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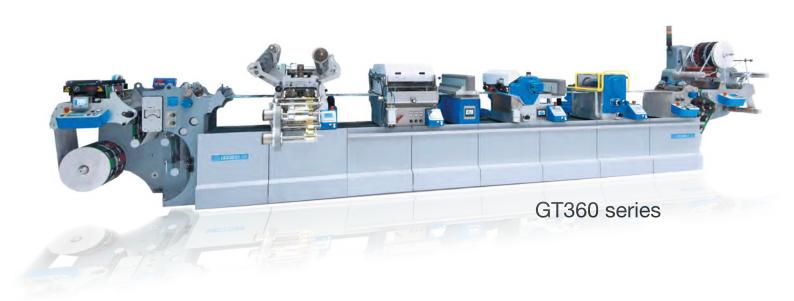
Tammy, Jenn, Claudia
TrueCut™ Expert Team

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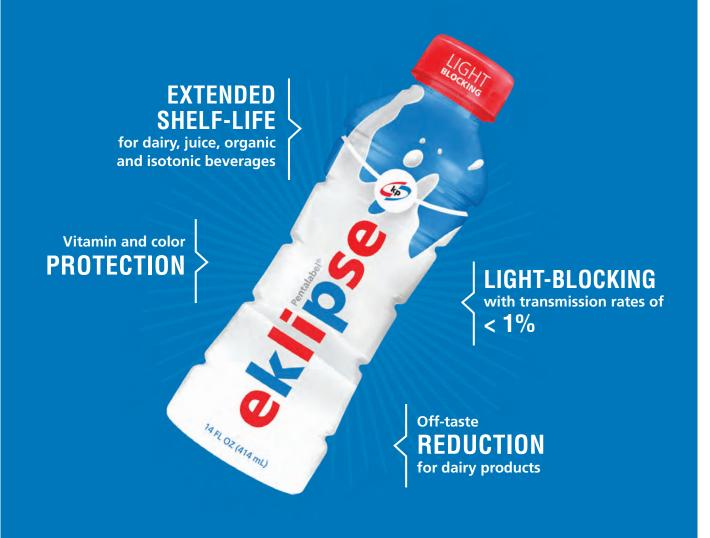
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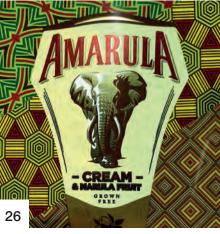
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The Labels & Labeling website presents daily news and exclusive content generated by its international editorial team and addressing the most pertinent developments in the label and package printing industry



#### Opportunities in LED (opinion)

RK Print Coat Instruments outlines work going on to support UV LED's penetration in the label and package printing market



#### Charity challenge (news)

AB Graphic MD Mike Burton aims to raise 36,000 USD for Macmillan Cancer Support with solo journey across the Atlantic



#### Workflow integration (video)

5Sept Etiquettes has benefitted from end-to-end integration steered by Cerm MIS software



#### Migration safe pharmaceutical labels

On pharmaceutical packages, companies should only use labels that meet low leachability and extraction requirements



## Flexo or Digital?

If managing SKUs is an increasing problem for you... the Domino N610i is your solution\*



**Tony Dardano,** EVP Sales & Marketing, International Label Printing, USA

The future profitability of your business could be hanging in the balance





#### Ten years ago (L&L issue 1, 2007)







Wet glue forum

**P.8** In the run-up to Tarsus' first Label Summit in Chile, James Quirk visited Brazil, Chile and Argentina to try to dispel many of the myths about this market. 'In Latin America you will find industry, a massive local market just ripening, top brands, increased political stability in the key economies, fewer cultural barriers than in the Far East, strong existing trade relationships with the US and Europe, and, as you will see in the articles that follow, top quality print houses and machinery suppliers."

**P.36** Web packaging was a big topic, with Federico d'Annunzio - at what was then Gidue bringing together suppliers to look at food migration and low odor topics. Subjects covered included nitrogen inerting. Air Liquide, the world's biggest gas supplier, announced a move into the packaging market, claiming that nitrogen can increase curing level from 75 percent to 95 percent and increase curing speed by a factor of three.

P.53 L&L technical editor Barry Hunt wrote a comprehensive report on the position of offset in the narrow web label market, pointing out its continued strength as a combination process in the prime added-value markets. 'One explanation is that the buyers and brand managers of the multinational manufacturers of such products work in an offset-oriented environment. As in the commercial world at large, offset accounts for most of their promotional needs.'

**P.67** The European Wet-glue Label Association annual meeting noted that the technology still accounted for 50 percent of the global label market by volume. 'The positive factors for wet-glue include the significant installed base of cold glue equipment, the technical suitability of wet-glue labels to multi trip bottles, and the emerging development of filmic materials for cold glue.' AWA's Cory Reardon stressed that wet-glue labels still offered 'the lowest total cost outside direct printing'.

#### What you're looking at...



What have visitors to labelsandlabeling.com been looking at recently

News: M&A activity across the supply chain has continued strongly in the industry, led by CCL's takeover of Innovia Films. CCL has a complementary presence in the markets in which Innovia operates, with capabilities in security printing, polymer extrusion and surface engineering that are deployed across all business segments. The acquisition will provide a platform for CCL to grow and further enhance its offer in these markets. Another acquisition designed to target synergies is that of European digital press manufacturer Trojanlabel by AstroNova, a specialist in data visualization technologies. 'Trojanlabel will expand our leadership position in the digital color label printer market,

adding high-performance color label presses to AstroNova's table-top printer products, and creating significant cross-selling opportunities,' commented Gregory A. Woods, AstroNova president and CEO.

