plastics containers’

European press manufacturers Omet and MPS. The Omet Varyflex was seen working at a trade show, a machine was ready to ship – and the decision was made. Karlville was chosen to supply seaming and inspection equipment.

The Varyflex – fitted with high velocity dryers for the heat activated laminating adhesives – was installed in November last year and was up and running in three weeks.

Smyth put together a team consisting of its own technical staff, and consultant Gary Gates to visit customers and ensure that everything ran smoothly as the company went through its learning curve.

Today much of Smyth’s shrink sleeve label production has been moved to the Varyflex. Smyth’s Scott Farkas comments, ‘I love the way you can slide out the heads, which allows for fast makeready. We can set up the ink stations off-line and the screen stations are on cassettes. We are no longer fighting to maintain correct tensions or gear marking and we will soon have auto-registration, which will help even more. The sleeve will seek registration with the other units after printing the registration marks on the first station.’

The ability to apply cold foil in-line as well as marry multiple webs provides other competitive advantages against the wide web competition.

The next upgrade will be a butt splicer and turret rewind, to allow for even greater output as volumes continue to ramp up.

Innovation

Here are just three examples of where Smyth has engaged its engineering expertise to develop highly innovative promotional products:

• The application of removable PS promotional coupons to the metal lids of Pillsbury Dough containers. These labels pull out into an 8-panel money-off coupon/recipe suggestion piece. They are converted in-line on a heavily customized Mark Andy 2200 and applied at the Minneapolis plant.

• The SNAP single dose liquid dispenser, formed by laminating a barrier styrene onto board, then scoring it so it opens when folded. Smyth developed the machine to fill, seal and score it in a Class 10,000-ready clean room environment. Applications include single serve toothpaste and hand cleaner and high-end cosmetics promotions. The product has also been licensed to a pharma printer with GMP. SNAP has been printed with UV flexo, screen, digital print and variable print technologies.

• Smyth was recognized in 2006 with a TLMI ‘Most Innovative’ award – and more recently a World Label Association ‘Excellence in Technical Printing’ award – for its Coors Brewing Outlast Cold Wrap label. The label keeps the beer cool by absorbing heat from the hand and releasing it outwards using Outlast ‘phase change’ material originally developed for NASA space suits. Smyth had to develop the process to wed the Outlast phase change material to the original Coors Light label by printing a grid on the non-adhesive area on the reverse of the label. The project required Smyth to handle application to the bottle as well as label converting.
Promotions
A key strength of Smyth Companies Inc lies in its in-depth, in-house engineering skills, which have allowed the company to develop a strong line in promotional label and turnkey packaging work. Uniquely, the company can offer a fully integrated service from design and converting, to application of the promotional pieces and full logistics and fulfilment.

‘For promotions, timing is absolutely critical,’ says Bill Hickey. ‘You have a two day window to get the finished items into all 4,400 stores of just one retailer. We have tie-ups with UPS direct into our MIS systems.’

All three of Smyth’s plants produce POS collateral and promotional work, including extended text, booklet and other multi-ply promotional pieces. Complex, finishing intense work - such as custom folding to allow the label to properly integrate into a package design – is well suited to the two sheetfed plants.

The Minneapolis plant in addition works in partnership with Liberty Carton Company to produce point-of-purchase displays from design to fulfilment.

A major source of turnkey engineering expertise comes Smyth’s Red Rock Technologies group, which leases or sells applicator equipment, supporting a wide range of applications including in-pack or on-pack onto folded cartons, top and sides of cans, onto a print web or just about any challenge you can imagine. In addition, Smyth runs a complete bottle labeling and fulfillment operation in Golden, Connecticut as well as a fulfilment operation in Austin MN.

To deliver this breadth of services to the market, Smyth needs to get its sales people in front of the right people within their customers. ‘So much of what we do goes beyond purchasing departments to the marketing managers, brand and logistics people,’ says John Olivanti EVP sales and marketing. ‘To fight against the constant attempt to commoditise the business we try to be completely focused on customer needs, bringing solutions to their challenges’

Smyth’s best customer service people have a diverse background. ‘They need to be especially creative and understanding of customer needs and how our vast toolkit of solutions can sell more of our customers’ product,’ says Olivanti.

Smyth has an ongoing program to inform customers of how new technology developments could impact their business. At a recent packaging symposium, for example, the audience included package engineers, brand and product managers and procurement managers. Smyth uses these events to present ideas evolved at internal innovation sessions, where all employees are invited to bring ideas to support their customers’ brands. Already a success in Minneapolis, these sessions will now be rolled out to the Austin and Bedford plants.

RFID, of course, has reared its head in these discussions, but Smyth, like most converters, is keeping a watching brief. ‘We do not want to be on the bleeding edge,’ says John Hickey. ‘We have run RFID labels on a Mark Andy press at very high speeds, with the inlay under the label and applied on our Red Rock carton labelers, and we are developing a verification function on the labeler. RFID is not currently in our top five priorities but certainly on our watch list.’

“The company can offer a fully integrated service from design and converting, to application of the promotional pieces and full logistics and fulfilment
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Servicing the top end of the market requires a high level of flexibility and innovation, especially as the global conglomerates now prefer to retain just a few preferred suppliers. Not surprisingly, 3P-Spezialdruck GmbH (Profi Print Partner) proudly points to a portfolio of customers that not only includes companies like Gillette, Proctor & Gamble, Colgate, Sara Lee and Nestlé, but dozens more companies like them. Clearly the firm, based in Baden Baden, is doing something right. Much of this comes from identifying certain niche markets involving a variety of run lengths, from relatively small to ultra large, and investing heavily in the most appropriate equipment to service them.

Nothing new about this of course, but what is interesting about 3P-Spezialdruck’s latest approach is its choice of press. It recently commissioned a variable size Alprinta V 75 from Müller Martini with seven offset units, a UV flexo tower with combined laminating unit and reel handling facilities for non-stop production (see box out). It has a 740-mm web width (29 1/8 inches) and a top speed of 365 m/minute (1,200 ft/minute). Output includes both PSA labels and the type of flexible packaging contracts that, ideally, tend to be uneconomic for wide-web flexo and gravure printers.

Separately, 3P-Spezialdruck began trading in 1992 and in 2000 expanded production. The following year it moved into offset with a 520-mm wide seven-color Drent Vision, using an inert nitrogen UV curing system. In 2004 Jurack Drucktechnik was integrated into 3P-Spezialdruck and the combined turnover leapt to 15.3 million euros, aided by some important packaging contracts. Further expansion in 2006 resulted in an extra 3,000 sq/metres of production space. This landmark year also saw two new nine-color 420-mm wide Graficon uniQ presses with interchangeable letterpress, flexo and screen cassettes for printing PSA labels and packaging. Like the Alprinta, they include non-stop production using twin-reel unwinds andrewinds. Other machinery includes two seven-color rotary letterpress presses with laminating, varnishing, reverse printing facilities and 430-mm web width.

Paper and filmic PSAs make up roughly 25 percent of the company’s business, many for the cosmetic and healthcare sectors, as well as supermarket’s own-label products. With over 70 employees, the company operates a three-shift work pattern, six days a week. All prepress origination is handled in-house, backed by offset, flexo and letterpress platemaking handled on various digital platesetters. Current turnover is over 20 million euros (US$27.09 million).

Explaining the company’s philosophy, Frank Bräuning, sales and marketing manager, says: ‘Germany has over 300 label printers of all sizes operating in a fiercely competitive market. In order to retain our differentiation we decided fairly early on to increase production of certain flexible packaging products. We also decided to keep everything inhouse and offer customers a one-stop label to packaging operation.’ Today the

Working the offset niche

Greatly increasing in its offset capacity is how a German label and packaging converter intends to compete in niche markets.

Barry Hunt reports
range of products made from foils and multilayer films in thicknesses from 20 to 400 microns now make up around 75 per cent of 3P’s turnover. Printed tube laminates for toothpastes and bodycare products represent a large share of this.

**Latest technology**

The Alprinta-V 74 has conventional interdeck curing, but currently the company is trialing a double-lamp UV curing module based on Dr Hönle’s ACM (Advanced Cold Mirror) technology. The lamp’s reflector creates a ‘cool’ ambient web temperature which requires no assistance from powered chill drums or plates. It uses carbon dioxide inerting gas, rather than the more expensive nitrogen inerting technology. This reduces the energy output to cure inks formulated with lower levels of photo-initiators (particularly important when printing packaging). A continuous inert-gas regulation system keeps gas consumption to the minimum necessary for the process. The harmonization of press, inks, curing system and inert gas system is said to introduce the type of enhanced capabilities that are essential in the competitive packaging sector.

Another ‘first’ is MM’s own servo-driven flexo print unit for printing opaque white backgrounds on film sleeves and applying lamination or varnishes using a closed doctor blade system. The unit offers hot-air drying or UV curing, with the latter able to cure adhesives used with thin laminating films for barrier protection against ink migration and environmental considerations.

It is possible to think of 3P’s Alprinta as a self-contained manufacturing process within an operation geared to handling fast turnarounds at all production levels. Underlying it all is a management ethos that tries to understand the varying needs of label and packaging buyers, as Joachim Jurack explains: ‘We have had over twelve year’s experience in building a sound reputation among packaging buyers, who in today’s globalized market operate quite differently to label buyers. That gives us a big advantage. Having a technical know-how based on gravure-like quality, optimized set-up times and competitive pre-press costs is a big part of this.’

It’s business model not unfamiliar to many of the industry’s larger converters who have invested in advanced production technologies for a mix of PSA and packaging products. It just seems that 3P-Spezialdruck has raised the bar still further, albeit with a state-of-the-art offset press in a singularly specialised market segment.
Automated finishing

Two leading suppliers of die cut label processing equipment have combined to demonstrate automated production directly from the roll. Andy Thomas reports

Kmec and Blumer have combined forces to demonstrate an automated line for the production of labels directly from a printed roll.

Blumer specializes in equipment for the die-cutting and banding of labels while Kmec (Kontrelmec SL) manufactures converting equipment for the paper, flexible packaging, printing, label, coating and laminating sectors.

The solution demonstrated at the Open House at Kmec’s Spanish manufacturing base included the company’s Label CS small format sheeter fully integrated with Blumer’s Atlas 1110.

Visitors to the Open House witnessed the finished die cut and banded labels being produced in one process, as opposed to the traditional 5-5 step process typical of the sheeter, guillotine and die cut workflow.

Examples of the production of labels from a wide range of materials were shown including metalized papers, BOPP, polyethylene and shrinkable label films.

After being sheeted on the Label CS, pre-counted label strip stacks were presented to the Atlas 1110 on a delivery system that includes cardboard placement stations, a pressure and turning unit as well as a rotating conveyor section that can be programmed to deliver the stacks to the Atlas, for alternative processing or as a quality control facility.

“Visitors to the Open House witnessed the finished die cut and banded labels being produced in one process”

The Label CS has a cutting capacity of up to 2,000 cuts per minute and a size range of 50mm to 300mm in length, 1000mm wide. Its modular design allows optional units to be added such as for embossing or perforating.

Joan Carbó, Kmec’s business manager comments: ‘The line requires just two people, one for each machine, to control the operation, which compares very favourably with the traditional methods that can need four operators to undertake the unwinding, reaming, guillotining and punching processes.’

Examples of the hourly production potential include metalized paper beer labels (76mm x 76mm) at up to one million labels and BOPP soft drink labels (300mm x 52mm) at 752,000.
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Swiss press manufacturer Gallus hosted a series of seminars centering on streamlining workflow and the sleeve technology of its latest EM 410 S line. **James Quirk** reports

Two hundred converters from all over Europe attended a seminar organized by press manufacturer Gallus at the company’s German manufacturing site near Frankfurt.

The seminar, entitled ‘Flexo Sleeve – the Gallus S-class embedded in an efficient production workflow’, involved a series of presentations and demonstrations from senior Gallus staff as well as representatives from Klöckner-Pentaplast, Esko, Dupont, Carl Ostermann Erben and Erhardt & Leimer.

The event provided attendees the opportunity to see the reality of an integrated workflow: from Esko’s Scope packaging software to Dupont’s Cyrel Digital Imager for imaging flexo plates and sleeves; from Carl Ostermann Erben’s seamless continuous photopolymer sleeves to Erhardt & Leimer’s 100% web inspection; to the centerpiece of the event – a Gallus EM 410/510 S press.

The press was launched at LabelExpo Europe in Brussels in 2003, and 45 of the machines have been installed around the world. A demonstration at the seminar saw the press produce two print jobs for a strawberry confiture: a 5-color flexo PS label combined with hot foil and relief varnish, and a 7-color shrink sleeve label job on PVC.

The press on display had been ordered by Belgian printer Conti-Label Pauwels. Bernard Pauwels of Conti-Label told how the company purchased its first Gallus EM 410 S press in October 2005. ‘We chose our first Gallus EM 410 S based on the experience we had enjoyed with the Gallus EM 410 installed in 1992. The ‘S’ line helped us cope with the rising demand for high quality food and non food labels that make up our business. The second ‘S’ line was chosen for its capacity to replace a number of old presses.’

The event opened with a history of Gallus given by vice chairman Ferd Rüesch Jr, whose grandfather founded the
decisions are made at the point of purchase.

She described the trend towards greater numbers of colors – eight or more are now increasingly common – and foresaw that packaging in the future will be more targeted, highlighting the differing approaches required to sell products to men and women of different ages.

The afternoon session introduced delegates to an integrated workflow, beginning with a demonstration of the latest technology from Esko and Dupont. Esko demonstrated its integrated packaging software suite Scope, the latest version of which – Scope 3 – comprises Adobe PDF 1.6 and JDF 1.3 workflow with CAD-Graphics and Adobe Illustrator CS2.0.

Also on display was the company’s quality control tool FlexRip and its Cyrel Digital Imager – which is now involved in the production of over 90 percent of all digital flexo plates worldwide.

Representatives from Carl Ostermann Erben explained the latest developments in seamless continuous photopolymer sleeves. They told delegates how these sleeves are suited to long run printing, repeat work, and jobs where register is critical.

Erhardt & Leimer demonstrated to visitors the concept of 100% inspection of the printed web to remove the ‘human factor’. While inspection is traditionally carried out on the rewinder, where rejects are detected but there is no reduction of waste and there can still be need reprinting, this version involves inspection on the press, which the company said can reduce rejects and create a report that is referred back to the master image.

Finally, Heinz Brocker, manager of Rotascreen at Gallus, outlined the benefits of screen printing for product differentiation, whether through decoration and added shelf appeal, or when important messages need to be conveyed to the user for safety reasons. He said that the facility to print Braille or Moon to international standards puts screen printing ahead of the traditional use of embossing, and told delegates that a Gallus Rotascreen unit may be part of the press’ original specification or added later as a retrofit.

Felix Egger, Gallus’ VP sales & marketing: ‘Lean Manufacturing is a philosophy, not a project.’

“Egger identified press automation as a key condition to minimize setup time and waste. He stressed the benefits of Lean Manufacturing – emphasizing the importance of keeping tools close to hand”

collection in 1923. ‘Innovation has influenced Gallus throughout its history,’ he said.

Felix Egger, Gallus’ VP sales & marketing, highlighted the need to look at the Total Cost of Ownership (TCO) when investing in a press.

Both fixed costs – such as the cost of introducing the system, downtime, and quality assurance – and variable costs such as setup time and waste need to be considered, he said. He cited lower material and production costs, as well as lower risk, as factors that can keep a low TCO.

Egger identified press automation as a key condition to minimize setup time and waste. He also stressed the benefits of Lean Manufacturing – emphasizing the importance of keeping tools close to hand and in the same place. ‘Lean Manufacturing is a philosophy, not a project,’ he said.

Sandra Theilke, sales and marketing manager of sleeves and capsules for Klöckner-Pentaplast discussed current market trends in sleeve technology. ‘Shrink sleeves are the most successful label in the industry at the moment,’ she commented.

The global market for shrink sleeves is currently dominated by Western Europe, North America and Asia, she continued, which between them account for 90 percent of volume. The biggest growth rates can be found in Eastern Europe, where economies are rising by 17 percent each year. She predicted that the overall market will grow threefold between 2003 and 2011.

Paul Mattle, Gallus’ marketing manager, introduced attendees to the company’s S-class of presses. He told how the EM 410 and 510 S presses were being further adapted, and gave a preview of the EM 340 S press which will be launched at Labelexpo Europe in September 2007. ‘With these three machines,’ he said, ‘we can cover the market and customer requirements – as well as remaining flexible to adapt to the future changes of the market.’

Corinne Kappeler, from Swiss packaging consultants Paex, spoke of the trends in packaging from the consumer’s viewpoint. ‘Product presentation is increasingly important,’ she said. ‘Nowadays, there can be 30,000 products in a supermarket.’ She said that eye-catching products would dominate the market, as 75 percent of
Today’s label finishing demands are increasingly complex. Labels need to reflect image and brand quality while maintaining the highest accuracy and security. More than ever, label producers need a finishing partner to remain competitive and profitable.

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Environment. Quality management. Waste reduction. All these terms are familiar to Don Earl, president of Overnight Labels, a small print shop located on Long Island in Deer Park, New York. When he started his label business in 1987 printing barcodes for a government defense contract, he never anticipated that his company would be the 2007 FTA Environmental Award winner for process improvement twenty years later. Earl started Overnight Labels with a simple 3-color Manhasset press working to finish 51,000 blank labels printing at 20 labels a minute.

Now the flourishing printer uses three 10 inch Aquaflex presses – a four, six, and eight color – to complete the growing number of jobs. The shop runs with only one shift. ‘We do a lot with less,’ Earl says. ‘And we still have a lot of flexibility to do many things well.’ They do not use solvent-based inks, preferring to use water-based with minimal VOCs emitted.

Overnight Labels specializes in shrink sleeves, neck bands and flexible film for a variety of applications. The printer offers a variety of ‘earth friendly’ media options, such as EarthFirst PLA film and bamboo paperless paper, to its customers concerned with the recyclability and sustainability of their product. Many of their customers bottle and package products like organic food stuffs or herbal neutraceuticals.

The new quality management system and waste reduction program are what made Overnight stand out to the judges. Last year the company decided to document the process of every in-house job, tracking things like time for completion, length of substrate material and average amount of waste per job. The reason for the decision was two fold: economical and environmental. ‘It just made sense to track these details. In the end, it definitely increased our productivity and increased our bottom line,’ Earl adds. Overnight’s entire management team was on board. Management unity is necessary to ease into such a dramatic change.

By the end of the first year of implementing the QMS, Overnight Labels was able to reduce its amount of waste by nearly one million feet, clearly an outstanding improvement. Their future goal is to further reduce waste by 2.75 percent by the end of the year. The production staff and upper management have signed an agreement to commit to this increased reduction.

“The printer offers a variety of ‘earth friendly’ media options, such as EarthFirst PLA film and bamboo paperless paper, to customers concerned with the recyclability and sustainability of their product”
Environmental news

- FTA’s 2007 Environmental Award winner for technical innovation is Farnell Packaging Ltd., a Canadian company that closely follows the ‘3Rs’ and continually works to reduce its environmental footprint. The company recently introduced a biodegradable, compostable film that is recognized by the US Composting Council and the Biodegradable Institute. The film turns to biomass in a similar time frame as paper under specified environmental conditions.

- Norprint in the UK has introduced an ‘Eco-Green’ label range offering recycled, lightweight and compostable labels with a variety of material and adhesive choices for primary and secondary packaging.

- Technicote, Inc., has developed a Recycling Compatible Adhesive (RCA220) paper label product line that is designed to meet the recyclability requirements of the federal government. The line features seven standard in stock paper face materials and the ability to produce other specialty papers with our RCA220 acrylic permanent adhesive.

- Wal-Mart’s Matt Kistler addressed attendees at the Tarsus Group’s Packaging Summit on May 15, 2007, in Rosemont, Illinois, reiterating the company’s environmental, economic and social commitments. There Kistler introduced Wal-Mart’s Virtual Tradeshow, MarketGate Packaging Source, to acquaint suppliers with the ‘scorecard’ software which seeks to assess the environmental profile of packaging.
Neptun Technologies, manufacturer of water soluble label materials, has introduced a new dissolving label material to the market.

Named Neptun Label 3200, the ground breaking product consists of a completely water soluble adhesive (25 gsm) and a dissolvable label paper (60 gsm). The carrier is a yellow silicone paper (60 gsm).

‘Consumers will benefit from a higher adhesive strength and an extended shelf life of one year,’ says the company. The main advantage is the label paper’s consistency. Normally, by storing the label in areas with higher humidity, there is a risk that the label starts reacting with the water and gets transparent. Neptun Label 3200 keeps its opacity. Furthermore, it could be used for freeze applications.’

A version with a white 90 gsm silicone paper for sheet production is also available. It is called Neptun Label 4200.

Applications include where hygiene and cleanliness are essential, for example in the food and beverage industry as well as in restaurants. Fast food restaurants, for example, label their storage boxes with expiry dates. After use, the box will be washed. Remaining label or adhesive residues may support germ and bacteria cultivation. Therefore, only completely water soluble labels leave a completely clean surface.

Other applications include labeling of beer kegs in breweries, marking of flasks in laboratories and labeling of transport boxes for logistic purposes.
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The Omet Varyflex F1 press unveiled at Omet’s Open House in Lecco, Italy, represents an evolution of the original design, but with an innovative new video camera-based registration system.

Like its predecessor, the F1 is a fully servo driven, gearless press with a maximum speed of 300 m/min and press sizes of 430mm, 540 mm, 670 mm and 840 mm.