Smart packaging developments have been plentiful, including Selinko and Toppan Printing collaborating for an innovative device allowing detection of any attempt to remove, tamper with or even pierce the cork of a wine bottle. WestRock, meanwhile, has unveiled connected packaging for smart products that combines Digimarc's enabled barcode technology, with Evrythng's IoT smart products platform.

#### M&A bonanza

#### Editor's note

s the news pages of this edition of L&L demonstrate, the last weeks of 2016 and the opening of 2017 have seen a major pick-up in the pace of mergers and acquisitions in the label and packaging industry.

It demonstrates that globalization will continue to be the most powerful force driving economies in the new year. It also marks a trend for suppliers looking to own multiple sources of expertise and manufacturing capacity in areas where they are already strong, as well as diversifying into closely related technology areas. These trends can be seen, for example, in Avery Dennison's acquisition of Hanita Coatings, and also CCL's acquisition of Innovia, which is concerned with consolidating and expanding the company's

specialist materials supply business.

On the converter side, M&A activity, particularly in the US, continues to pick up. The acquisition targets are often medium-sized converting companies which are not small enough to be micro-locally focused, but without the resources to compete with the larger, national or multi-national groups around them. Important to note is that these are not failing companies - they are converters looking to gain the resources and reach necessary to build on their existing success.



Andy Thomas Group Managing Editor

#### News



#### CCL acquires Innovia Group

Deal further expands offering of world's largest specialty label business

CCL Industries is to acquire Innovia Group, allowing the world's largest specialty label business to grow and further enhance its offer in security printing, polymer extrusion and surface engineering. The transaction is worth 1.13 billion CAD (842 million USD).

Innovia specializes in film and banknote production, having it divested its legacy cellophane business last year. Recent investments include a state-of-the-art facility to produce polymer banknote substrate in Cumbria.

CCL employs more than 20,000 people and operates from 156 production facilities across 35 countries on six

Geoffrey T. Martin, CCL president and CEO, stated: 'This transaction is another transformative acquisition for CCL, propelling the company to world leadership in the disruptive, fast-growing polymer banknote market while strengthening our depth in the materials science arena with proprietary BOPP films technology for the label, packaging and security sectors.'

Mark Robertshaw, chief executive of Innovia Group, said: 'CCL will be an excellent long-term owner for the employees and customers of Innovia. CCL recognizes and values Innovia's world-leading technology, R&D and differentiation in films and security, and sees a high degree of complementarity with CCL's own capabilities and markets to establish new growth opportunities for its business.'

'We expect to find significant operational, customer and product innovation growth opportunities between Innovia and our end-use facing businesses at CCL Label, CCL Design, Checkpoint and Avery,' concluded Martin.

The transaction is subject to regulatory and other change of control approvals and customary completion procedures with closing expected by the end of the first quarter, 2017.



Read more about Innovia in the label films article on page 81 of this issue

#### Fortis acquires **Action Packaging**

PS label converter to operate under Fortis Group Solutions name

Fortis Solutions Group has acquired Action Packaging Systems. Action Packaging Systems, with locations in Ellington, Connecticut and High Point, North Carolina, provides pressure-sensitive prime, promotional and thermal labels to customers across the country. It will operate under the Fortis Solutions Group name.

Fortis President and CEO John O. Wynne Jr said: 'We are thrilled to acquire a company of the caliber of Action Packaging Systems. [Action Packaging CEO] Doug [Rice] and his team have done an outstanding job delivering industry-leading customer service using their "five days and out" mantra. We look forward to continuing this philosophy using the company's world class flexographic and digital assets. In addition, we are excited to add the Gold Seal label applicator product line to our differentiated offerings. We welcome the Action employees to the Fortis organization.

Rice added: 'We are elated to join the Fortis Solutions Group team. This partnership with Fortis will enable us to offer our customers new capabilities for product decoration. Fortis believes in and supports our incredible sense of urgency for quick delivery which we have provided to our fine customers for 38 years. The size and depth of Fortis Solutions Group will benefit our customers and our employees in many ways going forward."



Datalase direct marking systen

#### Sato takes ownership of DataLase

Sato has acquired UK-based in-line digital printing specialist DataLase, building on the companies' existing relationship.

Sato and DataLase first worked together in October 2015 to form SpeciaLase to introduce DataLase's technology in Japan and the Asia-Pacific region. Sato held a 33.3 percent share of DataLase prior to this acquisition.

The DataLase technology enables high-speed, fast turnaround printing, suited for packaging and product customization and personalization. The technology allows printing of variable information to enable real-time marketing to maximize brand owner and consumer value. The system is inkless at the point of printing, so removing the need for consumables in the production environment at the point of fulfilment.

#### Western Shield acquires Inline Label

Western Shield Label Company has acquired Inline Label Company, based in Middletown,

'Inline provides an exciting opportunity for Western Shield,' said Nizar Elias CEO of California-based Western Shield. 'The new foothold in the midwest allows us to better serve many of our existing clients as well as offering a new breadth of products and services to Inline's customers. This is an exciting moment for Western Shield and we couldn't be happier to welcome Dave Hechler and his team to Western Shield.'



#### Trojanlabel acquired by AstroNova

Digital press manufacturer to be subsidiary of data visualization specialist

European digital press manufacturer Trojanlabel is to be acquired by AstroNova, a specialist in data visualization technologies.

AstroNova's wholly owned Danish subsidiary, ANI, has signed a definitive agreement to acquire Trojanlabel for 9 million USD. Following completion of the acquisition, Trojanlabel will operate as a wholly owned subsidiary of AstroNova.

Gregory A. Woods, AstroNova president and CEO, said: 'The acquisition of Trojanlabel dovetails with our strategy of identifying strong, profitable and growing businesses that directly complement one of our core lines of business.'

AstroNova designs, manufactures, distributes and services a broad range of products that acquire, store, analyze and present data in multiple formats. The product identification segment offers a variety of hardware and software products and associated consumables that allow customers to mark, track and enhance the appearance of their products. Major brands include QuickLabel, for onsite digital color label printing.