Designed in conjunction with a ‘top Italian design agency’, the F1 has a smaller footprint and a shorter web path which helps reduce waste during changeovers and makeready.

The key innovation is the video camera-based registration control system. ‘Vision 1’ continuously measures the distance between a series of concentric rings, one for each color, and uses this data to control the automatic positioning of the longitudinal and transverse register.

The circular target is no bigger than 5mm across, and can be printed anywhere on the substrate, including the waste area, and on different positions on different jobs. The sequence of colors can be freely changed without requiring the plates to be remade.

This is a radically different concept from using photocells to read a printed register mark. This mark needs to be at a fixed position on the substrate, so if you change the position of a color you need to remake the plate.

On the F1 press at the Open House the video camera was mounted after the final print unit, but Omet eventually plans to place video cameras on each print stations. The Vision 1 registration system is now the subject of a patent application.

Like the original Varyflex, the F1 is fully modular, and Omet has now added the option to insert a rotogravure unit with a high efficiency hot air dryer. This was demonstrated at the Open House along with a new rail-mounted, servo-driven cold foiling unit which can be placed at any position in the press line.

The F1 press can handle a format range from 13 to 33 inches with automatic pre-positioning of plate sleeves. Omet calls its revamped plate sleeve system ‘Quick Sleeves’ (QS), incorporating a simplified automatic air emission cycle. A redesigned inking cassette allows assembly of new jobs outside the press.

Interestingly, Omet has not followed Gallus in the move to

Omet’s new registration system uses a video camera to capture the images of concentric circles, one for each color. The press is in register when the circles enclose each other.
anilox sleeves. ‘They are more expensive than anilox cylinders and are harder to store, so it is hard to see the advantage,’ said Marco Calcagni, sales director at Omet.

The F1’s Multitension multi-zone tension control system allows the processing of materials from 12-700 microns and the operator interface has been revamped to allow faster access to stored data on repeat jobs. AVT’s Print Vision Helios 100% web inspection system was on the F1.

Also demonstrated at the Open Day was a Flexy ‘S’ press, incorporating two servo motors on each printing unit. The press was demonstrated with Omet’s Twin Cut variable format die cutting unit first developed for the bigger Varyflex press. This allows different die cut repeats to be achieved without replacing the magnetic cylinder. The two die cutting cylinders rotate at a constant speed, accelerating and decelerating in the rest phase.

The press was demonstrated switching between jobs with 15in and 12in repeat in just eight minutes.

**Presentations**
The Open Day concluded with a series of presentations from Omet and its supplier partners, who included Sun Chemical Group, AVT, ExxonMobil, Kurz, Stora Enso, Asahi, Karlville, Alfatherm, 3M, Zeller + Gmelin, Stork, Rotometrics, Arconverting, Hip-Mitsu, NuMaber and Flint Group.

Omet’s Paolo Grasso looked at the efficiency and cost savings which can be achieved when converting cartons with in-line flexo against conventional sheetfed production. Earlier, delegates had seen a demonstration of a Varyflex FC press with Omet’s new servo-controlled sheeter. With a maximum speed of 12,000 sheets/hour, this unit can cut any size of sheet without changing cutting cylinders. The press was also fitted with a HoloFoil King in line production unit, insetting multiple rows of registered holograms.

Grasso said that in-line flexo presses are best suited for shorter runs of complex pharma and cosmetics cartons which require multiple decoration technologies such as screen and hot stamping.

Grasso also looked at Omet’s successful experience in setting up a flexo standards project with Japanese plate manufacturer Asahi, discussed in more detail by Asahi’s Adrea Belloli.

The two companies have designed a standard procedure which defines all parameters that influence flexo printing, including machine, plate, inks, and anilox. Asahi Photoproducts’ Graphic Arts Center in Brussels, Belgium, has designed a printing test which combines color images specifically retouched and separated for flexo printing. These images and technical elements are measured using spectrophotometry and color management techniques rather than densitometers.

Asahi’s AFP DSH 1.14 digital printing plates were produced in a controlled environment at the Brussels Graphic Arts Centre, and shipped to Omet’s Lecco factory for use on a Varyflex line, using Sun Chemical inks and a Burgo paper substrate.

Additional trials have been set up to assess any deviations when the settings are modified.
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  Spent ribbons carry all printed information with them. This is a serious issue for operations that must comply with privacy regulations. With Ribbonless Thermal, there’s no such problem.

**About Appleton**

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

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

**It’s Easy to Switch to Ribbonless Thermal**

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

**In most cases the change simply involves:**

1. Removing the thermal transfer ribbon and label stock, and then installing Direct Thermal stock.
2. Changing the printer and/or software setting to Direct Thermal.
3. Printing Direct Thermal labels.
“The question becomes how to measure and control quality, which is missing now from too many label printers. Too often a job is simply not repeatable.”

The printed samples were analysed in Brussels and standard measures established for print characteristics like dot gain curves, ink density, and tonal contrasts, generating a color profile of the press.

According to Andrea Belloli, the result has been exceptional printing quality. ‘We saw low dot gain, fine highlights with first print dots at four percent, open screen reverse up to 96 percent, wide tonal range, high contrast and a very broad color gamut.’

Asahi is currently carrying out comparative studies with gravure, flexo and offset.

Paolo Grasso concluded that optimum results require label converters to change their culture. ‘The question becomes how to measure and control quality, which is missing now from too many label printers. Too often a job is simply not repeatable.’

An important theme of the rest of the afternoon’s presentations was shrink sleeves. Karlville looked at the shrink sleeve label workflow and announced a project with BST to inspect at 5,000 pixel resolution, while Italian film specialist Alfatherm looked at the rapid growth of the shrink sleeve label market worldwide, noting that 45 percent of its shrink sleeve output now goes to narrow web printing. The company confirmed that PVC remains the most popular material globally, and is aiming to achieve a 72 percent shrinkage – quite a challenge for the ink manufacturers.

Zeller & Gmellin looked at the requirements for shrink sleeve inks, pointing out that while solvent-based flexo and gravure inks allow PVC and PET to be printed without any pre-treatment, UV flexo and offset inks definitely require in-line corona or flame treatment.

Kurz gave a presentation on brand protection strategies using Optically Variable Devices (OVDs), and looked at where cold foil should – and should not – be used. The company also made an interesting presentation on in-line sheetfed cold foil application, which involves printing an oxidative-drying offset adhesive using a standard plate, laminating the cold foil at the next print station then releasing the carrier. No curing system is necessary.

The advantages verses off-line hot stamping include no tooling costs, high speeds, no register problems, good overprintability and no deformation of the printed material. Against this must be weighed no foil saving and less gloss, while the process is not yet suitable for non-absorbent materials such as labeling films.

Stork gave a presentation on direct laser engraving (DLE) technology, a technology which Omet’s Paolo Grasso sees as the long term future for flexo. ‘Then there is no problem with non-square mounted plates.’
The Xeikon 330 is a web-fed label press that offers you quicker turnaround, greater flexibility and shorter runs for narrow-format digital label printing. Thanks to its unsurpassed quality and flexibility, it guarantees truly simple planning and a short time to market – ideal for just-in-time label printing. In short, the Xeikon 330 will change your business without changing your workflow.

Olympus Labels Ltd
Olympus Labels Ltd was formed in 1993. Today it extends to 20,000 sq ft and employs 32 people. It has an annual sales capacity in excess of £4 million. The capital investment in the Xeikon 330 has allowed the company to target areas and further enhance customer services, offering a one stop shop with regards to small run quantity or test marketing, up to bulk run roll out quantities for supply chain replenishment.

Olympus House – West Yorkshire – UK

‘A steadily growing demand for shorter runs over different versions, and lots of repeat orders. These were requests from our customers that we were trying to handle on our conventional flexo workflow. We either did something about it, or the customers needs would not be met. We felt it was now or never. So we opted for the best in the market and purchased a Xeikon 330. In next to no time we were offering them the speed, flexibility and quality they needed in a timed and targeted way.’

Steve Cartwright, Olympus Labels Ltd.
Ten digital years

Simpson Label installed the first digital press in the UK – and only the fourth in the world – ten years ago. Company MD David Hedley tells Mike Fairley that it was worth the risk.

Midway through the Nineties, demand for quicker delivery, shorter print runs and multi-variants was beginning to seriously challenge the label printing sector. But even though digital printing had already become common in the office and quick-print markets, manufacturers had barely given a thought to developing commercial printing markets.

However, it was about this time that one of Scotland’s long established dedicated label printing firms – Simpson Label Company – who were formed in Edinburgh back in 1858, met up with Nilpeter and Xeikon who were at that time working in conjunction with Agfa to explore the possibility of building a digital label printing press to meet anticipated demand from specialists. In parallel, Simpsons were also facing requests from a number of clients who were seeking ever shorter runs, more speedy turn-arounds and multi-variant printing for increasingly specialist consumer markets.

The result was the installation at Simpsons of a Nilpeter DL3300 digital label press with a Xeikon simplex print unit as a beta-test site in mid 1997. This was the first custom-built digital label press to be installed in the UK and only the fourth in the world and was commissioned with in-line converting and finishing equipment to provide a one-pass solution.

During a visit to the company by Labels & Labeling that year is was explained that the new technology had enabled Simpsons to meet demand from a large number of customers, from distillers and cosmetics firms through to drinks and other clients seeking the bespoke benefits of digital label printing. Work included new product launches, product redesigns, market testing and label mock-ups, with one initial job having over 30 variants produced at less than the conventional origination price.

Today, ten years on, Simpson’s MD David Hedley again picks up the story. ‘The original installation and marketing of the digital press at that time represented the biggest challenge we had faced for many years. This challenge was spread throughout the whole company in pre-press, production and sales and marketing. No aspect of the business remained untouched by this digital revolution. This also applied to our customers, where we needed to educate them to be able to exploit the possibilities of such a radical new process.

‘As pioneers of digital label printing, inevitably, we did have to spend time on some fine tuning, but our investment has been such a success that we have invested in a second Xeikon machine. This machine gives us higher volumes, even better quality, faster turnarounds, much improved flexibility and sampling opportunities with origination virtually eradicated. As a result, demand has accelerated again.’

Hedley also revealed to Labels & Labeling that the contribution from his digital label printing operation now accounts for more 15 percent of his company’s annual sales.

‘We have developed a very diverse market outside of the quality foods sector for digitally produced labels from agrichemicals to outdoor equipment,’ continued Hedley. ‘For example, we were recently asked for 600 different types in batches of 1,000 labels for a major agribusiness. In addition, we also have a major health foods client, who demands substantial volumes of customised label printing. Importantly, these new markets have recognised the operational flexibility that multi-variant short run self adhesive label printing can provide.’

‘The digital revolution has undoubtedly been an unqualified success for us, both financially and operationally – and via our Dutch parent NSD we have now made very good progress in growing a number of markets, which extend throughout Europe. It is also possible that Simpsons, in conjunction with NSD, will be instrumental in the installation of the first digital label printing facility in Eastern Europe and that digital markets further afield will be included in the future.’

While many converters have watched and waited before investing in digital label printing technology, Simpson Label Company have been one of the real pioneers of the process from its earliest beginnings. A pioneering company that can really claim to one of the true innovators in the world of labels.
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The debate over digital label printing is increasingly framed by the cut-off point between digital and conventional print. But there is another market niche – the ‘micro-run’ – which is not effectively covered by the more complex digital print systems, and this has opened up opportunities for multi-color thermal transfer systems with integrated cutters. It is the finishing which is key here. Although it is perfectly feasible to print 12 labels on a Xeikon or HP Indigo, you must allow time for changing a conventional magnetic die for each new label shape on the downstream converting system. With integrated cutting systems – using a cutting stylus driven by a plotter to make a kiss cut, die cut or even a back slit – individual cut and print can be programmed for each repeat.

Cutting on a thermal system is as easy as adjusting the blade depth, sending a vector from PC to plotter, registering the cutter to a mark on the printed roll and hitting ‘start’. This gives the ability to offer custom kiss-cuts with almost no overhead.

Digital thermal transfer printing uses thin polyester film coated with a resin, resin/wax, or wax based carrier that is saturated with color pigment. This film and ink combination, called a ribbon or foil, is brought into contact with a substrate such as vinyl or polyester via a thermal print head. The pigment is then fused into the material where required in either a dot pattern or solid color. It is a dry process that produces no out-gassing or odor. In addition to process colors, hundreds of spot colors are available, giving the user the ability to match most PMS colors and many unique colors that can’t be matched on a traditional press.

Because there are no variables in the ribbon/foil process, the converter can run multiple prototypes for approval, and rely on the color consistency of subsequent impressions.

The key to the profitable micro run is controlling production time and labor – knowing how to set up jobs for these presses and telling customers how to submit them. Consumable costs are flat and based on linear usage, and one trained prepress employee can essentially run the entire process in a single room. Additionally, since the jobs are short by nature with no warm-up or make-ready, they can be closed and billed immediately. Integrated thermal print/cut systems can cost anything from $35K-150K, with air pressure required for higher end systems.

A limitation of thermal printing is the fixed resolution of the print heads, up to a maximum of 1600x400 dpi, so the question is whether customers will trade quality for savings and turn-around. Thus making money from micro runs depends on ‘Speed and savings’ in the words of Jeff Duran, marketing manager, Graphic Marking Systems: ‘With a good estimating program, you can easily decide which jobs will be profitable in the micro run and which should go to traditional processes.’

Certainly ribbons/foils are more expensive than liquid inks and toners, which raises the cost per label. Duran comments: ‘Is there a difference between $2.10 an item and $1.10? Sure. If you’re doing 10,000 pieces, that’s a big difference, but what if you’re doing 100 pieces? If you focus on the cost per label, then you are looking in the wrong place. There are no make-ready, clean up, or die costs. Looking at the profit per hour is the right way to examine the cost savings of these systems.’

It should also be pointed out that inks require an infrastructure to use. With the thermal transfer process there is no odor, recovery process, or clean up.

To accurately determine which process is most cost effective, you need to know how many linear feet of material are required for the job, and, critically, if the job entails a special cut shape that will require a die.

Profiting from micro-runs: The growth of the ‘Micro-run’ is opening up a niche for color thermal transfer printing systems with built in cutting. Andy Thomas reports on this often neglected technology option.
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Digital coater

Full details have been released of the specifications of the Rotoworx semi-rotary digital UV coater/ converter, which integrates the PAT digital UV coating system. The True Digital Coating Module (TDC) UV coating engine requires only a graphic file to drive the plateless, non-contact process. Digitally controlled gloss levels, multiple gloss levels on a single pass, digitally controlled coating thicknesses and precision registration are now possible, says the manufacturer. The unit incorporates the Captivair fume capture system. In addition to the inkjet coating system, the Anilox Roller Coating Module is PAT’s anilox flood coating system, incorporating an enclosed doctor blade and tool-less quick-change roller system. The Rotoworx also features a magnetic die with motorized registration control. The patent pending Isotension system isolates the tension between each serial operation making independent tension control possible for optimal performance for each module and easy set-up every time.

The unit is available in 330mm or 508mm web widths with 762 mm unwind with web guide and splice table. It operates at up to 76 meters/min in rotary mode or 40 meters/min in semi-rotary mode, although digital UV coating slows the Rotoworx to 24 meters/minute.

HP Indigo launches UV coater

HP Indigo has launched a UV Coater – the company’s first digital press finishing device. It is described as a ‘near-line, user-friendly device able to support multiple HP Indigo presses’, and is designed to protect printed materials against damage from finishing or mailing systems, while adding gloss, matte and satin UV finishes.

The company has also launched a range of new digital front end (DFE) solutions, including Version 1.2 of the HP Indigo Production Stream Server, Powered by Creo; Version 1.1 of the HP Indigo Production Manager DFE, and connectivity to Screen Trueflow print workflow systems.

Thermal print and cut

Matan has launched its latest Spri3 G3 multi-color thermal transfer printer. Print width is 12" (30 Cm) and speed up to 885 feet/minute using six spot or process colors. It is possible to print one spot color over another for an additional 600+ colors. Foil stamp, metallic gold and silver foils, opaque white and double bump blacks are also available. Print resolution is 1600x400, and on process color work, the Spri3 can hold a five percent dot at a 120 line screen.

Lower resolutions are selectable, allowing faster print speeds. For example, simple safety labels may be printed at 400x200 at 177 linear inches per minute (14.75 feet/minute, 885 feet/hour). The Spri3 comes with an updated print head controller and software that allows the user to adjust the energy going to each of the 6 print stations independently.

The complete system cost is $120,000, which includes press, chiller and Digital Finishing System for die-cutting.

Also now available is the Gerber Edge FX multi-color thermal print/cut system, with a print width of 11.8” (30 Cm) and speed up to 60 in/minute per color. The small system footprint occupies less than 6’ of table space for the total print and cut setup and the complete system costs $35,000 including printer, digital die-cut plotter, GMS rewinders and training.

EFI confirms Aquaflex-Jetrix partnership

EFI, which recently acquired Jetrix’s industrial inkjet products and services from Flint, has confirmed its continued partnership with Aquaflex.

Under the agreement, the two companies will co-design mounts and other critical components to optimize Jetrix’s 3025 printing system for use on Aquaflex’s line of flexo presses, including the new ELS Servo press.

‘Our investment and focus on digital printing marries nicely with the innovative print offerings from Aquaflex,’ commented Kenneth Stack, president of Jetrix. ‘We fully expect that Aquaflex, with their in-depth knowledge of real world variable data applications, will help influence the design of future inkjet systems.’

Mac Rosenbaum, Aquaflex vice president, says that converters currently using its Argio units will benefit immediately. ‘This partnership gives our Argio customers a clear upgrade path with a well-respected, state-of-the-art digital technology platform. It will offer users a level of flexibility they haven’t experienced before.’

The Jetrix digital printers offer widths from 2.4 to 14.4 inches and speeds up to 400 fpm. The are available with UV and solvent inks and print at resolutions of up to 526x316 dpi. The Windows-based controller is capable of read and print applications and is compatible with any type of flat file, such as .bmp., .tif., .pdf.
Finishing unit for digital pharma labels
AB Graphic International has launched a unit designed to convert digitally printed webs of pharmaceutical labels produced on the HP Indigo 4500 digital print engine.

The Omega Digipharma line is based on the company’s popular Omega Digicon brand and is aimed at pharmaceutical label production where accuracy and high quality are critical. Designed for converting, slitting and rewinding of labels up to 330mm (13”) the line is integrated with the flyeVision system, which enables 100% print face inspection capabilities. When a flaw is detected, the machine slows down and the web stops with the defective image in a predefined position. Any further errors occurring in this production phase are stored in a memory back-up. As soon as the defective image has reached the stop position, it is displayed on screen for correction by the operator. A detected error will then result in the web being gathered back into the festoon system where the error is positioned upon the inspection table for rectification.

Tony Bell, sales director said: ‘label production for the pharmaceutical industry is one of the most challenging and difficult markets to serve. The printer or converter often has to include variable graphics such as bar codes, manufacturing and expiry dates, local languages, lot numbers, country of origin, contact details, dosage and batch tracing.’

A full range of options is available for the Digipharma that include hot foil stamping, varnishing, die cutting and slitting and rewinding capabilities. An optional UV, flexographic print station can also be supplied that permits varnishing, wet laminating or cold foiling. Other options include self-wound over laminating, super-varnishing, infeed nip modules, unwind for off-line use, daylight correction system and guillotine sheeter.

Domino’s K-Series inkjet system
Domino has added fully integrated slim-line UV drying system with advanced temperature control to its K-Series inkjet system – specifically designed for labeling and narrow web applications.

The K-Series uses drop-on-demand technology and is built to be integrated into single-pass production lines.

The flagship K200 provides 316dpi printing at 90m/minute, with the ability to stack multiple print heads together.

The K Series, handles spot colors and is offered with Domino’s CMYK UV inks. The Editor GT controller technology operates on a Windows XP platform and is capable of networking up to eight K200 or sixteen K100 print-heads.

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When you're a leading label converter, the only standards you can exceed are your own. That's what Mark Andy has done with the new XP5000. The touch screen and ergonomic design make it much more intuitive and easier to run. Dozens of other innovations, such as the Power of Servo, combine to make it run faster and smoother. You'll feel the difference immediately. When the job is done in record time, producing consistent quality and minimal waste, you'll see it too.

Byron Bievenue
Senior Manufacturing Engineer

XP5000    LP3000    4150    2200    830    Rewinders    Plate Mounters

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Atlanta, Georgia-based DeGrava Systems offers digital capability that’s sweeter – to its customers – than the state’s native peaches and cream. The new toner-based digital DP 8500 can support up to a 24 inch outer diameter roll of substrate from three inches to 8.3 inches wide – and handle a wide range of tag and pressure sensitive media. A 12 inch outer diameter rewinder supports the finished media. The entire digital printer weighs less than 350 pounds and is smaller than a golf cart.

The DP 8500 is built around the proven OKI LED engine. Print quality has tested best with a laser coated material, but it also prints well on uncoated and thermal transfer materials. ‘We have only just scratched the surface on what substrates can be used with the machine,’ says Tre’ Alverson, manager of software development and research. Tre’ is in charge of testing new substrates to offer printers even more solutions and versatility.

Onyx is the company’s partner for its DeGrava Color Pro management Rip software, offering superior color management. ‘We chose Onyx,’ says Alverson, ‘because of the ease of use, the control and the capabilities of color available with the system.’ The software has an extensive built-in pantone library, and it is possible to easily and quickly change the intensity of the spectrum. A built-in spectrophotometer allows a user to scan a color into the system to consistently print brand and custom colors.

Printers or product producers who need to complete ultra short runs of prime labels and tags, will find an interesting solution with this little printer. DeGrava feels the beauty of the DP 8500 product is its versatility at a low cost. There is no technical training necessary and maintenance is as easy as a twenty-minute daily cleaning.

Converters can use the DP 8500 to break into the digital market, producing high-quality, digital product without high initial capital outlay. Variable data printing is another viable use for the DP 8500. Printers can accommodate a variety of their customers’ requests such as direct mail orders, serial packages and prizes.

Branding the gap

DeGrava Systems help printers bridge the gap between conventional and digital Danielle Jerschefske reports

Advanced Barcode has increased customer volume with the DeGrava printer

Mike Bertolani, Advance Barcode and Label general manager, Richard Davey, COO, with DP 8500
Richard Davey, COO of Advanced Barcode and Label, also located in Atlanta, is extremely pleased with his DP 8500. Before the DP 8500, Davey says the company had to turn jobs away because there was no profitable means to finish short run requests. Now, Advanced Barcode has increased its customer volume. ‘We do various kinds of work on the printer, mostly runs under 2,500. There are quite a few local people creating new food stuffs. We have been printing very short orders for their trial spices with countless flavors. We have all been very pleased with the final label,’ Davey says.

His company’s added success translates back to the valuable relationship he has with DeGrava. ‘They have been great,’ he says. ‘DeGrava recently improved its cutter which makes the machine run even smoother – we are very excited about it. We are extremely happy with the product and are thinking of possibly investing in another.’

At Allied Label, also located in the peach state, Duane Brayton, president, and Leigh Anne Warlick, customer relations, have been using their digital DP 8500 to complete high volumes of orders for personalized labels for various applications. A great example of one of these applications is a recent order made by a young couple for 400 water bottle labels. Bo and Lindsay had their names and wedding date printed with matching colors used for the celebration day to give to their thirsty guests.

Customer interest has grown considerably since they have been able to offer them digital print capabilities. ‘Most of our customers didn’t realize what was possible. And now, it is amazing how many are so pleased to hear about our quick, high quality, short run capability. Custom digital labels have become very popular for us now that we have the DeGrava,’ Duane tells L&L. Allied Label prints the media first and then completes the finishing process afterwards on other equipment.

“A recent order was made for 400 water bottle labels. Bo and Lindsay had their names and wedding date printed with matching colors used for the celebration day to give to their thirsty guests”

Users’ thoughts

Company values

The new CEO, Mike Bertolani, brings forty years’ experience to the company and is very thrilled to be paving the way. Bertolani knows that respecting customers is a valuable characteristic of a company. He takes pride in providing superior customer service. ‘We want to really cater to our customers’ needs by paying attention to them and listening to what they have to say. It is very important to us that we maintain close relationships with our customers long after the product is delivered,’ says Bertolani.

The company offers customer service related support and provides graphic support to system operators. With personalization and customization becoming ever more popular in the marketplace, short runs have become quite a common request. Digital is less expensive for this. ‘Printers need to begin to look at the point where it is more cost effective to print digitally,’ Bertolani says. ‘With the cost of a digital label, for one, five, ten labels on the DP 8500 continually coming down, a digital job will cost less for a shorter run than one completed on a conventional press. In the end, there is no way to justify producing certain jobs on anything but a digital machine like the DP 8500.’

At this time, not many printers have any digital customers. In order to increase profits, revenues and retain customers requesting variable orders, cost saving options must be considered. ‘Printers can sell to marketing teams who want to run trials and special editions,’ Bertolani explains. ‘Eventually an entirely new market opens up with more possibilities to increase the bottom line.

As technology continues to develop, and the capital equipment and operating costs continue to decrease, digital printing is emerging as a way to stay at the forefront of the industry as a range of product companies demand more tailored, custom-made labels.”
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Fast response

Danielle Jerschefske attends an open house at Digital Print to look at the company’s latest thermal inkjet digital printing system.

Jack Farr, president of Digital Print Inc. in Ft. Worth, Texas, uses the four letter f-word both on the track and off (no not that one; the one that helps build a thriving business, FAST). He thinks the f-word is quite apropos for his country club-like racetrack and his variable data printing systems that now reach speeds up to 850 feet per minute. ‘Here at our facility at the MotorSport Ranch, we print fast and drive fast,’ he says.

Farr started his digital printing company back in 1986 when Microsoft was barely a twinkle in Mr Gate’s eye, back when it took a knowledgeable software engineer to complete simple numbering jobs for any high speed system. It was back then that Farr realized, through his computer programming experience, that there was a problem to be solved. ‘I knew there must be an easier way to set up and run a fast, variable data printing system,’ Farr says. ‘I just bootstrapped the company from nothing; it all started in the third bedroom of my house. By 1991 we had bought a large, old dance club to use as our shop. It needed to be gutted as it still had disco balls inside. We stayed there until a fire in 2004 and then finally moved out here to the Ranch.’

Both Farr and his general manager, Bryan Bell, get to know their printing customers and prospectives quickly. At the March Open House, we wanted to celebrate DPI’s 20 years with our primary manufacturers, existing customers and potential ones. We also had the new HP TJJ series to show people. Afterwards, the group entrusted their lives to Jack and I behind the wheel driving at 100 miles per hour on the track. After that, one feels a little bit better about closing a deal on a piece of printing equipment,’ recall Bell and Farr with a laugh.

The Digital Print system was developed by Farr to allow non-technical people to run an electronic print system. Continued development of different kinds of barcodes and sizes eventually led to high speed word wrapping. ‘At the time, it was very high tech,’ explains Farr. ‘It was way ahead of its time.’ The original EBI (electron beam imaging) system DPI started with moved 1-200 feet per minute at 240 dots per inch. Now, the new TJJ system series (thermal inkjet) prints variable data including numbers, barcodes and text at speeds up to 850 feet per minute at up to 600 dots per inch.

Many printers want to have a big customer closed before they invest in a system. DPI thinks that is a classic chicken or the egg scenario. What really comes first, the capability or the customers? Current DPI users have had jobs fly into their shops like crazy once they tell their customers what they are capable of. ‘Everyone wants some personalization in printing. Variable data capability gives an emerging value to commercial printing. It is the greatest way for a printer to add profit and value in house,’ explains Bell.

DPI distinguishes itself by listening to its customers carefully and tailoring solutions to fit their applications and needs. Strong support from DPI’s printhead OEMs Spectra Dimatix, HP, Inc., jet, Kodak/Scitex and Delphax gives the manufacturer the gas to fuel its users’ engines around the globe. These tailored systems offer printers more flexibility and modularity. ‘The system is an open system and, therefore, will do what you need it to do,’ says Bell.

People go to DPI for the special technology and advanced programming the company has to offer. Software can be developed quickly for new customer innovations. For example, some DPI users print promotional gaming tickets, lottery tickets and such. The company has software designed especially for this. ‘We are print technology agnostic,’ says Farr. ‘We have a bigger toy box and systems to utilize in order to meet printers’ needs. We fit the right variable print technology to the customer’s needs.’
Digital commitment from Geostick

Dutch converter Geostick reiterated its commitment to digital printing with HP Indigo at a recent press event in the Netherlands. James Quirk reports

Journalists from around Europe gathered at the factory of Uithoorn-based Dutch converter Geostick for a press event organized by HP Indigo.

Geostick managing director and owner Peter Berveling used the event to underline his commitment to digital printing with HP Indigo, announcing that the converter planned to purchase five more HP digital presses to add to the three it already runs.

Geostick, founded by Berveling’s grandfather in 1924, became Holland’s first self adhesive label manufacturer in 1946, and now serves the food, beverage, pharmaceutical, and chemical sectors. Eighty percent of the company’s business is in labels, with the remainder made up by application systems and thermal transfer printers and ribbons. As well as its digital presses, Geostick runs a fleet of 11 flexo machines.

In 2004, it was the first company in Europe to install an HP ws 4050. A second was purchased less than a year later, and in July 2006 Geostick bought a ws 4500. The three digital presses are complemented by Esko prepress software and two Digicon finishing lines from AB Graphic.

‘I am impressed with HP,’ said Berveling. ‘I have visited Indigo in Israel and have seen the plans it has for this technology. Our future is digital, and with HP Indigo. There are opportunities in the market that you can’t grab with conventional printing.’

Geostick’s factory is currently being expanded, and Berveling revealed plans to create a digital printing area that will house a total of eight presses.

In the canteen at Geostick’s premises – an exact replica of an Irish pub thanks to input from his Irish wife – Berveling told journalists of the advantages of digital printing.

He cited shorter lead times, reduction in start-up waste, and the saving on film and plate costs as benefits of the process. He told how just two of his operators – trained by HP – could run all three digital presses in two shifts.

Berveling also noted that his customers are increasingly impressed with the quality his digital presses are producing.
Products News

RITRAMA’S NEW INDIGO RANGE
The increasing need to make short economic runs has forced the label printer to look for new solutions and digital printing is one answer to this. With their new range, Ritrama can meet the demands of the market. The range features a selection of both paper and filmic materials all with excellent printability.

WINE LABEL RANGE
Ritrama have enhanced their Wine Label Range with new interesting alternatives. The range consists of different kinds of wet strength papers (matt, glossy embossed etc.).

DURABLE PRODUCT RANGE
The Ritrama Group has rationalized the product portfolio in order to satisfy customer needs. The Durable product range is specially designed for the automotive industry and electronic or household appliances. The Durable range guarantees the same lifespan of the label as the object to which it is applied, to ensure that the printed information will be always readable.

CLEARFLEX
The Clear Solution from Ritrama is a new concept in clear labelling: Clearflex combines the squeezzability of PE films with the clarity of PP films. Clearflex is a 50utm glossy squeezeable bioriented clear polypropylene suitable for flexible containers in the Health & Beauty care field and for “No Label Look” applications.

Events & News

Since January 2006 Ritrama has moved its corporate head quarters into Caponago (Mg). The facility comprises a NEW slitting, logistic and R&D centre. This distribution hub operates by a fully automated warehouse and robotized packaging system sitting on demand for customers across Europe.

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‘Some of our customers will come to us with jobs that are larger than usual for digital, but they say they’ll pay more to do it with digital because of the quality.’

Geostick employs 95 people and produces 16 million square meters of label each year, half a million of which are printed digitally. Eleven percent of the company’s turnover is currently from digital printing.

Context and future plans

During the event, staff from HP gave attendees an insight into some of the company’s future plans, as well as outlining the current state of digital printing around the world.

Enric Martinez, industrial business manager, EMEA, told how digital has become a mainstream print process in the last few years: ‘There has been a 500 percent increase in labels produced on HP digital presses in the last five years,’ he said.

He told of the importance of differentiation in an increasingly competitive marketplace, citing as an example that hundreds of varieties exist within areas such as shampoo.

‘If you buy a digital press only to print labels,’ he said, ‘you are only using it to 50 percent capacity – it’s a whole business solution.’

Global marketing manager Riki Tzirin announced that HP would have a stand of 500 meters squared at Labelexpo Europe 2007 in Brussels. She said that the company’s key areas of focus would be labels and shrink sleeves, flexible packaging, and the pharmaceutical sector.

Key announcements at the show are set to include a VDP option for the Esko Scope Pack for the ws 4500 press and a new flexible packaging solution for end-to-end operations. The company will also launch HP IndiChome+ – an on-press gamut system for labels and packaging, using CMYK as well as Pantone-approved orange, violet and green.

Customer panel session

Four of HP’s customers took part in a Q&A panel session to discuss the benefits their companies had received since purchasing digital presses. Cees Schouten, Geostick’s plant manager, José Manuel Gil of Spanish converter Apesa, Keld Thorsen of Sweden based Straflors, and Isidore Leiser of Stratus all participated.

‘I was not a believer in digital,’ admitted Geostick’s Schouten. ‘But its ability to produce short runs and deliver profit means that it has been good for us. You can take less profit per job, because you can do ten jobs in a day.’

José Manuel Gil of Apesa reported that 25 percent of the company’s turnover is now from digital. ‘A great advantage is that we used to use another company for variable data printing, but now we can do it ourselves. In the pharmaceutical sector VDP is often necessary – digital is the only way you can do it and still be profitable,’ he said.

This sentiment was echoed by Isidore Leiser of Stratus, who also cited the desire to offer ‘a full service of labels and flexible packaging’ to his customers as a key motivation behind the decision to move into digital printing. ‘Digital offers great promotional opportunities,’ he added.

Keld Thorsen of Straflors, which purchased three HP digital presses at the same time, said: ‘Sometimes a customer wants to see a real proof, not just a file. This is easy with digital.’

On display at HP’s booth will be the new AB Graphic DigiLam laminator, which is dedicated to HP Indigo applications, while four customers are set to replicate a real day of production live on the stand.

Francois Matin, graphic arts marketing director, told how digital moved into the industrial sector, as opposed to just being present in homes and offices, in 2005. ‘We strongly believe in the co-existence of analogue and digital workflows,’ he emphasized. ‘We want to produce solutions that integrate both.’

He also spoke of the company’s commitment to research and development: ‘Proportionally, HP invests more in printing R&D than in any other area of its business.’

EMEA product manager Danny Dams introduced the audience to some of the new features of the ws 4500 press, including the on-press fast color replacement system, which he said results in virtually no down time when changing colors.
Geostick BV has installed a fully servo-driven Nilpeter FA-4 UV flexo press at its Uithoorn factory, as Adrian Tippetts reports

Geostick BV has installed an 8-color Nilpeter FA-4 UV flexo press, complemented by delamination and relamination facilities, cold-foiling and automatic Turret slitter rewinder. With a top speed of 170 m/min, the FA4 is converting rolls into labels, matrix stripped and ready for application at a rate of almost 5,000 meters per hour.

Self-adhesive labels make up around 80 percent of Geostick’s work, but the non-pressure-sensitive sector is becoming increasingly important, with flexible packaging for pouches one of the fastest growing formats.

Unsupported films pose big challenges for conventional presses, both in terms of material slip at higher speeds, and maintaining register and tension control. The FA-4’s on-board press computer ensures the servo-driven print plate automatically rotates to a pre-determined position, with a +/- 50 µm tolerance, to combat these problems. ‘The FA-4’s servo-power capability makes conversion of the numerous different substrates simplicity itself,’ says plant manager Cees Schouten. ‘Not only does the press run like clockwork, but it achieves the desired tolerances in minimal time – and delivering total quality within 50 meters of the production run. This is also helping us to significantly reduce the material waste burden.’

Chill-drum, positioned at every print-station, ensure constant surface temperature for optimum drying and performance of the thin, heat-sensitive films, and taper tension control on the rewinder ensures uniform tension when printing and converting the trickier film materials.

Calibration is digital and automated. The operator simply keys the parameters into the motherboard, such as plate, repeat size, and material qualities.

Geostick has certainly raised the quality bar with the FA-4. While pre-production work is performed in-house for jobs scheduled on all his other presses, Cees Schouten collaborates with a Belgian repro-house to image the photopolymer plates for this press. Print quality matches that of the HP Indigo digital press, according to Schouten:

‘To illustrate the point, when carrying out an order for a paint manufacturer’s product labels, we were forced to do a 500 meter batch on the Nilpeter, in addition to the usual digital run. My confidence in the press was fully justified – and my client’s initial apprehension was transformed to amazement when we achieved the identical look for the product in question. It shows that, with our Nilpeter FA-4 and HP digital presses complementing each other in this way, we can serve our clients on the highest level, and meet every demand placed on us.’

The press is fully modular, and redundant stations can be prepared for the next job during production. Printing sleeve makeready time, for an eight-color job, normally takes no longer than one hour.

The unit has a 420 mm (16”) web width, somewhat wider than the other presses at the works, and takes repeat sizes up to 609 mm (24”). This gives the printer extra flexibility, and helps further reduce waste. Combining these features with the easy changeovers makes short runs an increasingly viable option. Typically in the 15 hours of production that make up each working day, the FA-4 can expect to carry out three to four jobs.

The infeeding unwinder handles coils with up to 40” diameter. ‘This means we can maintain optimum productivity on the longer jobs too,’ comments Cees Schouten. ‘I can leave a 4,000 meter reel, smoothly printing away, with very little human involvement and no downtime.’

The FA 4’s single operator can split responsibilities between overseeing production, finishing, and packing the finished rolls as they come off the machine into boxes. Matrix waste is funnelled directly from the press through a chute that leads to the disposal skip – to be collected by the local electricity provider, for energy conversion.

Some may argue that slitting and rewinding in-line can slow the production down – yet Cees Schouten and his team have proved that integrating the finishing saves man-hours, and simplifies the workflow, so jobs can be scheduled
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“Integrating the finishing saves man-hours, and simplifies the workflow, so jobs can be scheduled more flexibly.”
much more flexibly. Cees Schouten’s lean manufacturing philosophy applies universally, to all areas of the pre-press and production areas. Ink recipes are prepared swiftly by a gravimetric dispenser, which also calculates press-return inks from previous jobs, significantly reducing ink waste.

The delamination–relamination module included on the FA-4 enables Geostick to strengthen its offering in the growing market for multi-layer peel-and-repeel labels, because of its capacity for reverse-side printing on self-adhesive constructions. The label is split and the adhesive killed, so the graphics can be applied. The adhesive’s performance withstands several reclosures.

Tear-off multi-layer constructions - another application requiring delam-relam technology – are also in-demand from Geostick’s logistics customers.

The Nilpeter FA-4 will be further enhanced with a Drop-In rotary screen cassette. ‘Rotary screen printing capability will significantly strengthen our position in the high-value markets, because we will be able to offer a host of value-added-features. We especially have tactile effects in mind, like Braille warnings, and relief or coarse texture varnishes, which are proven to give graphics extra point-of-sale impact,’ enthuses Cees.

Individual screen units, at about 25 kg light enough to be fitted manually, are simply slotted in and out, replacing the anilox and impression rollers at any flexo station within the main frame of the press. The press’s modular configuration makes it easy to insert either print process in any position desired.

Geostick is also investigating the market for RFID labels – assessing customers’ future needs in this area, and what role it should play.

Exhibition industry recognizes Labelexpo Americas
Labelexpo Americas 2006 has been recognized as one of the top 200 US trade exhibitions by leading exhibition industry magazine “Tradeshow Week”. This specialist exhibition focuses on helping the US and international labeling industry to identify new commercial opportunities in a rapidly expanding global sector. Labelexpo Americas was ranked 139th in the ‘Tradeshow Week 200’ annual directory. The event is organized by Tarsus Group and has been established for 18 years. Labelexpo Americas takes place every two years at the Donald E. Stephens Center in the Rosemont area of Chicago

Martin Automatic strengthens European presence
Martin Automatic, the American manufacturer of splicing, rewinding and tension control systems, has announced moves to further strengthen its European presence. In a move to provide added support to its customers across Europe, David Wright, vice president of Martin Automatic, pointed to a recent personnel appointment at Martin Automatic Europe GmbH, whose office is in Bretzfeld, Germany.

‘Gabrielle Dankwerth has been appointed to the position of contract administrator, making her an important communication link between our European customers and headquarters in Rockford, USA. In addition, Kerry Beard, who joined Martin Automatic at the beginning of 2007, and is based in our US headquarters, speaks fluent German. His role is to provide internal support for the European sales team,’ he explained.

Wright added that Martin Automatic already has a sales manager serving customers in Scandinavia, as well as experienced regional sales managers based in the UK and in Spain.

Weber closes plant to strengthen Chicago facility
Weber Marking made the decision to close its printing facility in Tampa, Florida earlier this year because it made ‘economic sense’. According to president Dennis McGrath, 12 of the 55 employees working in the Florida plant moved to Chicago to continue their career with the company. Most of the printing completed in the plant was sent outside of the state and it was in Weber’s best interests to consolidate. ‘We were running only one shift on 10 Mark Andy presses. There was economic justification in moving those presses north to our Chicago facility for a combined total of 40 Mark Andy presses, 380 employees and two shifts,’ McGrath said.

Weber Marking will celebrate their 75th anniversary later this year.
RotaPlate - the reliable, low-overhead rotary screen for non-Stork systems

The future of narrow-web rotary screen printing is non-woven, whatever unit you’re using. Users of non-Stork rotary screen systems finally have a screen material that will bring long-term consumables cost savings and improved performance: RotaPlate. Its electroformed, pure-nickel, hexagonally holed construction offers greater strength and stability, to withstand the rigours of higher-speed printing and handling. Even at 50 metres a minute, back-up screens and line breakages are a thing of the past. What’s more, you’ll be able to use the same screen for as many as five repeat print runs. Our customers are experiencing RotaPlate lifespans of up to 100,000 web metres. Isn’t it time you enjoyed similar reductions to your bottom line?

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Brazil is increasingly important as a center of investment and expansion in the label industry in Latin America. This was demonstrated by the 641 attendees at the Label Summit Latin America, sponsored by L&L and held in São Paolo. Most visitors were Brazilian converters, but many came from throughout Latin America and from as far afield as Europe. The country’s status was further demonstrated by the announcement from Nilpeter and Gidue that they will manufacture narrow web flexo presses in Brazil.

Nilpeter will manufacture its FB press line, with almost all components manufactured in Brazil, and just the machine control elements supplied from Denmark. Gidue has joined up with a local manufacturing partner, Comprint – based in Rio – to manufacture a standard Combat press for the Brazilian market.