Trojanlabel's major product lines include standalone digital color label presses; digital color print station OEM modules for intermediate-volume markets such as print shops, label converters, manufacturers, brand owners, contract packaging and the secondary labels/logistics market; and an overprinting system that enables high-quality, 4-color printing on surfaces such as uncoated papers, cardboards and materials that are pre-treated for aqueous inkjet printing. The company also manufactures a table-top system designed for on-demand color-label printing.

'Trojanlabel has grown rapidly to become one of the leading manufacturers in the digital color label printer market,' continued Woods. 'Its products are well-known for their innovative design and superior performance. Trojanlabel has an extremely talented R&D group that will help further accelerate our own product development process. Trojanlabel will expand our leadership position in the digital color label printer market, adding high-performance color label presses to AstroNova's table-top printer products, and creating significant cross-selling opportunities. This acquisition also substantially expands our European manufacturing base and broadens the geographic footprint of our Product Identification business, complementing our strong North American direct sales force with Trojanlabel's formidable dealer network in Africa, Asia, Europe and the Middle East.'



#### Denny Bros acquires Richard Ching

Denny Bros has acquired Richard Ching & Son, a manufacturer of labels and nameplates, expanding its product offering to include nameplates, fascia labels, under surface printed labels, vinyl labels and waymarkers.

With over 80 years of experience in manufacturing a range of labels and nameplates, Richard Ching & Son specializes in producing waymarkers used by councils and other organizations, plus metal nameplates, plastic labels, overlays and many other labeling products used across all industries.

This acquisition takes the Denny Bros Group of companies to ten. Managing director Barry Denny commented: 'Richard Ching's activities dovetail in to those of Denny Bros and Willowbridge Labels, a company we bought a few years ago, and which has gone from strength to strength as a result of our involvement and investment. I am sure we can do the same with Richard Ching & Son, and look forward to progress being made over the next year or two.'

Richard Ching & Son will continue to operate under its current identity and be run by Ivan Kistruck, its general manager of 30 years. He said: 'Richard Ching's previous owner, Sheila Harrington, took great care in selecting the right company and the right people for us to work with. The news has been extremely well-received here as it provides job security and with the possibility of new markets comes the prospect of more employment in the future. We look forward to having a long, successful future with the support of the Denny Bros Group.'

#### Omet opens X-Flex site

Omet has opened a new production site a few kilometers from its headquarters in Lecco, dedicated to assembling and testing of the XFlex X6 line. 'Despite the economy still recovering from the crisis, our company continues its growth, creating value and offering employment,' said Marco Calcagni, Omet commercial director.

#### Digital Series certified

Color-Logic has certified the Mark Andy Digital Series hybrid presses for use with the Color-Logic process metallic color system. Mark Andy Digital Series CMYK+W inks enable printers to produce 250 metallic colors and an unlimited number of decorative effects on silver metallic stock.

## spgprints



# rotaLEN® direct laser engraver for RotaMesh® and RotaPlate®.

#### The rotaLEN® 7511 Direct Laser Engraver is specifically designed to serve printers in the label and security market.

The rotaLEN can easily be integrated into the existing work-flow and engraves images onto RotaMesh and RotaPlate screen material, in a one-step dry and fully digital process. With the shortest possible time-to-press and perfect reproducibility, no remakes due to film or wash out issues, the rotaLEN allows an economical and cost effective screen making workflow.

The rotaLEN concept is based on application know-how of SPGPrints over the past 30 years and enhances the Direct Laser Engraving process in the label industry.

- Fully digital single-step process
- Pre-press to print, without water
- Increased press output



#### Edale launches AiiR automation

First commercial application of new autonomous inking and print impression system

The Demax Graphic Arts Group, Bulgaria, has invested in a fully automated Edale FL5 single-pass flexographic press to print sophisticated lottery scratch cards. This represents the first commercial application of Edale's new AiiR autonomous inking and print impression system.

Aiir features camera-based press control technology which helps guarantee an optimal level of registration. Bespoke software developed in-house allows five additional motors, individually positioned on each print station, to adjust the print impression, inking

and cross register to ensure the highest print quality. By fully automating print and registration processes, the level of operator intervention is reduced leading to fewer errors and a more consistent, higher quality final product.

Demax is a diversified and successful business specialising in digital, plastic cards, labels, flexible packaging holographic and security printing and has over 40 percent share of the label printing market in Bulgaria.

The company's 510 mm-width Edale FL-5 has 17 stations integrating UV flexo and digital variable data printing and verification with in-line cold foiling, sheeting and stacking in one complete system. Instead of a six-step sheet-fed offset process, the complex cards are now all printed roll-to-sheet in one-pass on this new press.

#### Supplier News

ABG's Burton embarks on challenge AB Graphic MD Mike Burton has embarked on his latest rowing challenge, a three-month solo journey from Gran Canaria to Antigua, through which he hopes to raise more than 30,000 GBP (36,000 USD) for Macmillan Cancer Support.

Burton set off from Puerto Rico Marina, Gran Canaria, on January 10, with the aim of reaching English Harbour, Antigua, up to three months later having rowed 3.000 miles.

His home for the next three months is Storm Petrel, a 6m-long, 1.8m-wide boat constructed of glass fiber and Kevlar, self-righting in the event of a capsize, with a sea anchor to stop her being blown backwards in adverse conditions.

Three years ago, Burton rowed in the Talisker Atlantic Ocean Race in a pairs challenge, and won it by seven days.

Visit www.sprata.org to see a live tracker of his journey, read his daily blogs and donate.



Matik distributes Edale in US Matik is the new exclusive North American distribution of Edale's narrow and mid web flexo presses for label, flexible packaging and carton printing. Matik supports North American customers with installation, training, service and parts.