The exciting opportunities for growth in this market were examined in the keynote presentation by Christian Simcic, group vice president, Roll Materials, Avery Dennison, who looked at opportunities for growth and the challenges facing pressure-sensitive converters in Latin America. Simcic pointed to the low usage of PS per head in the region as a huge potential for growth, and looked at the ‘low hanging fruit’ where converters have a good chance of moving end users from lower value wet glue, or direct printing, to PS. One of the examples cited by Simcic was beer, where major brewing groups in North America and Europe have made the move into PS to raise the value of their brands. The same demographics and marketing strategies are impacting Latin America.

Javier Palomares, director, Latin America at UPM Raflatac’s Labelstock Business, reinforced the message, looking at fast-
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growing PS opportunities in applications like color-printed variable information labels, expanded-content labels, beverage, medical and personal care markets and how to use labels in conjunction with electronic security systems.

Survey results
At every Global Label Summit and Labelexpo event, the Tarsus group undertakes converter surveys in co-operation with its media partners, and this writer presented the results of this year’s survey.

The most striking finding was that over the last three years, the profitability (operating profits on sales) of Latin American label converters has continued to improve. Latin American label converters are now amongst the most profitable in the world, and far ahead of North American converters, for example.

The 2007 survey revealed that flexo printing is still the most widely used process in Latin America, while UV flexo has been the fastest growing process over the past three years. Digital printing has shown steady growth.

Almost all the companies surveyed converted pressure-sensitive labels, but just one quarter produced glue-applied paper labels. Wrap-around film labels, cut&stack films, in-mold and sleeve labels are all showing good growth, reflecting trends in developed markets.

For the future, RFID and counterfeit deterrence are seen as the major growth opportunities, along with digital printing.

The survey found Latin American converters optimistic about the future. Three quarters of the sample said they were intending to invest in a new press or capital equipment in the next twelve months, and 86 percent plan major investments over the next two years.

There remain significant barriers to growth, however. Converters are worried about the high cost of state-of-the-art technology, while downward pressure on prices is the biggest challenge to growth. Converters find it hard to recruit production personnel and would like to see improved education and training for the label industry.

Three influential label converters – Jeffrey Arippol, managing director, Novelprint, Hercilio Celso Baumgarten, Baumgarten and Luis María García, president of Multilabel Argentina SA and Multilabel do Brasil SA – took part in a panel session looking at these issues.

It was agreed that price pressures are as much of an issue is Latin America as they are in developed markets, but this had not stopped the panelists investing in R&D. In answer to a question from the floor on how the panelists deal with the internal costs of developing new technologies, Jeffrey Arippol said, ‘It can be difficult to recoup the cost if your new product is not exclusive – so we focus on exclusive technology.’ Hercilio Baumgarten was blunt: ‘If you can’t deal with the costs – don’t do it!’

How to train press operators is another major concern of Latin American converters, and there was a discussion about sources of training. Luis María García said ‘In Argentina we have the Gutenberg Foundation; here in Brazil we use ABIEA and SENAL.’

The question was raised of which standards the converters worked to. Arippol said he works to ISO, ‘but ISO is not just a certificate to show your customers – it can really help your processes. We have also started implementing the “5S”.’

For Latin American converters dealing with global end users, the ability to demonstrate quality control standards is critical, and Tom Kerchiss, managing director of RK Print Coat Instruments, and Derk Ruules, international sales manager at IGT Testing Systems, discussed what standard tests are available and what equipment to invest in. There was general agreement that international standards like ISO 9000 are just a starting point for in-house quality control.

Both speakers pointed out that there is a long way to go until flexography can be considered a standardized process in the same way as offset. ‘A valuable function of bodies like FINAT could be to bring together ink manufacturers to agree on common color standards for flexography,’ Kerchiss pointed out.
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).
13. The administration in the US Department of Labor that ensures a safe and healthy workplace (4).
14. The acronym or abbreviation used for primary colors of light (3).
16. A method of reading (scanning) printed text copy with software capable of recognizing and converting the scanned images into an electronic equivalent (3).
17. Original equipment manufacturer (3).
18. Thickness measurement of thin materials used in some countries (3).
19. Material to be printed or converted. Also referred to as the substrate (5).

...you need this book

Labels & Labeling introduces the Encyclopedia of Labels and Label Technology – the first and only book of its kind for the label, product decoration, web printing and converting industry. Written by international labels guru Mike Fairley (with more than 25 years’ experience), the Encyclopedia provides an easy-to-use global reference guide.

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Next up was a panel of international press suppliers representing MPS, Gidue, HP Indigo, Omet and Mark Andy.

There was an interesting debate around the cut-off point between digital and conventional printing. Both sides agreed that digital is increasingly complementing, rather than replacing, conventional printing, allowing converters to move otherwise unprofitable short run work onto their digital presses.

There was a discussion of servo drives, with Mark Andy’s Mike Russell arguing that for basic 4-color PS label jobs it is hard to justify the additional cost of servos.

There was also a discussion of where narrow web offset sits against UV flexography, with the general conclusion that offset has applications in niche areas where end users demand it, particularly in high end toiletries and cosmetics, but that it is unlikely to challenge the dominance of flexo in Latin America as a general printing tool.

Mike Russell also had an interesting perspective on UV verses water-based flexography, arguing from Mark Andy’s North American experience that just as high quality work is possible with water-base.

New markets

Shrink sleeves are growing fast in Brazil and across Latin America – albeit from a low base – and Dr Seamus Lafferty, president of Stanford Products, looked at the global geography of the shrink sleeve label market and the growing importance of investments now taking place in Latin America.

The development of the shrink sleeve sector has followed the classical ‘S’ growth curve well known to economists. It starts slowly, then accelerates rapidly and tapers off when the sector is mature. Japan is at the top of the curve – very little growth but large volumes of high quality shrink sleeve labels – and Latin America is accelerating up the initial, explosive, growth curve. Useage of more expensive materials is a good indication of market maturity and potential: Japan uses virtually no PVC, for example, while in Latin America PVC is

Exhibitors happy with record numbers

Exhibitors at Label Summit Latin America enjoyed the record numbers of visitors to the event, writes James Quirk.

‘The Gold Sponsor of the event was Avery Dennison – a company with a rich history of supporting educational events in Latin America. Present in the region for nearly 40 years, Avery counts on manufacturing sites in Medellin, Colombia; San Luis, Argentina; and Vinhedo, Brazil, as well as distribution centers in Argentina, Chile and Southern Brazil.

‘I am very excited to have met many of our customers from various countries. This helped me get a deeper feeling of our current industry dynamics,’ said Angelo Depietri, vice president and general manager of Avery Dennison, Materials and Office Products South America.

‘We talked extensively about new projects and challenges. I left the event with a very positive image about this exciting moment. Our customers are committed to maximizing the momentum of the industry in Latin America, and of course, Avery Dennison will be there to support them,’ continued Depietri.

Other sponsors of the event included Degussa, HP and UPM Raflatac (Silver), and BASF (Bronze). ‘We’ve had some very solid leads from the Summit,’ said Eduardo Gonzalez, segment manager for release coatings, Americas, for Degussa, ‘and for us that is what it’s all about.’

‘The Label Summits have grown into events that are on everyone’s calendars,’ said Jon Guy of Gallus. ‘It’s a great opportunity to meet a concentration of visitors: it’s a meeting of the industry.’

‘We have had over 50 leads so we are thrilled to have been here,’ said Barb Warnbold of Apple Die. ‘The event was very well attended and well organized.’

‘This is our first time at the Summit in Brazil,’ said Bibiana Rodriguez of Rotatk. ‘We decided to come because we had a good experience at Label Summit India. The economy in South America is improving and it is an important market for us. We have seen many new customers who are interested in our combination presses.’

Joachim Komus, president of German company cab Technology, also reported ‘good leads and interest’. ‘We want to grow in the Latin American market and during the Summit we have talked to a lot of resellers. We hope to increase our presence here,’ he said.

‘During the Summit we learned a lot about opportunities in the label industry,’ said Mika Uusikartano of UPM-Kymmene.

‘We have had some good leads from Argentina and Paraguay,’ said Tom Kerchiss of RK Print. ‘We may be setting up a distributor in Argentina.’

‘Interest in offset technology for high-quality labels is genuine in Latin America,’ said Pierre Panel of Codimag. ‘Latin American label printers are very knowledgeable about print technology. As Latin American markets are very short-run oriented, it is a very good fit for our intermittent-feed combination printing presses.’
used almost exclusively.

Lafferty looked at the investment and resources required to set up a world-class shrink labels operation, noting the world class-leading investments made recently by Latin American converters.

Jeffrey Arippol, president of Novelprint, made another appearance to present a case study of a promotional label project carried out in conjunction with a major end user, which utilized the integrated materials manufacture, converting and label applicator divisions of his company to great effect. The project involved the rapid delivery of 110 million PS labels, in 76 different product varieties, complete with repositionable food contact adhesives and the ability to apply at over 1,000 labels/minute onto flexible packs.

The labels were printed UV flexo in six colors using non-toxic inks approved by the relevant standards bodies. Novelprint’s new applicator allows speeds up to 1,200 labels/minute, and two machines were used in series to allow non-stop production.

**RFID**

The conference next turned its attention to RFID, with Gerald Steinwasser of Muehlbauer looking at turnkey solutions for RFID smart label production. He advised label converters to be realistic about where RFID labels are being used in the supply chain. Steinwasser looked at the investment required for different machine configurations using wet and dry inlays to manufacture and test RFID smart labels.

Audience concerns and questions about RFID were addressed in a panel discussion involving Daniel Picchi, Roll Materials, Avery Dennison and Jan Svoboda, sales & marketing director, Americas at UPM Raflatac, RFID. In a discussion about global standards, Daniel Picchi pointed out that all the projects Avery is involved with are closed loop systems, so in that sense are not interacting with outside systems where compatibility might be an issue.

Audience questions included whether RFID chips could be affixed to sleeve labels, with the answer that this technology does not yet exist – RFID is only being applied to PS labels, although these can of course be affixed to a sleeve. To a question concerning printing of antennae, Jan Svoboda argued that using etched copper is in fact a much more environmentally friendly process than printing with silver-based inks. Silver is a rare precious metal of course, while copper is one of the most abundant metals on earth.

To questions about how to make money from RFID, there was agreement that label converters must avoid ‘commoditization’, and look to form alliances with the system integrators who specify and sell the overall systems to end users.

An attendee’s experience with RFID in Latin America was given by Reinaldo Villar, RFID program manager at HP’s global inkjet printer distribution operation in Brazil. Villar said the program has been a great success in making HP’s printers visible in the global supply chain.

**Working smarter**

Luís María García, president of Multilabel Argentina and Multilabel do Brasil, made a further appearance at the Summit to discuss the impact of implementing GEW’s UV curing systems on his Kopack letterpress machines. He concluded that running speed has increased from 50 to 75 m/min and downtime reduced by one third, which adds up to a 40 percent increase in productivity and a rapid return on investment.

Responding to interest among Latin American converters in brand protection technologies, Debby Forman, president of The Link Servicos, then looked at the definitions of fraud, falsification, piracy and counterfeiting and how to formulate a brand protection strategy accordingly.

Gallus’ Marcelo Zandomenico looked at Lean Manufacturing from a converter’s perspective, drawing on his company’s experiences implementing its ‘Pitstop’ program at its Swiss manufacturing base. The printing press is seen as the ‘Formula 1 champion’, receiving all necessary tooling, substrates, inking system and job information when ready to start a job, with equipment stored in a dedicated area close to the press.
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Fiber-based materials supplier Ahlstrom recently announced its decision to form a joint venture for specialty paper production with Brazilian cellulose and paper manufacturer Votorantim Celulose e Papel (VCP). The venture will see Ahlstrom bring its global specialty paper expertise to VCP’s operation based in Jacarei in the state of São Paulo. Ahlstrom will hold 60 percent of the shares of the new venture.

Ahlstrom, founded in Finland in 1851, is divided into two main segments: FiberComposites – subdivided into Nonwovens, Glass Nonwoven, and Filtration business areas – and Specialty Papers – made up of Label and Packaging Papers, and Technical Papers business areas. The joint venture with VCP represents the first expansion outside Europe of Ahlstrom’s Label and Packaging Papers business area, which is headquartered in Turin, Italy. It is the final phase of a three-step expansion plan that the company has implemented to grow this area of its business.

Last year Ahlstrom was listed on the Helsinki Stock Exchange, which provided the company with means for expansion. An initial 18 million Euro investment to speed production on the company’s biggest machine, PM8, at its Turin plant was followed by a 30 million Euro investment in its facility in La Gère, France. These investments have added 45,000 tons of manufacturing capacity to the company’s European production.

‘After maximizing the potential of our plants in Europe, the next step had to be to expand outside the continent,’ says Diego Borello, senior vice president of Ahlstrom’s Label and Packaging Papers business area.

VCP’s focus is increasingly on pulp production, which will continue as before. ‘We will come in and run the papermaking with them,’ says Borello. ‘The company already produces specialty papers on the Jacarei machine, so we can add our expertise. It is for us a new concept to integrate specialty paper production into a pulping site.’

As well as a paper machine, the Jacarei mill houses an offline coater and extensive finishing equipment. The Jacarei facility is an integrated pulp and paper mill with a production capacity of 1.1 million tons per year. Ahlstrom and VCP have also negotiated a long-term agreement whereby VCP will supply eucalyptus pulp, utilities and other services to Ahlstrom’s operations at the
Jacarei mill at competitive prices.

'The plant is already very developed,' continues Borello. 'We will not need to bring new machinery, for example. What we will bring is our market knowledge and sales network, and with these we believe we can immediately expand sales around the region. Their philosophy is very similar to ours.'

Borello reports that other regions of the world were considered for the expansion. The company first looked at Asia, which Borello describes as being 'currently very fashionable'.

'Asia has the advantage of cheaper labor costs – but while this is important, it is not a priority,' says Borello. 'For paper making, energy costs are more important. In Latin America fibers are available and energy and raw material supplies are not such an issue as they are and could further become in Asia. The culture barrier was also an issue.'

Lawson’s Filtration business operates a plant in nearby Louveira, which proved to be an important factor in the decision to choose Brazil. The facility was purchased in 1995, and Borello admits that it has helped the transition: 'Our presence in Latin America was the background to the decision to run a plant with VCP,' he says. 'We can integrate resources such as IT and HR, while the infrastructure – energy and water supplies for example – will be shared with VCP pulp production.

'Legislation and politics are more stable in Latin America,' he continues. 'In Brazil, the tax system is complicated, but in Asia new tariffs can be introduced without warning. We have been in Brazil for more than ten years without any problems. It is also an advantage to be present in a dollar market.'

The plant’s location within Brazil is also key: it is 70 kilometers from Santos harbor – important because products exported from Brazil to Argentina and Colombia tend to be shipped as opposed to transported by road – and there is also a railway line nearby. 'The transport infrastructure is perfect,' says Borello.

The joint venture is certainly well-timed; with the label market in Brazil growing at around 15 percent each year. 'Brazil has a massive domestic market, and labeling will be the biggest area for our materials here,' says Borello. 'The plant will also serve the rest of the region, and will allow us to supply a wider dollar market: certainly the USA, and perhaps even complement our current service to the Asian market.

'In the medium term, we hope that the local market will grow to be able to consume all the production from the machine, which has a capacity to produce 110,000 tons of paper per year. After that, increased manufacturing in Asia will become a possibility.'

Ahlstrom currently has a small non-woven plant in China and two sales offices in Shanghai and Guangzhou, with a third planned in Beijing.

'It is easy to say that China is the obvious market in Asia, but if we have good opportunities we will go into a neighboring country,' says Borello.

The Jacarei site in Brazil will become Ahltrom’s second biggest specialty paper factory, after Turin, and the move will result in Ahltrom having a total of 400 employees in the country.

The Turin plant was acquired in 1964, making it the company’s first expansion outside Finland. With 600 employees, it runs two machines producing release liners and three producing filter paper. The factory produces 150,000 tons of release liner products each year, and hosts Ahltrom’s main technical and research and development center for this business.

Ahlstrom is rare in being able to offer products that range from 100 percent natural to 100 percent synthetic, while the company’s longevity in the industry means that some customer relationships have been going for over 100 years. ‘Most of our business comes from repeat orders,’ says Borello. ‘Our communication with customers is very direct.’

In May 2005, Ahlstrom teamed up with BASF to organize a conference in São Paulo about pressure sensitive materials. The company will run another in October, in order to present the market with the new opportunities the joint venture with VCP will provide.
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Screen process at the crossroads?

New applications ensure a continual interest in flatbed and rotary screen, but can UV flexo challenge the latter’s powerbase?

Report by Barry Hunt

The demand for screen-printed graphic effects ranging from vibrant solid colors to pin-sharp text in small sizes remains as strong as ever. Both combination and flatbed applications also benefit from the latest UV-cured varnishes and lacquers. They allow converters to offer distinctive textured and tactile effects, including product information in Braille. Other coatings include pattern adhesives, iridescent and thermochromic inks, scratch-off coatings and clever security features. As far as roll-label converters are concerned, screen printing is an essential combination process. Printing solid white background coatings onto treated filmic substrates may not happen every day, but it usually accounts for most rotary screen usage. But, as seen later, even this situation may change in the future.

Screen’s popularity owes much to its compatibility with other processes. Most combination presses include one or more screen modules based on wheel-up cartridge assemblies, carriage-mounted cassettes or compact ‘drop-in’ modules mounted on an upper rail system. And with OEM partnerships involving around 30 press manufacturers, Stork Prints leads the market. Its RotaMesh screen cylinders for the modular RSI and RSI Compact systems are made from a 100 percent nickel non-woven material. Being reusable, they allow reasonably long runs and repeat orders. The RotaPlate screen designed for non-Stork systems is also reusable and was launched about 18 months ago. The screen has a strong electroformed nickel hexagonal-holed formation to fuse the material into a single piece.

To reduce prepress bottlenecks for large volume users, Stork introduced the RotaLEN 5511 direct laser engraving system. Rako Etiketten of Witzhave, near Hamburg was an early adopter (see L&L Issue 2, pp.71-72). With 24 RSI screen printing heads on its Nilpeter and Gallus combination presses, it was making around 12,000 RotaMesh screen cylinders a year. Laser engraving has reduced preparation times to an average of 15 to 20 minutes for each screen, compared with the 90 minutes needed for conventional exposure-based processing. There are also far fewer remakes.

Gallus’ Rotascreen system dates back to 1984. Today practically all of its combination presses include the system. The Screeny printing plates are made from a stabilized nickel-plated carrier structure bonded to a photopolymer coating and protective film to resemble a pre-coated flexo or letterpress plate. They come in eight grades ranging from NF for fine-line and halftone work with low inking requirements to the ultra heavy BZ grade for Braille printing and similar tactile effects. Preparation involves film punching, plate cutting, exposure, wash-out, drying, seam welding and ring mounting and is said to take around 30 minutes.

Screeny S is a relatively new filmless method of stencil making that allows users to utilize their UV flexo or offset computer-to-plate systems. Flexo printers are offered the LAMS-Screeny system for imaging plates on their digital platesetters. Processing and mounting afterwards follow the usual Screeny pattern. Offset platesetters equipped with violet-laser technology can expose Screeny Standard plates.

The domination of the rotary screen market by Stork Prints and Gallus looks unassailable. Meshtech AG, a German manufacturer of woven wire mesh products, made an attempt in 2000 with its Pro-Mesh nickel-plated stainless steel cylinders. In the USA, a more successful supplier is Telstar Engineering Inc of Burnsville, Maryland. Its services include manufacturing customized rotary screen modules with various mountings for fitting on most narrow web presses. Its screen units can run all types of rigid woven mesh as well as non-woven materials to allow users a choice of supplier. Telstar also offers a retrofit unit that doubles as either a screen or UV flexo unit by using a servo-driven base frame. It claims that a screen head can be interchanged with a flexo head without tools in minutes.

Flatbed screen

The transitive printing action of flatbed screen limits it to short-run orders or batches requiring frequent copy or design changes. However, it can deliver many high-profile effects more effectively than rotary screen. Besides PSA labels, it is generally associated with signage, decals, nameplates, medical test strips, membrane
switches, heating foils, RFID antennas and sensory circuits. The embryonic technology of printed electronics may open up other prospects.

Flatbed presses commonly run with hot foil, embossing and laminating units, as well as flatbed or semi-rotary die cutting, perhaps with a web buffer. Web re-registering devices permit multiple passes and the overprinting of pre-printed reels from other label presses. Smag Graphique, near Paris, recently introduced the Galaxie Digital, the first modular flatbed screen press designed for integration within a digital color printing operation. Offering repeat sizes of 340mm x 450mm, it was developed from the third-generation roll-to-roll Galaxie and Galaxie Duo machines. An OEM agreement teams the Galaxie Digital with any of the HP Indigo ws series.

Donald Lewis, director of Smag International Ltd in the UK, says the machine typifies the way flatbed is still evolving: ‘We are seeing the technology opening up and gaining wider support. New users find it is far more economical in terms of raw materials compared with rotary screen. Furthermore, this interest is coming directly from some interesting directions, rather than flatbed screen going out to find it.’

Another major player with strong labeling credentials is Kammann Machines. Its new multi-substrate K61-OS press features constant web tension and active cylinder rollers to support 30-degree angled flat screens in every print station. This widens the choice of screen meshes for labeling, display and industrial applications. Rigid aluminum rectangular frames allow maximum mesh tension for the screens. A constant motion web transport maintains a correct tension for substrates, which can vary in thicknesses from 0.025mm to 0.5mm. Servo motors control each of the screen heads allowing adjustments for any thermal variations in the material. It runs with infra-red dryers and/or UV curing systems.

Cartes Machinery is the first company to integrate flatscreen with a laser cutting line. The HS 200 label printing line – to be launched at Labelexpo Europe 2007 – will include screen, hot foil stamping, conventional flatbed die cutting and a laser cutting and micro-perforation system derived from its Laser350.

“Cartes’ HS 200 label printing line – to be launched at Labelexpo Europe 2007 – will include screen, hot foil stamping, conventional flatbed die cutting and a laser cutting and micro-perforation system derived from its Laser350.”

Screen vs. UV flexo

As mentioned earlier, one of the main PSA applications of screen is to lay down an opaque white background for sequential color overprinting on top-coated filmic materials. Niklas Olsson, global brand manager, narrow web division, Xsys Print Solutions (which absorbed ANI Printing Inks), says its research among converters identified the following points: a screen white must be fully printable in any combination, with overprintability with UV flexo as the single most important criterion; they should have
good flow out levels at high printing speeds irrespective of substrates used; the inks should have low contamination levels; exhibit high opacity levels with excellent gloss; accept both coldfoil and hot foil overprinting; and show good adhesion to all top-coated films.

Historically, UV-cured letterpress inks always exhibited a higher color strength with finer halftone reproduction than UV flexo inks. The growth of UV flexo led to the development of compatible white screen inks with lower surface tensions which matched those of filmic substrates. An example is CombiWhite from Xsys, claimed to have a 20 percent greater opacity than other screen white inks.

Interestingly, the improved screen inks have been matched by manufacturers’ efforts to introduce new types of opaque white UV flexo inks. They are backed by advances in laser-engraved anilox technology that show improved ink transfer characteristics. It is a complex subject, as Olsson points out in a research report. Ink makers, for example, cannot simply add more or less quantities of titanium oxide to increase an ink’s opacity. The pigment would simply inhibit the polymerization effect essential to all UV curable inks. However, a careful selection of the right levels of titanium oxide and photo initiator can result in fast-curing opaque inks which do not discolor. ‘It’s an important feature for opaque white UV inks that is often forgotten. Incorrectly formulated, they have a yellowish tone compared to the crisp white ‘color’ achieved with the correct formulation.’

Other considerations include the relationship between the choice of anilox roll, mounting tapes, printing plate and press engineering factors. According to the report, each effects the ink’s contrast ratio, or measure of its opacity level. Typically, the benchmark ratio is 86-87 for UV screen, compared with 72-76 for a standard UV flexo white and conventional anilox. Combined with a high volume anilox, Xsys says the contrast ratio of its Flexocure Ivory ink resembles that of UV screen, allowing overprinting by any printing process at a much lower cost.

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Another approach stems from a partnership between Fujifilm Sericol in Broadstairs, Kent, UK and Sandon Global, a Runcorn, UK-based anilox roll supplier. According to Richard Cotterell, the inkmaker’s European marketing manager, the project involved a year’s testing on its Nilpeter FA-2500 using DuPont’s FAST DFM flexo plates. ‘Super Nova White gives a clean and bright white coating as good as that achieved with screen at optimum speeds of 100 m/minute. Flexo plates cost far less to make compared with screen cylinders. Combined with 20 percent less ink film weight, we estimate a converter handling say five jobs a day involving some screen printing could make weekly savings of around £1,500’.

John Millington, a director of Sandon Global, says: ‘Using a new type of cell technology for our laser engraved anilox rolls, combined with Sericol’s new UV flexo ink, converters can print very opaque background solids, yet reproduce type down to 5pt all in a single pass’. The technology is already used in the UK and throughout Europe and is currently being introduced to the North American market.

This begs the question: should the rotary screen people be worried? Like other inkmakers, Sun Chemicals sells into both markets: with UV Solarscreen and a high opacity version of Solarflex white. Jonathan Sexton, product manager for narrow web labels, thinks it is still too early to call: ‘It’s all about...’

“Interestingly, the improved screen inks have been matched by manufacturers’ efforts to introduce new types of opaque white UV flexo inks”
combining good opacity with good printability. There are several high opacity UV flexo white inks on the market giving reasonable printability levels. However, their opacity levels are still lower than that of screen and sometimes it is not possible to get good flow-out levels. So it’s not a done deal. Also, screen technology will continue to evolve and screen inkmakers have taken on board how to face the challenge from UV flexo. Nevertheless, the situation may change if UV flexo inks do eventually achieve similar levels of opacity.’

Adding value
Meanwhile, both rotary and flatbed screen have an ace card in the shape of thick coatings of varnish or lacquers. Applying a gloss varnish over a matte printed surface can achieve various subtle effects. Similarly, printing a 10-micron thick varnish on label face stocks can simulate different finishes, such as a textile effect. Screen varnishes can also incorporate anti-counterfeiting and tamper-evidence features. In wine labeling, they emphasize brand names, logos or icons and also protect the label from immersion in ice buckets or storage in damp cellars. Another variation is to use thermochromic inks as temperature-change indicators, in much the same fashion as labeling perishable goods where a color-change records the expiry of a sell-by date.

Printed Braille characterizes the tactile effects achieved with thick varnishes. In Europe, requirements vary from region to region, but more brand owners and retailers have made efforts to communicate more product information to the visually impaired. An EU directive of 2006 requires the European pharmaceutical industry to include the product name and drug concentration in Braille on packaging. This boost to rotary screen printing is typified by Koehler Etiketten in Düsseldorf, Germany, which runs a dedicated Braille printing line with a 406-mm wide RSI unit. An inline UV flexo unit prints the equivalent information on the reverse of the release liner to minimise reconciliation errors. Dots of 200 microns and 1.2 mm diameter are printed with a UV varnish at 60 m/minute. A clear 50-micron PP film is applied to the package, allowing sighted customers to read the information underneath.

In Liverpool, UK, MY Healthcare runs an MPS UV flexo press with an RSI unit to supply 70 customers with Braille paper and clear PP labels and leaflets. speeds are typically around 35 m/minute, while production runs range from anywhere between 1,000 and 8,000 linear meters.

Screen printed security features to protect brands or documents against counterfeiting, theft and tampering are another growth area. Continuous iridescent stripes, best printed with seamless screens, and scratch-off features are good examples. Sicpa has introduced Oasis (Optically Active Secure Ink System), an overt anti-counterfeiting screen ink based on liquid crystal technology and available only within a secure supply chain. It offers unambiguous, easily recognisable security features that are difficult to imitate. The transparent ink is applied on a dark background, printed with another process, and uses the light interference phenomenon to reflect different colours, depending on the angle of observation. By using one or two OASIS inks, printers can create different levels of security that are difficult to reproduce yet are easy to authenticate. Level one is a simple color-changing shift. The ink’s colors appear to change when viewed at different angles. The second level consists of a circular light polarization phenomenon, seen through a special filter. All of which shows that whatever its format, screen process printing still has plenty of tricks up its sleeve.
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Die cut 101

Herbert Knott of Electro-Optic presents a guide to the basics of an effective die cutting system

Die cutting self-adhesive materials is not a real ‘cutting’ procedure at all. Die cutting is pressing and compressing with a die cutting tool until the material bursts – the so-called ‘pressure cut’. During die cutting there is no relative movement between material and cutting unit, unlike in a guillotine cutter. When flat die cutting, the material will stop during the cutting period, whereas in rotative die cutting the material and the cutting unit rotate at the same speed.

The forces required to ‘press’ material are substantially higher than those necessary to divide material when shear cutting. These forces are essentially determined by three factors: the material, the structure of the cutting line and the width and function of the die cutting unit.

Material
The requirements of modern label materials regarding cutting force and penetration depth are more demanding than those of just a few years ago.

White 80 gsm writing paper separates when compressed by approx. 60 – 75 percent of the original volume. In comparison, PE must be compressed by at least 90 percent of the original volume for separation. Consideration must also be given to the usually lower initial volume of plastics as well as the compressibility of the carrier material.

In order not to damage the carrier materials but still accurately penetrate the top material, much greater precision is required from all the components involved.

Cutting line
Rotary die cutting requires very high accuracies of between 3 – 5 µ deviation from the theoretical geometrical ideal, both in the cutting line height, and in the parallelism of magnetic cylinder surfaces and the surfaces of the anvil rollers. By comparison, a human hair is 36 – 46 µ thick. The cutting geometry, a steep flank angle, as well as the smallest possible mirror width are further important factors.

The design of the cutting line influences the amount of pressure required. The narrower the surface on the cutting line (mirror) and the steeper the flank angle, the less contact pressure needs to be exerted.

Cutting Unit
In flat die cutting, the entire cutting line length compresses the material at the same time, which requires considerable energy. Rotary die cutting requires substantially less energy expenditure, but must overcome different material resistances.
to cut longitudinal and cross lines. This particularly applies to the ‘simple’ geometric forms such as rectangles and squares. Dependent on the kind of material which has to be cut, the force cutting the cross lines can be up to one hundred times higher than when cutting longitudinal lines. This is because the longitudinal lines only press the material on a width of 1/10mm, while on the cross lines the material is cut on the entire work width. With papers, the longitudinal fibers must be cut at right-angles.

To ensure that the cross and longitudinal cutting lines, in spite of the different resistances, penetrate the material to the same depth, the force exerted on the cylinders (rollers), has to be higher than the material resistance force. This force, known as ‘primary tension’, is dependant on the hardness and ductility of the material and the length of the cross cutting line in use. From experience, the primary tension should be from two to maximum 12 kN on each side.

If the necessary primary tension is not reached, then the cutting unit ‘wobbles’, the longitudinal lines cut too strongly and the cross lines too weakly.

For an optimal cutting result the set-off height between the surface of the bearers and the point of the cutting line must be set accurately. This height depends on the characteristics - the strength and compressibility – of the handled material. Therefore it is very important to send the manufacturer of flexible and solid rotary dies the original material to determine the cutting line angle and set-off height to match the order.

**Solid vs rotary**

**Solid rotary dies**

Solid rotary dies can be manufactured in two ways. For milled solid rotary dies the label shapes are usually worked out of the full material with CNC controlled milling machines. These cylinders can be hardened to increase longevity, although this increases the danger of distortion, leading to inaccuracy of concentricity and unequal cutting results. Vacuum hardening shows the smallest deviations and should be preferred to other procedures. To increase the surface hardness, unhardened solid rotary dies can be chromium plated. Here we have a higher surface hardness, but when handling difficult material the thickness differences in the chromium coating can lead to cutting problems.

Spark-eroded solid rotary dies (EDM) are manufactured from pre-hardened blanks. Here material hardness up to 64 HRC can be reached.

The advantage of these solid cutting cylinders lies more in the long runs achieved than in the ability to handle difficult materials, so they are ideal for repeat work on unchanged, standard labels. The relatively high costs of solid dies need to be considered for smaller and middle-sized runs of promotional labels, and storage space is another factor.

**Flexible die on magnetic cylinder**

This cutting system, where flexible dies are mounted on magnetic cylinders, was developed to reduce costs and increase efficiency. The magnetic cylinder is made of a steel blank incorporating glued-on magnetic segments. The longevity of the gluing, as well as the production tolerances of bearers and magnetic surface, are key factors.

**1:1 rule**

The maximum working width defines the smallest cylinder circumference. If this ratio is not maintained, the cylinder will bend while cutting the cross lines, which means that the cutting unit is unstable and the cutting result cannot be satisfactory. It might be thought desirable to place more label sizes on a bigger circumference, but this brings the disadvantage of a higher flexible die price, and is anyway compensated by fewer revolutions per running meter.
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The flexible die

Flexible dies are produced in three steps. First the cutting shape is brought onto the steel sheet photographically, and then the unexposed areas are etched out to around 1/10mm, so the cutting line remains. Now the dies are mechanically or CNC sharpened. The CNC sharpening enables an exact flank angle and a defined mirror, which is a must for difficult-to-handle materials, with essential tolerances from 3 to maximum 5µ.

Specifying the die

The die must be specified according to the nature of the material to be cut. In the case of Electro Optic’s die range, for example, this means the ‘Economic-Line’ for paper, ‘Silver-Line’ for paper and foil, ‘Gold-Line’ for multilayer foils, Tyvek and Polyester, ‘Dura–Line’ for longevity on paper and abrasive materials, and ‘Dura–Line Special’ for longevity on foils.

Untreated dies exhibit a hardness of 48 HRC, while the Dura–Line has a surface hardness of exceeding 60 HRC.

Apart from the ability to handle difficult materials, the advantages of flexible dies lie in the relatively favourable price, the short set-up time, the short lead time, the fast reorder the small space requirement for the storage.

Mind the gap

To fully exploit the advantages of the flexible die, one must understand the importance of the gap dimension (see diagram above). This means the gap between magnetic cylinder and anvil roller under the standard pressure of the magnetic cylinder bearers onto the anvil roller. Knowledge of the exact gap dimension and the nature of the material enable the exact determination of the die height for a perfect cutting result. The gap can be measured very easily in µ.

Flexible dies as well as flat cutting dies and solid rotary dies, can be manufactured in different cutting line heights to achieve different cutting levels, for example for multi-layer (piggyback) materials. It is also possible to kiss-cut the label material and through-cut the liner in the same cutting unit (see above).

The die cutting unit

The most important components of the die cutting unit are:

- Machine side frames
- Pressure system
- Magnetic cylinder or solid rotary die
- Anvil roller
- Web guide system

- Machine side frames

The machine side frames are required to hold all components in position, parallel and without twisting: the magnetic cylinder, anvil roller, intermediate power bridge and web guide system. They have to carry remain steady under heavy loading, and if under-dimensioned will contribute to an unstable cutting unit.

- Contact pressure system

There are different systems to maintain contact pressure of the magnetic cylinder and anvil roller.

- With pneumatic contact pressure systems the pneumatic action must only be engaged to control an adjustment cam or articulated lever. On no account must pneumatic pressure be applied directly onto the intermediate power unit of the magnetic and anvil cylinders, as this will cause uncontrollable vibrations.

- There are two types of mechanical contact pressure systems: those which exert contact pressure onto the shaft of the magnetic cylinder or solid die, and systems which exert contact pressure onto the bearers.
When force is applied onto the cylinder axles a high bending stress arises which leads to deformation of the axles and in extreme cases can lead to a fracture. In the case of a wide working width and when cutting hard material, high pre-pressure is needed – here over the axles – leading to the bending of the magnetic cylinder or the solid rotary die and a flimsy cutting result around the middle of the material web.

**Intermediate power bridge**

It is possible to provide contact pressure from an intermediate power bridge with rollers directly onto the bearers of the magnetic cylinder or the solid rotary die, and not onto the axles.

**Anvil roller**

The Anvil roller is as important to the cutting result as the magnetic cylinder or solid rotary die. Anvil rollers which are under-dimensioned and directly pivoted in the machine side frame could bend when normal working pressure is adjusted on the cutting cylinder, also resulting in a flimsy cutting result around the middle of the material web (below).

For this reason, several machine manufacturers support the anvil roller with a support roller (see diagram below), which enables a vertical force progression, from the intermediate power bridge to the support roller. This eliminates bending, when force is applied. Still not solved is the fact of the dynamic stress when cutting the cross lines. Under-dimensioned anvil rollers will still bend when the cross line is cut in spite of the support roller.

What are adequate cylinder dimensions?

To avoid failures, solid rotary dies or magnetic cylinder and the anvil roller should not have a ratio max lower than the working width to circumference of 1:1. That means the maximal working width of the machine determines the smallest circumference of the magnetic cylinder, the solid rotary die, and the anvil roller.

**Web guide roll system**

The web guide roll system is responsible for taking away the waste or matrix and should be placed directly after the cutting unit. If the material is led over deflector rolls it can happen that glue filaments form and hinder waste removal.

Furthermore, the roller with which the waste is separated from the material should be available in different diameters which are easy to exchange. To remove the waste from easily tearing material like paper, a larger diameter roller should be favoured. Tear-proof materials like foils, especially with small labels, demand a small roller. Furthermore when handling tear-proof materials at high speeds a blunt ruler instead of the small roller can be of help. The location of the diverting bar above the material web should be adjustable in height and longitudinal position relative to the die cutting unit.
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For many in the US and Europe, the Chinese label industry is all about potential. But at the top end of the market there are converters who are producing first-rate labels on high-quality machinery.

One such company is Shanghai Ziquan Label. Part of the Shanghai Zijiang Enterprise Group, Shanghai Ziquan Label was established in 2003 as an offshoot of the Group’s Ziquan Packing company.

The company began printing narrow web labels for the beverage industry in 2004 after purchasing a Nilpeter FA 2500 press. Now Shanghai Ziquan Label’s products are supplied to countries around the world and its client list boasts the likes of Coca-Cola, Pepsi, Unilever and Johnson & Johnson.

A key factor to the success of Shanghai Ziquan Label has been its partnership with European wet-glue specialist Illochroma of Belgium. The companies signed an agreement in 2004 which saw Illochroma send experts to Shanghai to train Ziquan Label’s team as well as the sharing of technical knowledge and patent licenses. The results are surely a glowing endorsement of the potential of global partnerships.

Ziquan Packing began by producing caps for beer in Shanghai, and now produces 14 billion every year for that sector.

“Our traditional market is beverage,” says Wang Yang, vice chief engineer of Shanghai Ziquan Label. ‘Now we are supplying both caps and labels into this market, and this year we have begun to print for multi-national overseas customers in the US and Europe.’

Wang Yang admits that labels are becoming the company’s core business, and for this he credits the purchase of the Nilpeter press. A 7-color UV flexo press with cold foiling, delaminating and relaminating options, as well as rotary die cutting, the machine has helped the company diversify its product offering.

Production of in-mold and clear-on-clear labels began in 2004 and 2005 respectively, and the company recently ordered a 9-color FB 3300. ‘We ordered the new press due to increased demand, and chose Nilpeter due to their high-quality service,’ he says. ‘It will be used for film labels and will help us to diversify away from the beverage market. It will offer even more efficiency.’

Six billion labels are produced each year in the company’s 100,000 square meter factory. Its 600 employees work three shifts, 24 hours a day.

As well as the Nilpeter press, Shanghai Ziquan Label uses five gravure presses from Japanese manufacturer Fuji, two CI flexo presses and a local machine. 

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International success for Shanghai Ziquan Label

Partnership with a European converter and presses from Nilpeter have helped produce international success for Shanghai Ziquan Label. James Quirk reports
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Wölco moves east

James Quirk reports from the new Changzhou factory of German company Wölco

The influx in China of subsidiaries set up by major US and European companies is now being followed by an increasing number of manufacturing plants. Of course it’s sensible to monitor a developing market from within through a small sales office before deciding to expand into a factory. Many in our industry – BST and UPM Raflatac, to name just two – have followed this route in recent years.

Another company to follow this model is Wölco. Founded in Germany in 1962 as a label printer by the father of current chairman and CEO Dieter Wölfle, the company began to focus on producing labels for the automotive, electronics and telecommunications industries in the 1990s. International expansion began in 1998 with the opening of a production facility in North Carolina, USA.

In 2003 the company opened a sales office in Shanghai. After monitoring the market for two years, Wölco opened its 1,500 square meter factory in Changzhou in Jiangsu Province in November 2006.

Plant manager Anthony Hoon believes that the company has a unique advantage in that it offers the Chinese market ‘a complete label solution’. Wölco provides labels, ID software – printers, dispensers and system technology – and customized parts of assembly lines to its customers. ‘This is new in China,’ says Hoon. ‘Many suppliers don’t offer the whole solution.

‘We have a head start over the competition,’ he continues. ‘We provide a product with more added value.’

The markets which Wölco supplies have high quality requirements for their labels. ‘The labels we produce must last a long time, unlike labels for food packaging,’ says operations manager Tomislav Olujic. Wölco has gained ISO/TS 16949 accreditation – the automotive industry’s certification. ‘ISO is one thing,’ he continues, ‘but its nothing compared to the stringency of TS.’

Olujic acknowledges that not everyone in China wants this level of quality, but the country has long been an important market for the automotive industry and Wölco had many customers there before opening the factory. ‘Clients don’t change suppliers often in this area of business,’ he says. ‘The label has to last the cycle of the car – three-to-

four years – and the TS regulations enforce this.’

The potential, adds Hoon, is enormous. ‘There is a population of over one billion, and more and more people are now getting cars.’

Wölco’s Changzhou factory is made up of an expanded production area, administration, warehouse, show room and a laboratory. It is equipped with a Grafica T200 3-color letterpress with corona treatment, laminator, two die cutting stations and a slitting unit from Etipol. A flexo press is due to be installed this year. ‘Letterpress and flexo are the best processes for our industries,’ says Olujic.

Materials are sourced locally from 3M, Avery Dennison, Raflatac, King Label and various companies in Taiwan. ‘It depends on what the customer is looking for,’ says Hoon. ‘We do all material testing in-house.’

For the time being, Wölco’s Chinese operation is focused on the Jiangsu Province and Shanghai, though Hoon says ‘it’s a matter of time before we open more offices due to the size of the country’.

Olujic says that the south of the country, Shenzhen and Guangzhou, is the best area for electronics and admits it will be ‘a major focus’ in the future. ‘First we have to focus on one market,’ he says, ‘but nothing is impossible in China.’
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It was back in the 1970s when Jim Traube, now president of Prime Package & Label, St Louis, first moved into offset printing, initially purchasing a company producing 4-color process ‘crackback’ self-adhesive paper labels using both permanent and removable materials. Simple flexographic labels and stickers were brokered to a company called PakMark. Such was the rate of progress that the company rapidly became a leading supplier of self-adhesive products into a range of markets and applications.