'A complement to Matik's portfolio of advanced European converting, printing, slitting and packaging equipment, Edale's presses offer North American customers innovative in-line flexo solutions,' said Steve Leibin, executive vice president of business development at Matik. 'Few competitors can match Edale's breadth of expertise.'

#### Avery Dennison acquires Hanita Coatings

Deal for Israeli PS material manufacturer worth 75 million USD

Avery Dennison has agreed to acquire Hanita Coatings, a pressure-sensitive material manufacturer of specialty films and laminates, from Kibbutz Hanita Coatings and Tene Investment Funds for 75 million USD.

Headquartered in Israel with sales and distribution facilities in the United States, Germany, China and Australia, Hanita Coatings develops and manufactures coated, laminated and metallized polyester films for a range of industrial and commercial applications, all of which require high performance and superior quality. Hanita Coatings' window films are used in architecture and automotive aftermarkets; its top-coated polyester films are used in the manufacture of durable labels, and its ultra-high barrier films form part of insulation systems used in refrigeration, buildings and cold chain packaging.

'We see clear opportunities to leverage our strong global organization and established brand to help accelerate Hanita Coatings' product commercialization around the world,' said Mitch Butier, Avery Dennison president and CEO. 'In addition to expanding our product portfolio and providing new growth opportunities, Hanita Coatings' culture of innovation and long-standing commitment to R&D are a strong fit with our own company's 80-year history of innovation in materials science.'

With 2015 sales of roughly 50 million USD, Hanita Coatings currently employs more than 220 people, most of whom are located at the company's headquarters in Israel's Western Galilee. The 33-year-old company generates sales in more than 40 countries.

'We are excited to be joining forces with such a global industry leader and see it as a great opportunity for Hanita Coatings to realize its full potential,' added Oved Shapira, CEO, Hanita Coatings. 'I am convinced that Avery Dennison's resources, distribution channels, and brand will benefit our customers across all our markets, enabling continued innovation through future investment and improved manufacturing efficiency."

Avery Dennison expects that completion of the transaction will take up to a few months, subject to customary closing conditions and approvals.

#### Environmental News



#### UPM partners on Brazilian reforestation project

Project will keep river clean near UPM South American headquarters

UPM Raflatac is collaborating with Brazilian preservation groups to protect the vital ecosystem near its South American headquarters.

UPM Raflatac is partnering on a one-hectare reforestation project of the Jaguari River. UPM Raflatac has teamed up with the Prefeitura Municipal de Jaguariúna, Ambev, The Nature Conservancy, Associação Mata Ciliar, Embrapa-Meio Ambiente, Agência das Bacias PCJ and Agência Nacional de Águas for this reforestation project along a Permanent Protection Area of the Jaguari River in the city of Jaguariúna, where UPM Raflatac Brazil is headquartered and operates a terminal supporting the South American market.

Part of the city of Jaguariúna's 'Programa Bacias Jaguariúna', the Brazil reforestation project will create a riparian buffer zone along the Jaguari River, which supplies 95 percent of the water supply to the nearby city, and by planting 1,666 native Mata Atlantic species trees, construct fences along the recovered area, and continue maintenance. Riparian buffers help improve water quality by preventing pollutants from reaching a river or stream; the river will flow cleaner than ever before. It is expected the project will last for two years, due to wildfire prevention, soil treatment, irrigation and growth of the planted trees.

According to the Nature Conservancy, the Atlantic Forest is one of the most important forests on Earth, home to one in every 20 vertebrate species on the planet and some 20,000 different species of plants. Once occupying an area nearly twice the size of the US state of Texas, today only 12 percent of the original Atlantic Forest remains as a result of urbanization, agriculture, cattle ranching and illegal logging. Despite this dramatic diminishment over the years, it is still one of Earth's largest tropical forests.

'This project is an excellent opportunity for UPM Raflatac's employees to engage and contribute to the sustainability of our local community here in Brazil,' said Maurício Médici, general manager, UPM Raflatac Brazil. 'The watershed of the Jaguari River is the lifeblood of the region, and it is our duty to protect it for the long term.'



#### Avery Dennison US operations to be partly powered with wind

Half of company's US energy consumption will be from wind

Avery Dennison has signed a wind power purchase agreement (PPA) with Apex Clean Energy to offset 50 percent of the company's US-based greenhouse gas emissions derived from electricity consumption.

Under the agreement with Apex's Perryton Wind – a 299.91 MW wind energy project to be located in Ochiltree County, Texas – Avery Dennison will purchase 20 MW of renewable energy capacity. The PPA is a key component of Avery Dennison's 2025 sustainability goal to reduce absolute greenhouse gas emissions from its operations by at least three percent annually, and by at least 26 percent overall, between 2015 and 2025.

According to Roland Simon, vice president of global procurement and global sustainability leader at Avery Dennison, the PPA will provide clean, renewable electricity equal to 50 percent of the power consumed by Avery Dennison's US operations.

'It's important for us to optimize renewable energy sources in a way that ripples outward to create change that encompasses far more than our own business,' Simon said.

#### Compostable, biodegradable, vegan labels introduced to NA market

Labels produced from non-GMO sugar cane

Pure Labels has introduced to the North American market compostable and biodegradable adhesive labels made with a natural fiber facestock.

These new sugarcane labels are 100 percent compostable and biodegradable, manufactured with tree-free non-GMO raw materials, and are compliant with international compost standards.

The facestock is made from sugarcane waste fiber and is specially-designed for high-quality and high-volume production with a sturdy construction and high durability. The pressure-sensitive labels are available in both permanent and removable adhesives, with a minimum application temperature 35 deg F and a service temperature range of -10 deg F to 200 deg F. Pure Labels is the only label that is certified compostable, tree-free and vegan.