To further grow his business Traube formed a partnership in 1994 with Mario Gleijeses and opened a company called LithoFlex with a mission to produce flexographic labels approaching lithographic quality. The principles attended Labelexpo in 1994 and purchased their first 10” 2200 8-color Mark Andy flexo press. Other Mark Andy presses later followed. To improve the flexo quality and performance they initiated the use of densitometry, experimented with different line count anilox rolls, and tried a variety of different inks.

Work was also undertaken on anilox roll cleaning solutions so as to achieve the very best results – all moving the company rapidly up to 800 line anilox high quality printing. Then in 1999, they purchased their first all UV flexo press, and shortly after retrofitted the press with Stork RSI screen heads for combination printing. Traube said ‘the UV move was extremely successful’. However, he was not fully satisfied with the performance of the curing system. After extensive research he settled on IST (who, although more expensive, was offering the best UV technology warranty). Even so, they soon found the need to also employ their own UV maintenance personnel.

With the company’s successful move into high quality prime label utilizing UV flexo/rotary screen combination printing came the need for immediate expansion. The quick solution was for Jim Traube to acquire PakMark, the original company that he had started out brokering labels to. Then in 2002 Traube and Gleijeses decided to change the name of the company to Prime Package & Label. ‘This was because we were not only producing self-adhesive labels,’ commented Traube, ‘but we were also moving into unsupported films, extended text labels and sleeves – and consequently dealing with packaging buyers as well as label buyers.’ This proved to be a successful decision as within two years Prime Package & Label (PPL) purchased Foremost Printing – another high quality local competitor and consolidated all three plants into a single production facility designed for smooth workflow from the ground up. The company has maintained a second facility for future expansion, currently being used as a finished goods warehouse.

It was decided the company’s niche should be to supply offset quality labels – but solely using flexo/rotary screen processes. ‘To achieve this,’ explained Traube, ‘we knew we needed to push the boundaries of flexo as far as possible. Our aim was to be at the cutting edge in what we produced – but not foolish edge.’ Water-based and UV flexo ink technologies were also combined, while quick-change anilox systems allowed for easy color
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modification. Temperature controls were installed throughout the entire production and warehouse area to further improve quality performance.

To achieve the ultimate in quality results, the company also set up an in-house quality controller and developed a range of sophisticated test and performance procedures, such as spectrophotometry, rub testing of inks, the testing of release liner strength, and bar code verification. ‘What we tried to do throughout,’ explains Traube, ‘was to standardize everything, do everything well, and aim to produce the best quality and consistent results.’

But it was not just in terms of technology, production procedures and quality performance in which changes were made; it was also in the way the company worked with its customers. ‘For the first time,’ added Traube, ‘we began to sit down with clients to really forecast and plan their label and package demand. Work was put out on consignment, with customers only paying when the labels were actually used.’ Such was the success of these changes that the company’s client list grew, attracting more and more big name accounts to the business – such as Nestlé and Anheuser Busch.

Today, production and finishing technology at Prime Package & Label includes a wide range of specialist and niche equipment for offset quality products such as booklets and coupons. Presses include six 10” wide and five 13” wide Mark Andy models (including 2200, LP 3000 and 4150) ranging from 8 to 14 colors with multiple infeeds, UV flexo rotary screen and hot stamp capabilities as well as onserters for applying pre-printed booklets or RFID chips.

‘We have been very pleased with all our Mark Andy equipment’ says Traube. ‘They have provided everything we have wanted from our printing presses. They do everything we want the machines to do – and we can rightly say we have never had a serious press breakdown on any of them.’

In addition to its Mark Andy presses the company has also installed Ikela and Norfoil hot stamping equipment, while a brand new Arpeco Tracker has recently been installed to join other Arpeco and Rotoflex inspection rewind machines. Wherever possible, equipment and production procedures have all been standardized for optimum results. All plates are also cleaned and stored after usage.

For the future, Prime Package & Label is looking at digital printing – particularly when thinking about the potential of producing short-run labels for key branded products.

Overall, some 60 percent of production is on filmic substrates, particularly white and clear BOPP, the remainder is on paper. Most recently, the company is also looking at installing its own in-house plate making facilities to further standardize, control and improve the quality of their flexo plates – which currently are outsourced.

In operation, the company has few middle managers, although there are ten full-time graduate co-ordinators handling incoming jobs and taking them through job allocation and production planning stages. Set-up costs are kept low and there is a lot of in-house training undertaken with operators to achieve the quality and consistency of printed results.

Such has been the company’s success, that by the end of 2006, Prime Package & Label had grown to a $30 million turnover business operating with some 12 flexo and foil presses. It employs 128 employees operating on a three shift basis. Overall, something like 200 million finished labels are held in stock at any one time in a large finished goods warehouse, although a 24 hour turnaround on repeat jobs is regarded as quite common.

Not everything has been plain sailing however. In common with other converters, the company has lost business to China. This has not been on price or quality, but purely because the products to be labeled are now manufactured in China rather than in North America. This pattern of evolution will undoubtedly continue for North American converters. However, in March of 2007, Prime Package & Label opened another facility in Smyrna Tennessee, just outside of Nashville adding an additional six flexo presses and 45 dedicated employees.

There can be little doubt that the concept of producing flexo printed labels and packaging on Mark Andy presses to the quality and performance of offset has been more than worthwhile for Prime Package & Label. But it is unlikely that Traube will stop there. Always looking for the ultimate quality and service to customers he will undoubtedly continue to innovate, push the technology boundaries, and continue to grow the business in the years ahead. This can only be to the good of the industry and the markets it serves.
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Building an RFID program
Stan Drobac, vice president, strategy & planning, Avery Dennison, talks about the current state of the RFID sector.

RFID, like most new technologies, has been going through a hype cycle, with inflated expectations followed by disappointment. Lately, we seem to be coming out of a disappointment phase and into one where players are more grounded and prepared to work through implementation issues.

Most of the emotional extremes – both optimistic and pessimistic – have been related to the large retailer initiatives, particularly Wal-Mart’s. The early enthusiasm about RFID’s potential and about the promised scale of the retailer programs gave way to distress over technical issues and the difficulty for consumer packaged goods (CPG) manufacturers to achieve a positive ROI in the near term.

Many of the technical issues are behind us, although it will take time for the industry to develop enough of a base of experienced system integrators/installers to handle major national/multi-national rollouts. The ROI issue for CPG producers will not go away as quickly, which is why the retailer programs are moving a bit more slowly than expected. Still, those programs are moving forward, and will result in near-universal implementation of RFID at the case and pallet level within five years or so. In the meantime, several retailers are moving ahead on programs to tag reusable containers that are used to transport goods like fresh foods.

Things are much different – and even more interesting – at the item level. Here, instead of being driven by customer mandates, organizations are beginning to implement RFID simply because they have a demonstrable internal ROI. Most retail item-level implementations have been in the pilot stage, and there will be many more pilots this year. However, some broader roll-outs will get underway this year and implementations are expected to spread rapidly as the early programs demonstrate results. In some product categories, item-level implementation rates could surpass that of mandate-driven case-pallet implementations over the next couple of years.

Avery Dennison and AB Graphic provide manufacturers’ viewpoints of the current state of the RFID industry, and Evidencia wins best pilot award for tagging avocados

Avery Dennison RFID releases new inlay and expands testing facility
Avery Dennison RFID has released the 4” x .5” AD-222 inlay, an upgrade from the general-purpose Gen 2 AD-220.

“The AD-222 offers significant improvements which deliver solid benefits to our growing base of customers,” said George Reynolds, VP of global sales and marketing, “and the AD-222 is “plug and play” (with the AD-220 or similar size tag) moving seamlessly into the same position in an existing application. One of the noteworthy new features is wide-band functionality. The AD-222 inlay operates across the globe in regions operating between 866 and 954 MHz. And it performs on a broader variety of carton contents.”

Spurred by a rapidly evolving marketplace, Avery Dennison RFID has expanded the focus of its RFID education and testing facility to address emerging applications beyond retail and supply chain compliance. The Atlanta Technical Center (ATC) is a 50,000-square-foot facility in Flowery Branch, Georgia, and is fully equipped to provide RFID education, consultation and testing services to the market’s leading RFID end users, systems integrators, label converters, hardware OEMs, and companies evaluating new uses of RFID to improve business operations.
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A machine manufacturer’s viewpoint
Al Spendlow, VP of label converting equipment supplier AB Graphic International in the US, provides an update on the current RFID landscape from a machinery manufacturer’s point of view.

We are now seeing two means of RFID attachment to labels: on-line label production and off-line insertion. The limiting factor to the former is the reduction in productivity. When affixing the RFID device in-line, the converting speed is significantly lowered due to the limiting effect of insertion, verification and removal of out of specification RFIDs.

Offline converting platforms can be designed for specific tasks. These tasks vary from simple wet inlay RFID integration through to finished label rolls with verification and removal of defective inlays and automated replacement of verified functional inlays for 100% reliability. This is particularly important when supplying labels and packaging for the pharma and food packaging markets.

We are also seeing RFID attached products being applied on large format converting presses with multiple lane insertion, relamination, re-register and die cutting as well as other available modules such as flexographic printing stations.

In the recent past typical label printers offering RFID were large corporations with ties to leading supermarkets. Recently, smaller label printers have entered the fold supplying much lower volumes to niche markets. Typically, these smaller opportunistic label manufacturers will utilize economical integrating machines such as AB Graphic’s Omega Ti 150.

The volume of RFID labels produced is truly a moving target. One of our client label manufacturers using Omega converting systems reported sales of RFID labels to be typically 500,000 per week. The same manufacturer stated that this was twice the amount produced twelve months earlier and volume is continuing to rise steadily.

I believe most label printers, large or small, know a great deal about RFID science. Most are not strangers to adapting their abilities to whatever opportunities present themselves, with RFID being no exception. In terms of the current landscape for RFID adoption in the global market, the end users of the label and packaging materials will demand further usage. This will be driven by continuing product improvements such as reliability, supply and, of course, unit cost. This trend will trigger more opportunities and the need for converting machinery to satisfy demand.

As with all new processing technologies, our customers, and their production personnel, must learn new skills. Systems typically incorporate a variety of converting processes or very few depending upon each customer’s needs. Training can be from a few hours to a week depending on complexity. Generally speaking, individuals with web converting and press experience make the best operators.

RFID news in brief

RFID and EAS tag inserter from Labelling Technologies
Labelling Technologies has developed a ‘reliable and economical solution’ for inserting RFID and/or EAS tags under pressure sensitive primary labels for product identification; theft protection; public transportation; security tagging and/or inventory control.

Roll to roll RFID and EAS tag insertion is produced at 45m/min (150 ft/min) linear speed.

Metro Group and Checkpoint partner for RFID pilot
Checkpoint Systems has announced its participation in Metro Group’s ‘tag it easy’ pilot. The pilot is part of the initiative Advanced Logistics Asia (ALA), which the Metro Group started in order to jointly enhance the logistical processes with its Asian suppliers by using RFID. The ‘tag it easy’ pilot enables the consumer goods industry to apply RFID labels on the shipments from Hong Kong to Germany.

With this pilot, Metro now is enabling its Asian suppliers to participate in its RFID-driven supply chain. Most of Metro Group’s suppliers in this region have limited technology capabilities at their production sites, and so require assistance in printing RFID labels to affix to their export packages. Through a partnership with Checkpoint Systems, Metro Group has established a platform to allow these suppliers to place label order requests and receive pre-printed labels.
Evidencia wins award for avocado-tagging pilot

A pilot conducted by Evidencia LLP using Information Mediary Corp’s Log ic temperature logger received the 2007 ‘Excellence in RFID Pilot Award’ at the fifth annual RFID World Conference’s RFID for Business Excellent Award event. This award recognizes the Log ic team as playing a leading role in an RFID pilot significantly advancing the RFID industry.

The pilot involved Chilean avocado producer Rio Blanco using RFID tags, named ‘Paltags’ after the Spanish word for avocado, to track the temperature of its product as it was transported overseas between Chile and the US. The three-week pilot, which used 13.56 MHz tags, took place in October of last year.

The pilot began in northern Chile, where 20 avocados, still on the tree, were wrapped individually with RFID tags connected to temperature loggers. They were then picked and placed in bins to cool to between 39-45 degrees. The bins were tagged with Evidencia Log ic TherAssure RF semi-passive temperature loggers.

The RFID tagged fruit was loaded into pallets on refrigerated containers and trucked 500 miles to the Chilean harbour of Valparaiso. The tags were read with 100 percent read-rate, and then the containers were sealed and shipped to Los Angeles in the US.

After traveling 6,500 miles over 23 days, while experiencing temperatures of three degrees C up to 35 degrees C and resisting a waxing, drying, and shipping process at more than 90 percent relative humidity, 100 percent of the tags were read successfully.

Alex Salomon, a general partner at Evidencia, reports that the company is now providing similar systems to fruit producers Del Monte, Capespan, Chiquita Chile, and Sunview Marketing International.

The RFID Excellence in Business Awards showcase achievement, innovation, and unique applications that illustrate the power and functionality of RFID – to the worldwide community of users, press/analysts and vendors. The awards were presented at RFID World 2007 in Dallas, Texas.

“It’s fitting that a product which taglined with “Revolutionize your Cold Chain” is being presented with such a distinguished award by a team of industry heavyweights going under the moniker RFID Revolution”, stated Michael Petersen, chief operating officer of Information Mediary Corporation. ‘We are extremely proud to be recognized by the industry as a leader in the field of RFID technologies once again. Congratulations to Alex Salomon at Evidencia LLP, our valued marketing partner, who did a first-rate job to implement our technology in just the way it was meant to be done.’

UPM Raflatac supplies inlays for Moscow Metro

UPM Raflatac has been selected to supply RFID inlays for contactless passenger tickets on the Moscow Metro. UPM Raflatac will supply inlays in cooperation with Moscow-based Comvision Russland for ticket converting at JSC Mikron.

The Moscow Metro is one of the world’s most heavily used metro systems, carrying 8.2 million passengers on a normal weekday. The RFID inlays provided by UPM Raflatac will replace the cards with magnetic stripe Moscow Metro is currently using for tickets with a fixed number of journeys. For seasonal tickets, the Moscow Metro is already using contactless RFID smart cards which enable significantly faster entry for passengers. The Moscow Metro was the first metro system in Europe to implement smart cards together with a new type of magnetic card in 1998.

In the first stage, the monthly usage of UPM Raflatac HF inlays based on the Mifare Ultralight standard will be 5 million pieces. After a transitional period at the end of summer 2007, usage will rise to approximately 30 million inlays per month.

Rapid aims to be one stop RFID solution provider

Rapid Machinery Company, along with its technology partners, reports that it is positioned to support RFID clients with the supply of inlays, labels, RFID converting equipment, integrated RFID label or tag making equipment, on-line or off-line verification equipment and support through to point of sale installation.
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RFID news in brief

Zebra Technologies’ printer passes one-million RFID label mark

Zebra Technologies Corporation has announced that SimplyRFID, a Zebra reseller, has reported that one of its Zebra R110Xi printer/encoders recently passed the one million mark in terms of radio frequency identification (RFID) labels successfully printed for customers.

SimplyRFID uses a total of three R110Xi printer/encoders as part of its on-demand service offering, which provides pre-printed labels to manufacturers in the military and defense sector to ensure compliance with the US Department of Defense’s RFID and Unique Identification (UID) labeling mandates.

According to Carl Brown, president of SimplyRFID, ‘We are delighted, but not surprised, by the outstanding performance of the Zebra R110Xi printer/encoders, given their track record for rugged construction and long-term reliability. In the past nine months alone, SimplyRFID has printed about 1.5 million labels for customers – at a run rate of 50,000 per week – and we also have sold more than ten R110Xi printer/encoders to customers who license our OD2007 software.’

RFID training in Argentina

RFID training company OTA Training has announced a collaboration with EPCglobal Argentina and local systems integrator Telectronica to provide the region’s first hands-on, vendor neutral RFID training.

‘We’re very excited with the growing and sustained interest in RFID technology through such high quality seminars and trainings like those provided by OTA and Telectronica. Providing global standards in general, and those specifically related to the successful implementation of RFID technology, is a critical aspect in our mission,’ said Ruben Calonico, EPCglobal Argentina general manager.

RSI ID Technologies releases new tag designs and doubles capacity

RSI ID Technologies (RSI), an RFID manufacturer and systems integrator, has announced the release of more than 40 new tag designs and the doubling of production capacity for RFID tags. The company developed the tags and recently doubled its in-house capacity in response to increased demand which can be attributed in part to the launch of a global development campaign rooted in Europe, Latin America and Asia Pacific.

For the new tag designs, RSI used its rapid antenna design process, the same process used to develop custom inlays for label and IC manufacturers, most notably NXP’s Gen 2 ICs.

New RFID labeling solutions brochure from Weber

Weber Marking Systems has announced the availability of a four-page brochure that highlights the company’s broad offering of products and systems aimed at providing RFID smart label encoding, printing and application solutions.

Weber’s line of SmartTrak RFID smart labels is overviewed, including the availability of RFID inlays from sources like Avery Dennison, Alien Technologies and UPM. The brochure, entitled ‘RFID Systems & Solutions’, also details Weber’s Model 5200rfid smart label printer-encoder-applicator, as well as the company’s RFID label encode-and-apply equipment and stand-alone RFID printer-encoders.

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Due to its modular design, this reel-to-reel system can be easily adapted to customer-specific requirements. Thereby up to three layers can be processed at the same time. Labels can be converted on-pitch or off-pitch.

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**Installations**

**Labeltronix**

**Nilpeter FA-3**

Labeltronix has installed the first Nilpeter FA-3 press in the Western United States. The new flexographic narrow web press will enable Labeltronix to offer labeling solutions with ‘faster turnaround times, greater flexibility and fixed pricing programs’, the company said in a statement.

‘The new Nilpeter is part of our multi-million dollar Lean Labeling investment,’ said John Trail, president of Labeltronix. ‘With shorter lead times and greater flexibility, we can help companies bring products to market faster and increase sales.’

The FA-3 is equipped with direct servo drives and sleeve technology.

Labeltronix has also installed a Digicon digital finishing line with hot stamping capabilities - only the fourth press of its kind in the United States.

**Daymark**

**Etipol Combi press**

Etipol Printing Technology has delivered its second new Combi press to label printer Daymark Limited in the UK. ‘Fast changes of jobs are essential to our business. Our production on this press will be 10-12 orders per shift,’ says director Jon Bird.

Bird says the Combi press meets Daymark’s needs better than digital printing presses because of the varied filmic and paper pressure sensitive substrates used.

“We save set-up waste and get a better printing quality.”

The press allows printing in up to five colors with flexo varnish and cold lamination, completed by an in-line turret rewinding system.

Daymark’s order brings the sale of Combi label presses up to 122 units delivered to customers across Europe as well as in Australia, the Middle East, South Africa and America.

**Maharshi Group**

**Gidue Combat 370 ‘S’**

Maharshi Group, based in Ahmedabad, north-west India, has installed a Gidue 370 mm S-Combat servo press, with eight colors and equipped with GEW UV lamps. The press is currently used to produce self-adhesive labels but Maharshi’s future expansion plans call for more specialised jobs like laminate printing, unit boxes and cartons and many combination processes. In the short term this will involve the addition of two screen units and foiling/embossing.

Jigesh Dani, Maharshi Labels marketing director with ten years engineering experience in the print industry, says factors which led to the choice of Gidue as flexo press partner include minimum set-up time and wastage on the machine, short web lengths and ease of maintenance, along with the availability of local service.

Maharshi has a long history in the labeling business, as the first company in India to manufacture labelling machines based on local technology under ISO and EC standards. Since then, more than 1,800 machines have been installed in India and overseas with a 75 percent market coverage in the Indian territory.

In the mid-1990s Maharshi began working in the label printing business under the name of Maharshi Labels Pvt. Ltd. Its main customers are the branches of multi-national companies based in India. The ISO 9001:2000-accredited company converts wet-glue and self-adhesive labels for use in pharmaceutical and beverage and especially brewery applications.

Explains Jigesh Dani: ‘In India, a lot of new combination processes have been adopted in the brewery industry, like all-in-one-pass screen, embossing and in-line multi foiling (cold and hot). The pharmaceutical industry is very price conscious and needs significant innovation in terms of security, including registered holograms on labels and/or the use of invisible inks’.

Dani confirms that the Indian market is evolving towards techniques like RFID, multi-layer labels, specialty inks and labels stocks and in-mould labels, and is therefore aligning to global market trends.

Maharshi has offices located throughout India and plans to become a major player in Asia over the next three years. Future plans call for expansion into Europe and the United States.
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Microencapsulation may not be a word that many of use very often, but it is a process to which we are exposed with increasing frequency.

Adverts for items such as perfumes, aftershaves, coffee, and household detergents are increasingly targeting the consumer’s sense of smell through scented varnishes that can effectively recreate the product’s aroma in magazines, billboards, and a variety of other advertising mediums.

A specialist in this field is Druckfarben, based just outside Bergamo in Northern Italy. The company was founded in 1971 as an ink manufacturer and developed microencapsulation technology (see boxout on next page) in 1980. In 1995 it began to produce scented microcapsules, which are now the company’s core business, and it supplies them for a seemingly unlimited variety of applications around the world.

‘Nowadays in Europe, most products have some sort of perfume – tissues, shampoos, cleaning products – almost everything,’ says owner Duccio Ruggeri. ‘People like nice smells, so it is the perfect way to advertise.

“We supply scented microcapsules in powder to produce scented UV and solvent varnishes, which is important as it means that all customers can work with scented microcapsules”

‘This type of advertising is becoming increasingly common. Our advertising can stay in the home for much longer than normal – it can be detached and smelt over and over for weeks and months or even years.’