Go to www.labelsandlabeling.com for more environmental news



## SAELIM TYRE LABELS

**High Quality Tyre Labeling Solution** 



**All About Tyre Labels** 

#### New Products







#### PICTURED

- 1. Siegwerk PUR inks
- 2. Tresu XL5i
- 3. Torayfan OTM
- 4. UPM Raflatac RP38



#### PUR inks

Siegwerk

Based on a polyurethane binder system and containing no polyvinyl chloride, the new ink technology is optimized to meet high performance requirements, such as high bond strength values in lamination. It allows for use in harsh retort conditions and can also be applied on modern barrier film substrates. Further, the PUR ink system is solely based on ethyl acetate as a solvent to allow utilization in monosolvent set-ups in combination with solvent recovery systems. Printers can also use common co-solvents like methyl ethyl ketone (MEK) or ethanol.

#### ® XL5i

Tresu

Used in combination with a chamber doctor blade and customized open-cell anilox roll, the Tresu XL5i coating circulator provides fully enclosed circulation from the bucket to the point where the ink or varnish fills the anilox cells, thereby enabling pressure and control needed to delicately handle the medium. The enclosed system prevents contamination of air inside the chamber that can lead to foaming and undesired blistering of the printwork.

#### ® Torayfan OTM

Torav Plastics (America) This portfolio of BOPP films has been designed to prevent packages from bursting when transported in high altitude and low atmospheric

pressure conditions, so tackling 'significant distribution challenges for CPGs' caused by geographical differences across the US. Torayfan Over-the-Mountain films have been engineered with a proprietary, modified polypropylene core layer and a proprietary sealant, which work synergistically to provide superior seal performance, according to Toray Plastics (America). Seal strength and hermetic seals help to maintain the integrity of the package, and protect the oxygen and moisture barrier that allow food to stay fresh.

#### ® RP38 TXL

UPM Raflatac

Available in Europe, this adhesive for clothing and textile labeling in retail environments ensures that labels stay in place without discoloring the fabric or leaving residue when removed. RP38 TXL keeps labels securely in

place for applications such as clothing and product labeling, and protects merchandise by ensuring that there are no markings or discolorations from the label. The adhesive offers stable performance in product label printing and dispensing, and doesn't bleed, even in warm conditions. Though RP38 TXL keeps labels firmly attached, it also allows them to be easily removed without leaving any residue. This ensures usable end products and helps to safeguard the brand's image and protect retailers from claims.

#### **Uvalux LED** U0850/LED U0851

Zeller+Gmelin

These UV LED cold foil adhesives are designed for use on sheet-fed and narrow web letterpress and offset presses. They are cured in the 385nm and 395nm wavelength ranges. The difference between the two adhesive systems is the coloring: Uvalux LED U0850 is a yellow-colored adhesive intended for use on gold foils and Uvalux LED U0851 is a grey-colored system for silver foils. Uvalux LED U0850 and LED U0851 adhesives are available in standard and low migration variants.



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#### Installations









#### 1 Durst Tau 330E

Coast Label, US

Southern California's Coast Label has become the first customer on the US west coast for Durst Tau digital printing technology after installing a 330E model. Coast Label has combined the Tau 330E with a GM DC330 Mini semi-rotary finishing system with in-line integration. Company president and CEO Craig Moreland chose the Tau after considering what would deliver the best results for Coast Label's largest markets, which include healthcare and high-performance industrial.

#### ® Screen Truepress Jet L350UV

Springfield Solutions, UK Springfield Solutions, based in Hull, UK, is on target to produce more than 160 million digital labels in 2016, the most it has printed in a single year. As well as expanding into a neighboring building, the company is investing in a new Screen Truepress Jet L350UV with

Jet Converter and a new AB Graphic to upgrade its production Digicon Series 3 finishing unit with buffer, which will be retrofitted to a current off-line Screen Truepress in the new factory.

#### **MPS EF 430**

Hexxa Flexible Packaging, UAE MPS has entered the UAE with an EF multi-substrate flexo press sale to Hexxa Flexible Packaging, a flexible packaging printer based in Ras al Khaimah. Hexxa Flexible Packaging recently invested in larger premises in Ras al Khaimah. With its new MPS flexo press, the company is set to achieve higher productivity in shorter print runs. A full-service interactive training program for Hexxa's press operators was included in the press purchase. New to flexo, the operators were reportedly fully trained and operating the new EF multi-substrate press within days.

#### Nilpeter Panorama The Printing Plant, US

The Printing Plant was looking

equipment, with company president Tod Leonard and his team investigating several digital presses. It had samples of current job files printed for review by several OEM companies and press manufacturers. 'The improved speeds and web widths available with the Panorama allowed us to quote and win significant new business,' says Leonard. 'One of our new customers has over 850 prime labels they are in the process of redesigning, and they specified that we would only be awarded with the order if we would commit to printing the labels on the new digital Nilpeter press.'

#### Mark Andy Digital Series Label Solutions, US

The fully configurable Mark Andy Digital Series has replaced an existing digital system and joins another digital printing system, which has been in operation for three years. The hybrid press line includes two flexo print stations, one before and one after the inkjet module, and includes capabilities for in-line lamination, varnishing and cold foiling.

#### HP Indigo 30000

B2Pack, Spain By taking Europe's first HP Indigo 30000 digital press configured with an in-line corona treatment unit, the company will be able to print on an entirely new range of substrates including metallized materials and plastics. The in-line corona on B2Pack's HP Indigo 30000 is set to transform the company's print offering, facilitating printing on to high-margin substrates including metallized boards, synthetic media up to 25pt (including PVC, clear PET and PP) and dark substrates. With these new capabilities, B2Pack will be able to produce almost any box, sleeve or blister application in offset quality, broadening its print offering.

#### Installations









#### **® PCMC Fusion C**

Walle Corporation, US PCMC has installed its first Fusion C press at Walle Corporation, a label supplier to the consumer packaged goods industry, located in Winchester, Kentucky. The Fusion C is loaded with fast make-ready and waste-saving features, and has a smaller footprint and fewer parts, saving space and cost.

#### ® Rotoflex VLI 600

Dan Labels, Denmark Used for off-line finishing of unsupported film, the machine was chosen as it provides reliable slitting of 600mm wide rolls of PP and PE material with a variety of thicknesses, and at high speed for long runs. The decision to purchase the Rotoflex VLI slitter rewinder was made shortly after Dan Labels saw a live demo at the Mark Andy regional demonstration facility in Poland, accompanied by Mads Iversen of RR Print, a distributor of printing products and machinery based near Copenhagen.

#### Newfoil 3534

Propack Labelling Solutions, Lebanon

The 3534 model has a maximum web width of 340mm, which is ideally suited to today's digital converting market, according to Newfoil, with other web widths available. Propack's investment in a Newfoil 3534 complements its Mark Andy 8-color P5 Series flexo press. By using the Newfoil 3534's hot foil stamping ability and new Quick Set embossing unit, Propack is able to produce high quality labels for the Middle Eastern market.

#### **©** GM in-line hot foiling press

CS Labels, UK

The investment allows the opportunity to provide embossing and spot varnishing, offering extra embellishment capabilities to client label projects. The finishing machine is designed to work mainly with high-end luxury brands, many of which

are switching to digital print due to its personalization, short run capability and high quality print. An Ashe Opal rewind unit has been installed to increase CS Labels' rewind capacity and provide even faster lead times to customers.

#### <sup>®</sup> Comexi Futura

Uflex, India

Uflex has installed a Comexi Futura machine that can handle LDPE, HDPE, LLDPE, BOPP, PET, PA, aluminum foil, paper and coextruded films. It has a maximum speed of 450m/min, a maximum web width of 1330mm. It delivers a holographic finish through Cast & Cure technology, creating an attractive visual register effect using a UV lacquer without the need for laminating. . Further, Comexi Futura allows cold foil application, UV laminating, the use of different coatings to give an attractive finish to the product, and the possibility of solventless laminating.

#### Esko, Global Vision combo Bemis, US

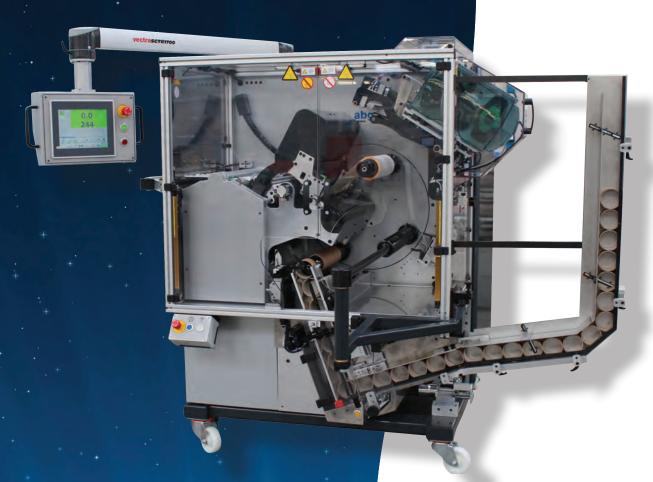
With Global Vision quality control tools embedded within Esko Automation Engine, Bemis Company now catches errors in packaging files quickly and easily. After every file iteration, Bemis conducts a file check on all graphics elements and text, along with barcodes, comparing them back to the art file. As the artwork is built, a spell and barcode check is conducted after Esko normalizes the PDF file. The file is then compared to the original art files to see if anything has changed. When traps are added and high-resolution images assembled, a comparison is made to the previous PDF file.



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

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#### *Appointments*



Jeroen Diderich VP & GM, Materials Group EMEA Avery Dennison Reporting to Georges Gravanis, he will be responsible for Avery Dennison's Label and Packaging Materials and Graphics Solutions businesses in the EMEA region

#### Keith Wilmot

Dscoop, global Wilmot has spent 20 years leading marketing and innovation for global brands such as Coca-Cola, Listerine, Neosporin, Lubriderm, Brach's Candy and Ocean Spray. He was most recently the CEO of Leadercast and past global vice president of creativity and insights at The Coca-Cola Company.



Dennis Gagan Business manager, Torayfan Toray Plastics (America) He brings 24 years of diversified film industry experience to the position, and has worked in sales, account management and product management.



Marc Büttgenbach Board member Finat The CEO of Bizerba Labels & Consumables is also a member of the board of the German label association VskE and president of the German Paper and Paper Converting association. A long-time active member of Finat, he replaces Frank Neumann on the association's board.

#### Hans Sohlström Chairman Munksjö The combined Ahlstrom-Munksiö business is merging the leadership teams of the two companies, with Hans Sohlström as chairman of the board of directors of Munksjö, and Peter Seligson and Elisabet Salander Björklund as vice



chairmen.

Chris Quandt Business manager, US Midwest, FLXON Chris Quandt joins FLXON from Outlook Group as area business manager for the US Midwest, including Wisconsin, Minnesota, Iowa, Illinois, Indiana, Michigan and Ohio.



Yariv Avisar Chairman AVTHe brings more than 16 years of global business management, including extensive experience building effective executive teams and overseeing international business growth initiatives.



Rob Ambrose US sales representative, Unilux He will serve as the exclusive Unilux representative in Arizona, California and Nevada, and brings many years of experience in the printing, coating and converting industries.

#### Dr Martin Schreer and Andreas Jastrzembowski

Foint managing directors Mitsubishi HiTec Paper Europe Schreer becomes technical managing director and lastrzembowski commercial managing director following the departure of Gerhard Schoon, who retired at the end of 2016 after a 38-year career at the company. .....