Druckfarben is a leader in Italy for microencapsulation, and it has the advantage over its rivals that it can produce capsules of between 1-10 microns in size. While other companies can only produce them at 400 microns, allowing them only to be printed by silkscreen, Druckfarben’s microcapsules can be supplied for a variety of print processes, including flexo, silkscreen, rotogravure, UV varnishing, and,
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in a new development, offset.

‘Offset is important because all kinds of printers have it, unlike flexo,’ says Ruggeri. ‘We can now also supply scented microcapsules in powder to produce scented UV and solvent varnishes, which is very important as it means that all customers can work with scented microcapsules.’

With offset printing, three grams of scented microcapsules are used per square meter of varnish – making it a suitable for scented papers, for example. With flexo, six-to-ten grams are used, while silkscreen can print ten-to-50 grams, making it the best process for producing strong, concentrated smells like aftershave.

As an ink manufacturer, the company’s first foray into this area was with scented varnishes for newspapers and magazines. Now, Druckfarben supplies scented microcapsules directly to paper mills – such as The Fedrigoni Group, Favini, and Pigna – who integrate them at production level. A comprehensive network of agents and resellers around the world allow the company to distribute its products in the USA, Europe, South Africa, Israel and India.

‘Our biggest market is the USA,’ says Ruggeri, ‘followed by Italy, Germany, the UK and Holland. Our distributors buy our microcapsules and resell under their own names. We like to supply the product directly to the companies involved in the given market. As our scented microcapsules can be used in hundreds of areas, we can’t do research into all of them. So in textiles and fabrics, for example, we sell to companies who are already present in those markets who can do the testing.’

The applications are indeed numerous. The company’s early successes were in fabrics, scented tissues, textiles and scented toilet paper – using scents such as ginseng, alloy, and calendula. Advertising swiftly followed, for products such as perfumes and detergents, and Ruggeri reports that perfumes and coffee are the two most popular applications.

Now the range has extended to newspaper and magazine inserts and covers, gift wrapping, greetings cards, calendars, catalogues and brochures, deodorant test strips, personalized packaging – even fragrant credit cards and chocolate-scented children’s books. ‘Kids like the bad smells too, such as rotten eggs or smelly feet,’ says Ruggeri.

Druckfarben has around 50 ready-to-use scents, which include everything from orange to rubber, from sea breeze to watermelon, and from rosemary to green tea.

Scents can be personalized, too. ‘Our most peculiar request came from a company in Germany,’ says Ruggeri. ‘They had created an artificial lawn, and wanted have the scent of grass. Microcapsules were inserted into the rubber inside the artificial grass, and were also sprayed onto it. When it’s not being used, you can’t smell it, but when you walk on it the microcapsules break and release the scent.’

Applications extend even beyond encapsulating such variety of scents. Anti-bacteria and anti-odor capsules can also be inserted and printed, allowing the creation of fabric with in-built mosquito repellent, for example, or a house decorated in anti-odor paint.

‘I saw a future in this product from the first day,’ says Ruggeri. ‘It is not just a novelty – it can increase marketing potential and durability of a product. And the list of applications is endless.’

---

**What is microencapsulation?**

Microencapsulation closes any fragrance, aroma, or liposoluble liquid substance inside a resin ball which isolates and protects it from the external environment, until the shell is broken by a slight pressure, or the encapsulated product slowly and progressively diffuses. The microcapsules are supplied in liquid or powder form.

Druckfarben can produce amounts ranging from lab quantities of one kilogram up to eight tons a day. The microcapsules are compatible with water, solvent, acrylic and UV systems. They can be applied to paper, board, plastic, PVC, and cotton or acrylic T-shirts. They can be as small as one micron, and resistant to temperatures of over 300 degrees Celsius.

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Duccio Ruggeri of Druckfarben
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Taking care of flexible dies

Machine downtime caused by corroded flexible dies and damaged magnetic cylinder surfaces is a problem which can be avoided. Experts from wink give advice on setting up a maintenance program.

Correct preservation and care is well worth the effort
Frequently the failure to take proper care of flexible dies and magnetic cylinders causes production problems. Machine downtime caused by corroded flexible dies and damaged magnetic cylinder surfaces is common, meaning that production deadlines are not met, contract penalties are incurred, images are damaged and customers are lost.

Potentially these problems can also damage the printing press resulting in unnecessary and costly repairs. Serious damage on flexible dies and magnetic cylinders is simple to avoid with the correct care.

The issue of ‘care and preservation’ is much more important than generally accepted in the graphic industry. The enormous amount spent each year rectifying damage should in itself be a reason to improve the handling and care of cutting tools. Care and preservation is a small, but very important issue for all flexible die and magnetic cylinder users.

wink Stanzwerkzeuge GmbH & Co. KG commissioned the German Fraunhofer-Institut for manufacturing technology and materials research as well as a famous glue producer to analyse cleaning agents and adhesives when applied to cutting tools.

The Shore-hardness alteration of adhesives has been measured after contact with a special flexible die cleaner (wink Iso pro), acetone and Pattex spray adhesive.

A stable production environment and quality is very much dependant on a clean, correctly preserved and appropriately stored flexible die.

The flexible die should always be cleaned using a specially developed cleaning agent without plastic reactive substances (acetone) or corrosion developing ingredients (water). A soft, lint-free cloth has to be used to avoid mechanical damage of the flexible die and in particular the cutting lines.

Before storing the flexible dies, it is important to preserve them to avoid a chemical reaction of the metal with the atmospheric oxygen (flexible die corrosion). Only specially formulated substances containing oil, whose compositions are completely harmless to the tooling should be used.

Standard oil substances which contain aggressive acids and advance the corrosive process on flexible dies and cylinder surfaces should never be used.

The above applies to flexible dies generally, but especially to sensitive magnetic cylinder surfaces. The minimal cost involved in taking care of flexible dies and magnetic cylinders is highlighted when measured against the potential cost of replacing damaged tooling.
Anyone who wants to care and preserve magnetic cylinders accurately should use a waterless special cleaning agent to avoid water attack (see above) and should never use cleaning agents with plastic reactive acetone contents.

Acetone can intrude between the cylinder body and the magnets and consequently react chemically with the plastic adhesive. This causes the adhesive to swell and emerge onto the cylinder surface. The adhesive then hardens on the surface area and can cause unevenness up to 10 µ. The cylinder soon becomes unusable with these bulge formations because the maximum manufacturing tolerances of 2-3 µ for flexible dies and 3-5 µ for magnetic cylinders are exceeded by the resulting intolerance of the bleeding adhesive.

The same principle applies to the usage of spray adhesives to attach flexible dies onto the magnetic cylinder surface. Conventional spray adhesives react chemically on the magnet adhesive in the cylinder leading to bulge formations as previously described.

Three important instructions for the care and preservation of cutting tools:

- Exclusive usage of solvent-free and waterless cleaning agents (prevention of corrosion and deterioration of cutting tools)
- Complete abdication of plastic reactive substances such as acetone in cleaning and preservation agents (prevention of adhesive bleeding on magnetic cylinders)
- Usage of soft and lint-free cloths to avoid mechanical damage

Only products classified as harmless should be used to care for cutting tools. wink’s products, for example, fulfil the quality standards for cleaning and preservation agents for cutting tools as determined by the Fraunhofer-Institut. This is an investment to improve the quality and life of all cutting tools and consequently the companies using them.

### Substance: Shore-hardness: Optical estimation:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Shore-hardness</th>
<th>Optical estimation</th>
</tr>
</thead>
<tbody>
<tr>
<td>wink Iso pro</td>
<td>D77</td>
<td>no conspicuity</td>
</tr>
<tr>
<td>Pattex spray adhesive</td>
<td>D35</td>
<td>pronounced swelling</td>
</tr>
<tr>
<td>acetone</td>
<td>D31</td>
<td>Shore body swollen, cracking</td>
</tr>
</tbody>
</table>

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In January wink acquired the Danish company DEV A/S, its distribution partner in Scandinavia for the past 15 years. wink is a leading European producer of flexible dies, steel rule dies and rotary cylinders for the graphic industry. In addition to its own sales and service organization, wink is working with selected sales agencies worldwide which share the high standards of quality and customer orientation.

Over the past 15 years, DEV A/S was the representative of wink in Scandinavia, building a leading position in this important market and responsible for the sales and technical support of wink’s Scandinavian customers.

In order to continue this successful cooperation, the former owner Mogens Kristensen and his partner Torben Nielsen initiated this transfer of ownership to secure the future of the company. Per Kleist, former sales manager and since January new managing director, has taken over the management of the company, but will be assisted by Kristensen and Nielsen.

wink’s locations in Neuenhaus, Germany and Kastrup in Denmark, with 110 and 20 employees respectively, will be expanded.

![Wink Stanzwerkzeuge acquires DEV A/S](image-url)
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Sustainable materials

Dr Mike Taylor and Paul Watters look at the range of ‘environmentally friendly’ films available and their technical characteristics

There is a clear trend for end users to move towards packaging which is recyclable or bio-degradable, and this could affect the future specification of pressure-sensitive labels.

Today there is a new generation of films which claim to meet international standards for biodegradation under specific composting conditions.

Innova Films has launched a range of cellulose films marketed under the Natureflex trademark, which show full compliance with international composting standards. Included in this new generation of films is Natureflex NVL, a transparent 45 micron grade specifically developed for pressure-sensitive labeling applications. Natureflex NVL has high dimensional stability, sufficient thickness for efficient dispensing and biodegradable high performance print and adhesive-receptive coatings.

Other examples of biodegradable films are those produced using polylactic acid (PLA). PLA is a linear aliphatic polyester, produced by polymerisation of lactic acid, with the lactic acid having been made by fermentation of sugars obtained from corn or other biomass. Degradation of PLA occurs via ester hydrolysis by water to form lactic acid and other small molecules, which are decomposed by microbes in the compost environment.

Both Natureflex and PLA will pass the international composting standard EN13432, the key difference being that PLA requires the high temperatures (~60 degrees C or more) developed during industrial composting for degradation to be initiated whilst the Natureflex films will biodegrade at both elevated and ambient temperatures, rendering them suitable for both industrial and home composting for their disposal.

Natureflex and PLA films are arguably the most well-known examples, but other examples include the recently EN13432-approved cellulose diacetate films from Clarifoil, which differ from Natureflex principally in their thermal characteristics, modulus and barrier performance.

Each of the new breed of biodegradable films mentioned have significantly different properties to the traditional polyolefin-based films used in pressure-sensitive labelling such as polypropylene and polyethylene. As the demand for biodegradable label films increases, the industry will need to adjust the conversion processes accordingly to account for differences in film stiffness, dimensional stability and print-receptivity, engaging the technical services resources available from the respective film suppliers to ensure efficient conversion of the new films.

Film mechanical properties

One of the key properties of a film in labeling is its performance under tension. Films must be able to withstand the tensions needed to give good layflat during adhesive coating and must hold their dimensional stability when subjected to heat. The amount of tension a film can withstand is also related to the stiffness or ‘modulus’ of a film. This is important in dispensing where the facestock requires a sufficient bending stiffness to enable it to easily release from the liner onto the article being labeled.

Figure 2 shows typical force-extension curves for NVL, PLA and BOPP measured in tension using a tensometer. A high initial slope in the curve indicates a high modulus and a large extension means that the film can be stretched a long way prior to breaking. Figure 3 clearly shows that both NVL and PLA are stiffer than a 50 micron BOPP, which is known to dispense efficiently, thus it is envisaged that they would both dispense easily.

From the tensile force-extension curve it can also be seen that PLA is relatively brittle compared to the other films, having only a very low extension at break. NVL allows for some extensibility prior to breaking (up to 20mm) whilst BOPP has a high extension to break. The two new materials therefore have a higher resistance to deformation than BOPP which is good indication of ease of conversion during adhesive lamination.

The theoretical dispensing performance of a film can be further highlighted by measuring bending stiffness. Whilst not directly related to the tensile modulus given by a stress-strain curve, bending stiffness is arguably a better measure of the ability of a film to dispense. The bending stiffness of the films have been measured using a handle-ometer and the Plot in Figure 3 shows that both NVL and PLA have above the recognized lower limit of bending stiffness for high speed dispensing.
Quality demands correct positions

Another important factor to consider is the response of a film when subjected to heat, particularly as the film will need to withstand the often elevated temperatures experienced during printing, through drying ovens or heat emitted by UV curing lamps.

Dynamic mechanical thermal analysis is often used to study how a film’s modulus (stiffness) changes with temperature. Figure 4 shows tensile DMTA scans for NVL, PLA and BOPP, from -50 degrees C to +100 degrees C. All three films show a gradual decrease in modulus with increasing temperature, with very high moduli being shown at sub-zero temperatures. As the temperature increases in the range 20 degrees C to 100 degrees C, dramatic differences can be observed in the moduli of the three films. NVL gives virtually flat performance in this range, whilst BOPP continues to show a gradual lowering of its modulus as the classical softening behaviour of a polyolefin is observed in this range.

PLA however shows a dramatic loss of modulus at 60 degrees C which can be attributed to the glass transition temperature of the material (Tg). Tg is associated with the enabling of large scale molecular rotation and movement where the polymers chains effectively come out of their locked-in or ‘frozen’ state and the polymer exhibits a transition from glassy to rubbery behavior.

Figure 2 – Force-extension curves for NVL, PLA and BOPP showing relative stiffness

Inks
eg. Water-based or nitrocellulose based

Label Facestock
eg. Natureflex

Release Liner
eg. Natureflex or paper

Adhesive
eg. Hot melt based

Figure 1 – Idealized structure of an EN13432-compliant pressure-sensitive label showing in red text the components where known EN13432-compliant materials are available, and in blue text the components where development of EN13432-compliant materials is required.

Figure 4 shows tensile DMTA scans for NVL, PLA and BOPP, from -50 degrees C to +100 degrees C. All three films show a gradual decrease in modulus with increasing temperature, with very high moduli being shown at sub-zero temperatures. As the temperature increases in the range 20 degrees C to 100 degrees C, dramatic differences can be observed in the moduli of the three films. NVL gives virtually flat performance in this range, whilst BOPP continues to show a gradual lowering of its modulus as the classical softening behaviour of a polyolefin is observed in this range.

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In comparing the three materials, it may be expected that NVL is very stable at the typical temperature that might be observed in a printing press. BOPP shows lower thermal stability and care would need to be taken not to allow PLA to approach such temperatures in case of potential print registration issues. These speculations are obviously related to unsupported film and do not account for any additional stability that may be afforded by the film in adhesive laminate form.

One area where BOPP has shown to have excellent performance is in die-cutting. As opposed to paper, oriented polypropylenes show high resistance to tearing, thus enabling labels with high quality edge appearance after punch die-cutting. The tear initiation resistance of the three films is shown in Figure 5. Clearly both NVL and PLA have significantly higher tear resistance to BOPP, thus their die-cutting performance might be expected to be similar if not even better than a typical BOPP.

**Conclusions**

Several new biodegradable facestock films are now available meeting the requirements of the composting standard EN13432. This present study has shown that both Natureflex NVL and PLA films have good potential for use as pressure-sensitive facestock materials, giving performance similar to or sometimes better than BOPP in many of the key technical areas important in the pressure-sensitive label converting industry.

Whilst it is apparent that suitable new biodegradable label facestock films conforming to EN13432 are available now, the challenge remains for the industry to develop suitably-compliant pressure-sensitive adhesives and inks to ensure compliance with the emerging standards is facilitated (see fig 1 previous page).

This presents a particular challenge to the pressure-sensitive labelstock industry, as there are few known biodegradable adhesives that are classified as being biodegradable or that meet EN13432 or ASTM D6400 standards. Of the few examples, arguably the most suitable solution for pressure-sensitive labelling are the hot-melt adhesives based upon polycaprolactone polyesters, which are reported to be fully biodegradable in compost activated with sludge. Printing inks will also need to show full compliance with the biodegradation/composting standards.

**The authors**

Dr Mike Taylor is business development manager, Labels and Graphics Business Unit, and Paul Watters is Project Leader, R&D at Innovia Films R&D Centre in Wigton, Cumbria in the UK.
Labels and packaging specialist Adare has pioneered a JDF workflow in its pre-press area linking together management information system (MIS) and graphics pre-press systems. The project was carried out jointly with Prism and Esko, and shows for the first time the enormous potential held out by a properly implemented JDF system to cut costs and increase accuracy and efficiency.

Based in the UK, Adare currently employs around 1,000 people across 17 sites and has a turnover of around £150million. The company aims to provide a single source for all its customers’ packaging needs, encompassing all types of printed product and designed to drive down costs via enhanced operational processes, improved products and first class customer service.

‘Adare has been a Prism WIN MIS user for more than five years and we see their MIS as the hub in our workflow,’ says Adare Digital Solutions director Steve Balderson. ‘Now, Prism’s JDF link with Esko’s BackStage helps us to optimise workflow and lets us work smarter, not harder. We are seeing substantial cost and time benefit as this project progresses.’

Wim Delagrange, Esko product manager for packaging workflow servers, says the JDF workflow allows Adare’s packaging customers to see how a job is progressing in real time, by combining data from the pre-press and MIS systems through one portal, live and dynamically using JDF language for the link.

Prism product specialist Travis Koger comments: ‘Adare had a specific vision of the ideal workflow and provided that necessary leadership to ourselves and Esko which created the right momentum from the start. It’s also been reassuring to confirm the structure of the WIN MIS has enabled us to answer all Steve’s requests in order to realise that vision.’

Esko-Graphics’ Scope workflow server, BackStage 3.0, focuses on automation tools that help prevent errors in the workflow, leading to cost reduction and faster time-to-market. By interfacing Prism WIN to BackStage, the preproduction workflow becomes an extension of Adare’s supply chain. For example, by allowing critical job parameters to be defined up front, the link to BackStage eliminates redundant data entry.

Prism Europe and Esko have joined forces to link Adare’s MIS and graphics pre-press systems from order entry to step&repeat using JDF. Andy Thomas reports on this exciting project.

1. Job status on MIS changes color according to new ‘milestones’ in production

2. MIS informs the production server – a decision which can be manual or automated

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by operators that can lead to incorrect content. In other words: a single point of entry for critical job parameters leads to a considerable efficiency improvement.

In operation, Prism WIN creates a job on the preproduction server. Then via JDF, an order entered in the MIS can create a pre-production Job Ticket in BackStage without double data entry, faxing or any other manual process. Information from a ‘label work slip’ can be pulled, such as the product SKU or barcode, layers, inks and ink coverage, and structural information, among others. The preproduction department automatically receives critical job specifications approved by the Prism WIN user. Digital approvals are recorded and automatic status updates (milestones) will occur between both systems where appropriate. These milestones can then be shared with all key users dynamically to allow customer service improvements across the full management team.

- The Mark and Finished Goods barcode stored within Prism WIN, and included in the JDF file, allows Adare to set up a barcode ID on the Finished Goods stock code, which is then transferred into Esko via the JDF work ticket. Esko will then automatically modify any barcode in the artwork file to have the correct barcode ID.

- The Mark is supported by a similar concept. In the Jobbing module in Prism, the CSR has the ability to assign the type of Marks associated with the artwork to be included on the plates that are produced. This information is then also transferred through via JDF to Esko for automatic replacement on the artwork file before plate output.

- Finally, the Step and Repeat function allows the Job to be configured to indicate which way the label is to run and how many labels will be printed on the ‘sheet’ or on a single cylinder impression. Once again this enables Esko to...
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automatically adjust the artwork with the correct number up, removing a lot of work from the studio operator, including time taken to chase the information by phone/email.

As the job progresses through pre-press, each milestone being progressed is automatically fed back into Prism WIN, updating the job status dynamically alongside the conventional production performance data from the shop floor. All the production presses and finishing processes are logged into WIN’s Virtual Time Management Terminals, although Prism’s iQ systems are being assessed for more automated, live data from the key production kit at the current time.

From a production control point of view, Adare’s planner has a large LCD screen on a wall displaying Prism WIN’s production scheduling Gantt chart. This chart can be viewed by the CSR’s, and the colors on the plan change automatically as each task progresses to completion and the job gets ready to run.

The potential is huge, and Adare management sees this JDF workflow project as the blueprint for roll out across the business.

New range of fluorescent papers from Torraspapel

Torraspapel, part of the Lecta Group, has expanded its range of specialty papers for the self-adhesives market with the new ColorFlash! line of fluorescent papers.

ColorFlash! is paper coated on one side with fluorescent pigments available in four colors: red, orange, yellow and green. In addition to the color, its smoothness and tensile strength reportedly make it ideal as facestock for self-adhesive labels.

ColorFlash! has been designed for use in making pressure-sensitive labels and laminates for display and pricing labels, promotional purposes, exhibition and advertising, along with applications such as signage, information and posters.

Protective UV-barrier Sleeve

Sleever International has developed a new UV-barrier Sleeve. For light-sensitive products, transparency has to be combined with protection against visible and invisible rays to prolong shelf life and preserve the product’s organoleptic qualities.

The performance of the product is based on a new heat-shrink mono-oriented film developed by Sleever Technologies, the SI-OPS-TF/050-ZB, which is capable of blocking UV rays up to 370° nanometers, whilst providing high shelf impact, tamper-proof, easy-opening and guarantee of origin properties to even the most complex bottle shapes.

Printable in up to 10 colors back and front, Sleever UV-barrier film can be implemented on fully automated lines at speeds of between 15,000 and 30,000 bottles/hour on the latest generation of Powersleeve Evolution 4 machines by Sleever Machines.