Eric White Business development manager Domino Digital Printing Solutions White has extensive knowledge of the packaging industry, first at Tetra Pak and then at Skanem, where he worked for 12 years in a series of high profile positions.



Arnab Maiti Sales director, South Asia Esko His strengths are said to lie in direct and indirect sales, strategic management, technical acumen, interpersonal skills, and leading and development of diverse teams.



Marc Hansing Sales account manager Drvtac In his new role, Hansing will be responsible for promoting Drytac Europe's product range and supporting customers in Germany, Austria and Switzerland.



Anne Klermund International sales executime Denny Bros Born in Paris and a student in France until the age of 20, she completed her studies in Taipei and worked for a further 10 years in Southeast Asia before returning to Europe.

#### Phil O'Driscoll Innovation and new product development Parkside He will be responsible for increasing supplier and customer collaboration, and will drive growth

through the development

of new flexible packaging

products.

company.

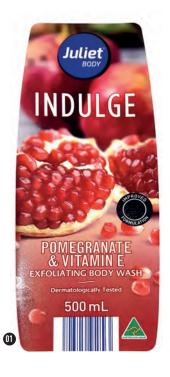
Jun Park CEO Telrol Group Telrol Group has named Jun Park as its new CEO, following Hoessein Hadaoui's decision to step down from the position after 20-plus years at the

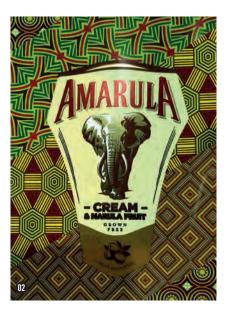
Park started working for Hansol Paper, former Jeonju Paper Company that was spun off of Samsung Group, in 1991. He has wide experience of overseas business including a 10-year working career as general manager of CK Fibres, a recycling company in Vancouver, Canada.



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

#### Label & Packaging Showcase











#### Flint Group 12th Annual Narrow Web Print Award winning entries

#### Pemara

Australia

UV flexo in-mold category

#### Uniprint Labels

South Africa

UV flexo shrink sleeve, wine and spirits category

labels and labeling.com

#### Yerecic Label

Water-based process category

#### Perflex Label

Canada

UV flexo coupon category

#### Perflex Label

Canada

Water-based flexo line category

#### **1** Yerecic Label

Water-based flexo coupon category

#### Perflex Label

Water-based promotional category

#### Consolidated Label

UV flexo PS label shrink sleeve category















#### Perflex Label

Canada

UV flexo wine and spirits category

#### Model Graphics

UV flexo low migration category

#### Other winners

Unique Photo Offset Services India

Deco Labels & Flexible Packaging Canada

Alaska Polygrafoformlenie Russia



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#### Opinion

## Trend spotting

As part of the publication's analysis of key segments of the market, L&L asks which factors and trends are shaping developments in inks and films?

'UV-LED curing will continue to be one of the growth drivers. An increasing number of printers have already opted for UV-LED technology regardless of the printing process used, and the first installations are running on a daily base. Additional expansion of UV-LED ink applications will further enable printers to use these inks for the full range of products. In the US, the UV-LED flexo technology has started to replace standard UV flexo and is already widely used for the production of shrink sleeves. In general, we expect a further volume switch from conventional UV to low migration UV inks, especially when printing labels for food applications. Next to the expected increase of UV-LED ink systems, EB offset inks will find more applications especially for food packaging due to the existence of more presses in the market. Furthermore, we see a growing market interest in 7-color process printing in order to replace standard spot colors.'

Michael Müller-Samson, narrow web business unit head, Siegwerk Druckfarben

'Factors driving developments in packaging films include the need for enhanced shelf-life requirements for food packaging; light weight packaging to reduce cost and waste; environment friendly packaging; packaging for easy dispensing; one time usage packaging; luxury packaging to offer richer aesthetics and enhanced tactile experience; and the need to shift from wet lamination to thermal lamination.'

S. Satish, global head, sales and marketing, Cosmo Films

'There is an increase in both performance and processing requirements, driven by the constant need for brand consistency and for lower cost per label. The requirements around brand consistency lead to a need for better batch-to-batch consistency, reliability of cure and better adhesion to a variety of substrates. The drive for lowest cost per label means customers are seeking inks that can print at higher printing speeds with good color density and print quality. Flint Group Narrow Web supports the drive to productivity, and is happy to say that our low migration LED product launched at Labelexpo Americas 2016 runs on press up to 1000ft/min.

Niklas Olsson, global brand manager, packaging and narrow web, Flint Group Narrow Web

'We see an ongoing demand for high performance films. End users continually seek improvements in moisture barrier, oxygen barrier, seal strength, print quality and adhesion properties, or any combination of those properties. One area in which we see growing interest is clear barrier films, a trend driven by consumer demand. Customers want to be able to see the food product through the packaging. Satisfying that desire requires the use of a clear, robust film with barrier levels that are on par with those of metallized film, which is opaque and offers excellent barrier. We're also seeing demand for high seal strength films in over-the-mountain (high-altitude, low-atmospheric conditions) applications. More small food manufacturers want to expand distribution beyond mountainous terrain and compete with larger manufacturers who have manufacturing plants in multiple locations.'

Amanda Whaley, product manager, Torayfan division, Toray Plastics (America)

'Customers are responding to the market needs of differentiation, value, speed to market, innovation and environmental impact. Of course, brand owners want packaging that will drive consumer preference but have to balance that with the overall cost of the package. Short lead times, quick changes and the flexibility for multiple designs are all preferable characteristics as long as they create more value than they cost. Scorecards have become a tool by which we are all increasingly being measured. As an example, source reduction might work for some materials and more recyclable components might work better in others.'