The first application on the fruit juice segment was for Sólo Zumo, a 100% pure premium orange juice by the Spanish group Pascual in 200 and 750ml PET bottles.

New products
Three wise men

Premier Coating & Converters has risen from the ashes of ICP Coating to have a turnover of nearly £3 million – and it’s all down to three men. James Quirk reports

P remier Coating & Converters Ltd, a supplier of tailor-made adhesive solutions based in Andover, UK, stands testament to the fact that business is all about personality.

When ICP Coating went into receivership after 28 years, the company’s operations manager John Ward got in touch with Steve Flood, who comes from the packaging industry. Together with Mike Greenwood, former ICP sales director, the three men came together and purchased the stock and assets of the former company.

Promising to keep employment in the UK, the trio bought out the ashes of the dying ICP and created a new company. And a new company it most certainly is: three years later, Premier Coating & Converters (PCC) has a turnover of nearly £3 million and a philosophy of creating tailor-made adhesive solutions for customers all over the UK and Europe.

‘At first it was very difficult,’ recalls Steve Flood, managing director of PCC. ‘We had no credibility with customers or suppliers, who all looked at us as ICP.’

Trading began on June 1, 2004. In the first year of the new regime, Premier Coating & Converters tried to build back relationships with former customers. ‘We had to show customers that we were a new company and that none of the former decision makers were involved,’ says Flood. ‘Apart from the customer base, all we had of the former company was some stock and machinery.’

PCC, with a smaller staff and lower costs, achieved the same turnover in its first year as ICP Coating did in its last: £1.2 million. Since then the company has grown steadily: from £2.2 million turnover in its second year to nearly £3 million in its third. While ICP had a staff of around 26 when it fell into receivership, Premier Coating & Converters has achieved this growth with a staff of 16, three of whom work part-time.

Flood, Greenwood and Ward all agree that a critical factor in this success was the reaction of staff when PCC was founded. ‘In 15 years as a managing director of various companies,’ says Flood, ‘I have never seen an environment like the one we have here. They employees care about the company as much as we do.’

‘There is an atmosphere of trust amongst the workers,’ echoes Ward. ‘We don’t make them clock in and out. Our employees have input: if they bring up a point, we listen.’

While the trio’s management philosophy has paid dividends, success has also been the result of a focused policy towards
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‘We are a specialized company; confident in our products,’ says Flood. ‘We know our place in the supply chain – we are not like other companies.

These products are numerous. The company specializes in adhesive coatings, labels and tapes, but instead of offering a range of standard label stock, the trio uses its knowledge of the raw materials available and its wealth of practical experience to tailor its offerings to each customer request.

‘We are very adaptable,’ says Greenwood, PCC’s sales director. ‘The mix of the business is important. We have the advantage of being able to offer specialized products that the really large companies might not look at.’

Premier Coating & Converters offers acetates and rayon acetates, aluminium foils, paper foil laminates and spine tapes, synthetic papers, polyethylene, polypropylene, polylefins, polyesters, Tyvek, vinyls, and numerous release liner and adhesive variations.

Perhaps its signature product, however, is a permanent, moisture-resistant adhesive it calls PCC 17. The company has the sole license for the product from its manufacturer, and it can adhere at temperatures of between minus 40 degrees to 150 degrees Fahrenheit. Totally environmentally friendly, and certified BS 5609, it is mainly used for chemical drum labels, of which Premier Coating & Converters is one of Europe’s largest producers.

‘It can also be adapted for many other applications. It is laser printable, so therefore increasingly popular,’ says Greenwood. ‘I think it is the achievement of which I am most proud – it is made from Teslin, which has a difficult profile, yet we can produce a consistent product from it.’

Greenwood reports that inkjet and digitally printable materials, along with environmentally friendly products, are the two biggest growth areas for the company. Siliconized aluminum is also an important area: ‘The former company was famous for it and our customers requested that we keep it,’ he says.

Premier Coating & Converters is a big exporter – 50 percent of its market is outside the UK, mainly in Benelux, but increasingly in Eastern Europe. ‘Our export business has grown a lot,’ says Greenwood, ‘but we are keen to do more in the UK.’ To this end, a new UK sales manager joined the company in January.

Flood believes that exports will continue to rise: ‘Growth in aluminum foil, for example, could be enormous both a home and abroad,’ he says.

PCC coats and converts materials in its factory in Andover, UK, as well as performing die-cutting and sheeting work. ‘Our team has the skills and mentality to achieve all this,’ says Ward.

The factory was bought from leasehold a year ago, and houses two transfer coaters and five slitters. Its machines can handle material up to 1.5 meters wide and from 12 to 450 microns thick.

‘People come to us because they know we are versatile,’ says Flood. ‘But we are not finished yet – we are still building for the future.’
Migration dangers

Label converters asked to provide labels for application to food packaging or other human health-sensitive products must understand the subject of ink migration. Rolf Montag, of ink specialist Siegwerk’s Labels business unit, explains.

Converters who produce more than just bottle labels – where migration and odor are of no significance – are confronted by various questions. Who is responsible for the characteristics of the printed label which must comply with food and toy applications? Which ink series provides the highest possible assurance? What are the dangers lurking within the printing process? With which products and packaging material is caution warranted?

The worst situation a food manufacturer can imagine is the recall of his products from the store shelves, or the demolition of tons of packaging materials or labels. In the past, such measures have already been taken in a number of cases due to the migration of problematic substances into the packaged product, resulting in enormous costs, not to speak of the damage to the manufacturer’s image. It is therefore understandable that end users would like to avoid any risk which could be posed by the printing of the packing/the label or by the printing inks, in particular in view of the fact that the print comprises only a negligible part of the end product value.

Migration and odor
Migration is a material transfer process which results in molecules passing from one medium into another when the first is in direct contact. This transfer can happen through the gas phase (highly volatile molecules), or through solid or liquid layers. If the material transfer takes place from a packaging/label into a foodstuff, the migrating substances can affect the taste and/or odor, or even exceed permissible limit values.

Even in low concentrations, some substances can impart taste or an intensive odor. People react emotionally against the product in such circumstances, even if no risk is present. In the printing process, particularly with UV inks, there may be an unpleasant smell which is not harmful in any way.

Where does the potential of migration exist?
Migration in minute quantities can never be avoided entirely. This applies generally for all printing inks. The commonly used UV printing inks and UV overprinting varnishes – referred to below as standard UV inks – are used for non-food applications. They are formulated with conventional photo-initiators and acrylate monomers, the migration tendency of which is not acceptable in the food sector. For years, special UV inks have therefore been offered for use on food packaging – which we will refer to below as food-conforming UV inks.

In 2005, ITX caused a lot of commotion because this photo-initiator had migrated from the packaging into some foods. Since then, novel photo-initiators and more reactive acrylates have been developed and now afford entirely new solutions. Through the use of polymeric instead of monomeric materials, the migration tendency of UV inks has been appreciably minimized. These new formulations, which have been tailored for sensitive applications such as food packaging materials, can be used with virtually no risk of contamination. Compared with standard UV inks, food-conforming UV inks and food-conforming UV overprinting varnishes have only a minimum migration tendency. Despite this progress, these UV inks are still met with a certain degree of skepticism.

Influencing factors
To the extent that a migration potential exists, migration is more readily observed in the case of fatty foods (butter and oils = 100% fat). Also, foodstuffs with a relatively high fat content, such as sausage, dairy products, bag soups (which contain dry fat), as well as cake, cookies and chocolate, can promote migration. If chocolate is wrapped in aluminum foil, the migration risk is negligible.

Migration is also favored by a number of other factors:
- Duration of contact between packaged product and printed packaging: The longer the storage, the higher the migration tendency.
- Elevated temperature: This promotes migration, which is particularly worthy of note in the case of food packaging which is heated in an oven or microwave.
- Ratio of packing surface to packaged product volume: The larger the surface contact with the package product, the higher the migration potential. Small packaging is critical because much more surface comes into contact with every unit of the packaged product.
- Substrate and packaging construction: In the case of porous substrates, such as PE and PP, as well as of simple packaging
construction, the migration potential is higher than in the case of complex laminates. The migration can be completely excluded with special barrier films.

- Set-Off (= from the printed outside to the inside): This can be the case when finished prints are stacked, when stacking cups inside one another and with in-mould labeling.
- Insufficient dryer capacity or excessive printing speed: The better the ink film is cured, the less the migration tendency. Correct output of the UV dryer and the cleanliness of the reflectors must be checked regularly.

**Responsibilities**

To exclude any risk, the label printer can and must enquire of the ink supplier as to the suitability and unsuitability of an ink series for a specific purpose. That requires frank, application-related communication between the printer and the printing ink supplier. This is naturally objectionable to the printer’s desire for universal applicability of the ink series on stock, i.e. the desire to be able to use a single ink series for all his jobs.

Responsibility is, and remains at, the packaging manufacturer – in this case the label printer. They must inform themselves about the suitability of the printing ink and on the substrate to be printed. Today, a simple certificate for the general release of a printing series is no longer sufficient. For food packaging and toys, the case must always be reviewed application by application.

If you, as a label printer, concern yourself with applications of the kind described, make inquiries of your ink supplier. Siegwerk, for example, is in a position to supply special food-conforming UV printing inks with minimal migration tendencies for all common applications. Because polymeric substances have replaced monomers in the formulations, the latest generation of Siegwerk food-conforming UV printing inks distinguish themselves by their exceptionally low migration risk.

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**Testing for ink migration at the Siegwerk R&D laboratory**

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Excitement was in abundance at this year’s 10th Annual Phoenix Challenge hosted by Central Piedmont Community College in Charlotte, North Carolina. Twenty-four teams, with two flexo-high school students per team, represented 13 schools from the US and Canada. The champions of the competition take home scholarship money and the prestigious, traveling Harper Trophy to represent their achievements at school.

The talented winners of this year’s challenge are Canadian Maple Leafs from Gordon Graydon Memorial Secondary School in Mississauga, Ontario, just outside Toronto. Canadian cohorts Tim Govey and Alan Tran earned first place with a score of 475 out of 500, the highest score achieved to date. The two boys each took home a $1000 scholarship towards a collegiate flexo degree.

And it was a sweep. Fellow Graydon peers, Nathan Plavnick and Stephanie McIntosh, earned second place and a $500 scholarship each. Both teams were ecstatic and proud their hard work is going to – literally – pay off.

Gordon Graydon further exemplified their excellence when the school earned another esteemed honor. Peter Belanger, the school’s flexography instructor, was bestowed the Diann Teague Award, an award presented to the teacher of the year who provides the best support to create successful students.

Guest speaker of the ceremony, June Atkinson, North Carolina State superintendent of public instruction, addressed the crowd about the value of education. ‘Education is a way for us to be competitive in a global economy,’ Atkinson said. She believes the best road to success is to, ‘seek the council of others who are successful.’ Atkinson truly admires the printing industry for its gracious efforts to share industry knowledge with interested youngsters.

All teams complete five quantitative tests to determine a winner by the end of two full days of competition. First of the five, is the Flexographic Technical Association’s flexography 1 certification test.

To illustrate the talent of these youngsters: nearly half, 22, of the students passed the FTA test and are now certified flexographers.

Shelley Rubin, educational coordinator for the FTA, talks about the competition with a smile from ear to ear: ‘I think this has been the most focused group of kids yet. The number of students who have passed the flexography test this year is more than we have ever had. They are rivaling professionals with years of experience in the industry. Their instructors are really doing a great job.’

The second test, math skills, requires students to demonstrate their comprehension of fraction and decimal conversions necessary to complete print orders correctly.

In the third test, teams must craft their own printing plate from a pre-programmed pre-press file; however they do not use this plate to complete the label job for the press operation test.

Industry professionals from companies such as CCL, DuPont and FlexoExchange serve as judges for the fourth test, the live “The number of students who have passed the flexography test this year is more than we have ever had. They are rivaling professionals with years of experience in the industry”
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print press operations test, done on Mark Andy and Comco flexo presses (because every school in the competition has at least one of these brands).

Frank Burgos of FlexoExchange was a judge for last year’s operations test and is extremely impressed at the skill level and dedication of this year’s students. ‘These kids are completing jobs step-by-step with little hesitation. It is great to see high school kids excel in this trade so early. They will be a great addition to the workforce,’ he says.

Judges follow a detailed matrix system to determine team scores in eight cited areas to ensure proper printing press operation. A team’s ability to track the web and set up dies are analyzed and charted, in addition to proper plate mounting ability and total print station set up knowledge and capability. Make ready time, registration and print quality is then separately reviewed. Clean-up and safety practices/teamwork are also observed by the judges. Each team is given an hour and a half to complete the exact same designated print job.

While the students are consumed by putting their practice into action, teachers are provided with training during both days of the competition, where various topics are covered by appropriate professionals. High school instructors are grateful for the opportunity to brush up on their skills, and are eager to learn about new technologies to better train the next generation of industry leaders.

Additionally, in the midst of all the competition heat, students still find time to get to know one another and have some fun. Participants complete a scavenger hunt, playfully searching the Harper Campus for various printing related objects, industry news and professional people to answer questions posed on a list. The team that finds everything on the list first and answers the questions correctly, win.

Justin Green, the first Phoenix Challenge Champion, was one of the flexo professionals on the list. Green is a shining example of accomplishment. He is currently a valued employee for Anderson & Vreeland, ran by Howard Vreeland, an avid supporter of flexographic education and a Phoenix Challenge Foundation board member. Green directly relates his successful career to the Phoenix Challenge and its supporters, and is eager to give back to the group that so strongly supported him.

There is an obvious connection between educational support and professional success.

‘This is the most successful competition to date,’ says Bettlyn Krafft, president of the Phoenix Challenge. ‘As industry support of the challenge increases, students are gaining an even better knowledge of the field and it’s paving the way for their future success.’

Share your knowledge with the next generation. Be a conductor of achievement.

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**News in brief**

**Artwork Systems’ Enfocus donates workflow software to PIA/GATF**

Enfocus, the Artwork Systems brand and producer of PDF and production automation technology, has announced that it is donating a full version of its PitStop Automate PDF technology, worth US$5,999, to the graphic arts industry’s largest association, PIA/GATF, Printing Industries of America/Graphic Arts Technical Foundation, based in Sewickley, Pennsylvania, USA.

**Vertis Communications opens in St Louis**

Vertis Communications has announced the opening of a 23,000 square foot facility in St Louis, Missouri, to produce work for retail and consumer packaged goods corporations, advertising agencies, printers and packaging converters on a local and national level.

**Metro and Checkpoint partner for pilot**

Checkpoint Systems, a manufacturer and marketer of identification, tracking, security and merchandising solutions for the retail industry and its supply chain, has announced its participation in Metro Group’s ‘tag it easy’ pilot. The pilot is part of the initiative Advanced Logistics Asia, which the Metro Group started in order to jointly enhance the logistical processes with its Asian suppliers by using RFID. The ‘tag it easy’ pilot enables the consumer goods industry to apply RFID labels on the shipments from Hong Kong to Germany.

**Muller Martini introduces webcasts**

Muller Martini Printing Presses GmbH presents the highlights of the narrow web offset presses Alprinta V and Concepta on a new multimedia platform. On the company’s website http://www.mullermartini.com, you can watch webcasts on the Alprinta web offset press, demonstrations of the Concepta, and a presentation by Dr Jürgen Dillmann, managing director of Muller Martini Printing Presses.

**Soma wins double in excellence award**

Soma Engineering has won the Design Center of the Czech Republic Award for the 2007 Excellent Product of the Year with its new Casings Technology flexographic printing press and Soma Cut Puresheet sheeting machine.
Chinese press for US

Danielle Jerschefske travels to Redwood City, California, to visit start up company Synectic, which is printing high quality labels on a JH 1300, the first Chinese flexographic press in the US

Prestigious West Coast, award-winning consultants, Dave Hoydal and Gil du-Long, have happily started their own company in Redwood City, California, just outside of San Francisco. The pair have been working together in the industry for 14 years, helping companies like Rotocolor, Blake Printer, CALabel, WS Packaging and G3 Enterprises, label division, create high quality flexographic labels for wine bottles and other items.

Overcoming the challenges faced with printing high quality flexo heightened Hoydal’s and du-Long’s entrepreneurial spirits. After successfully confronting and resolving many dilemmas and winning numerous awards along the way through their hard work, the two drafted a business plan which encompasses their shared vision of a company.

‘We share the same vision of quality,’ says du-Long, ‘and are both excited to work together in our own label and packaging business with a particular focus on high-end wine labels. We really enjoy a challenge.’

Their composite vision includes building a company from the ground up where everyone must wear different hats in order to get the job done. Lean manufacturing is also a very important strategic goal of Synectic. ‘It is our vision to build a business with valuable people that allows an easy, long-term quality of life,’ Hoydal tells. ‘The definition of Synectic truly describes all of us involved and our all-around philosophy of what we are going to be as a company to our customers.’

It is essential to both owners that there is a ‘culture of innovation’ in the shop. Both feel it is necessary to generate an environment that promotes creativity and thinking outside the box to consistently achieve the highest quality. ‘Every Synectic employee can offer input about where they believe the company should go,’ says du-Long.

Once Hoydal and du-Long started to move forward with their plans, they needed another partner to fill the marketing void in the company. They found Joe Iskander, an industry marketing expert, who concurs with their ideas and visions for the company. With Iskander’s added expertise, the business plan quickly became a reality.

The business plan moves forward

As Synectic began to take shape off the paper, Mat Jones and Wayne Huang of J&H Printing came across a Chinese flexo press while visiting the country in 2005. Impressed at first sight, Jones asked a trusted group of industry experts to travel back with Huang to perform a thorough examination on the press. Du-Long traveled as a professional consultant, curious to see how the press would stack up against established American and European presses – not to mention wanting to assess its wine label printing potential for Synectic.
“Overcoming the challenges faced with printing high quality flexo heightened Hoydal’s and du-Long’s entrepreneurial spirits”

‘I found the press,’ explains du-Long, ‘to be surprisingly well built. None of us knew what to expect. It held great registration and all the people on the Chinese engineering team were extremely open-minded to suggestions.’ When a suggestion was made in the evening, du-Long was impressed when it was completed by morning.

‘The price of the JH 1300 was very appealing,’ both Hoydal and du-Long say. In a saturated market where successful start-ups require a huge investment, it was an affordable, lower cost alternative to get their company off the ground. The duo felt they could complete all the same award-winning work on the J&H press that they have been doing on established ones.

Hoydal and du-Long revisited China together at a later date to further look over the press. The pair really got a chance to get to know the manufacturers on this second trip. ‘The people at the facility are so wonderful, so motivated and we were really treated so nicely,’ the co-founders explain. ‘We grew very comfortable with them and realized that we would certainly be happy conducting business together.’

They continued, ‘we also know that Wayne and Mat are dependable peers who offer incessant support to our company. They have already been a reliable resource for Synectic.’

**Purchasing the JH 1300**

Synectic soon resolved to give China a go at the flexo world.

Investing in a 13 inch, 11-color JH 1300 one year ago, was a way for the owners to purchase a brand new press, well within their budget, while still boasting reliability and quality. To complete high-end labels, they also purchased a UV/hot air/infrared drying package. Their JH 1300 comprises three dies stations, a sheeter, de-lam/re-lam and a turn bar. It also has cold foil stamping capabilities.

Losing patriotism? No way. ‘The reality is, it is a global market,’ explains Hoydal. ‘By opening this operation, we are creating jobs for Americans and are keeping work from going offshore. Besides, what is the difference if the press comes from China, when many presses come from all over Europe? Should one not start a business by keeping the star-up costs low? That’s what we needed to do to get this off the ground.’

Used equipment was not a viable option as far as the pair was concerned. And, experience told them it was really a matter of time before the J&H presses were going to print labels – in the United States. In fact, it is currently used in many printing plants around the world. Synectic’s press is the first JH 1300 running labels in the US.

The company currently has four employees working in the shop. Celestino Salazar completes the rewinding. Hoydal, VP of operations, handles all pre-press details;

du-Long, VP of manufacturing, is the press operator and Joe Iskander the VP of sales and marketing. For the time being, plates are made by Advanced Labels and Crown Flexo located in the Bay area. In due time, Synectic will produce its own plates in house.

Within the next five years, the industry can expect Synectic to have a larger facility and/or multiple ones, running two shifts, on more J&H presses. ‘We are definitely going to stick with J&H,’ says Hoydal and du-Long. ‘Why not? They’ve been great.’
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COMING TO SEE THIS NEW RELEASE, SPECIAL DESIGN LETTERPRESS FOR IN-MOLD & SHAMPOO LABEL MAKING AT LABELEXPO BRUSSELS 2007.

HALL: 7, BOOTH: TM70, SEPT. 26-29, 2007

**PW-260-R6C - I TYPE**

6-COLOR FULL ROTARY LETTERPRESS SPECIAL DESIGN FOR IN-MOLD LABEL & SPECIAL SHAMPOO LABEL

- 260mm web width
- Tension control & unwinder
- Electronic shaft rewinder
- Automatic web guide system
- Edges trimming device
- Automatic wash up system
- EZ change retractable print cylinder & quick register set-up device with micro adjustment
- Flexo varnish print unit + UV dryer
- Corona treater
- Chilled roller & water chiller
- Static eliminator & ionized blower + conveyor
- Cold foil stamping device
- Rotary die-cutting station
- Additional unwinder + rewinder + tension control + extra corona treater
- Wet laminate device + extra guide rack

LABELMEN OWNS TECHNOLOGY

MANUFACTURING ADVANCED LETTERPRESS FOR IN-MOLD & SHAMPOO LABEL PRINTING FOR WORLD WIDE CUSTOMERS.

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