Chris Frank, global marketing, labels, Klöckner Pentaplast



This issue of L&L includes updates on the market and products for inks (p95), label films (p79) and packaging films (p85)

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## Maintaining peak UV performance

UV systems, like other complex converting machinery, require properly specified spare parts and maintenance regimes to attain full efficiency. Andy Thomas reports

t is always tempting to keep presses and ancillary machinery running for as long as possible, ignoring manufacturers' recommended service and maintenance guidelines. This is never a sensible strategy, leading to stressed components and unplanned maintenance when the machine or component breaks down.

Similar comments apply to buying spare parts not recommended (or warranted) by the original machine manufacturer. Costs may be saved in the short run, but there will be no comeback against the original component supplier if the replacement part fails or falls off in performance. Furthermore, suppliers closely match consumables to hardware to provide the most efficient overall system operation.

The issue was raised in a recent statement from one of the UK's leading privately held label converters, Olympus Print Group in Leeds.

Olympus has invested in several high-spec Nilpeter FA-4 combination presses with GEW-made E2C UV curing systems, offering UV flexo, UV digital and UV screen printing and hot/cold foiling. As previously reported in L&L, with the set-up Olympus realized substantial power savings and has been able to achieve high lamp durability.

Traditional mercury arc lamps are the workhorses of the UV label printing industry, but obviously have a finite working life. By choosing the correct product and only genuine manufacturer's spare parts, Olympus has found that life expectancy can be significantly higher than commonly assumed.

Confirms Olympus managing director Adrian Brown, 'We achieved the extra-long life cycles of these UV lamps by using authentic GEW parts and by running the system at the correct power level rather trying to work at full power.' Olympus' Prism management information system allows management to keep track of shift activities, when the press is running or idle, when in standby and when down for other reasons. 'We have virtually 100 percent UV efficiency and ever since installation no downtime because of lamp failure – and that's running three shifts five days a week,' says Brown.

It is the overall system which is key: the high energy efficiency of the E2C lamps' tuned reflectors, the Rhino electronic power supply and the fact that Olympus runs its complex multi-process jobs at around half full press speed, means the lamps are able to be operated at roughly 40 percent of full power and are proven to last in excess of 5,000 hours, often up to 7,000 hours.

Olympus uses only genuine spares to ensure the longevity of the system. 'The last thing you want with spares is surprises,' says Adrian Brown. 'GEW lamps and spares bring us reliability, longevity and peace of mind.'

#### **Negative impact**

Malcolm Rae, managing director of GEW, agrees: 'Look-alike parts do not reach the same quality level as genuine GEW parts and they can often have a negative impact on the life-cycles users can expect and in extreme cases they can even damage the UV system, adding additional cost in replacing parts. Using the original manufacturer's parts avoids the unnecessary risk of costly production downtime, which can jeopardize product quality, productivity and profit margins.



They are designed, built and tested specifically for GEW UV systems, so peak performance is achieved at all times.'

Rae points out that manufacturers like GEW are now supplying remote monitoring systems which require the use of approved manufacturers' parts: 'Unplanned maintenance leading to machine downtime due to component failure can to a large extent be eliminated by making full use of the Embedded Service technology found in GEW's Rhino powered UV systems.

The Embedded Service package allows remote monitoring of the UV system's running conditions over the internet, allowing GEW service engineers to detect and correct out of tolerance parameters before they can develop into a fault. This type of remote preventive maintenance ensures the entire UV system operates at peak performance at all times, and this allows GEW to offer a comprehensive five year warranty.

Rae concludes that genuine spare parts are required to guarantee product performance, reliability and safety: 'GEW invests substantial amounts every year in the research, development and optimization of products and components. Generic parts are not designed and tested to the same quality controls standards and although the parts may look the same, their origin and quality remain unknown and undefined.

'Any machine stoppage due to the use of unapproved generic parts may result in consequential damage to other machine components and severely affect production and profit margins. Any superficial cost advantage will never compensate the significant differences in terms of quality, reliability and durability between genuine manufacturer's part and the generic alternative. Tempting as it may be the use of generic parts may have a considerable impact on production quality and machine reliability."



For L&L's full report on the Olympus UV installation see www.labelsandlabeling.com/features/latest/olympus-invests-reduces-power-consumption







#### "The trajectory of the company, from a small offset print shop with seven or eight staff 40 years ago to where we are today, is an achievement of which I am very proud"

#### L&L: 2016 was a difficult year for the Argentine economy. What was impact on your business? In a country with such a history of economic instability, how does AGM maintain consistent growth?

Fernando Leiro: The impact was tenuous. Yes, there was less activity than in the previous year, perhaps a 15 percent reduction in terms of production. But I think consumption in 2015 was rather forced – it was an election year, and there were many promotions to stimulate consumption. Argentina is a country that has periods of crisis every so often, but I think last year it was a political crisis rather than an economic one. We knew that change was coming, and that the new government would devalue the peso, and so people and businesses with savings were able to weather the transition. At AGM, we find ourselves in a solid position, with a strong business and high levels of material stock as a result of importation restrictions under the previous government. Operationally, the effect on our staff was that we didn't work on Saturday afternoons and Sundays, where previously some departments had worked on those days. But nothing else. Production has stabilized and now is beginning to rise again.

#### L&L: Do you see market conditions improving in 2017?

FL: I think the market in Argentina will begin to recuperate in 2017. Perhaps not by a huge amount, but investment that is coming in areas such as infrastructure and real estate will help to stimulate activity, and this will be reflected in consumption. It will be a gradual recovery rather than an explosive one.

#### L&L: What can be done to stimulate growth in the wider Latin American label market?

FL: In Latin America, the key to industry growth is increasing consumption by the people. This doesn't depend on us label converters, but on governments who can facilitate this type of growth. If people have more money, they buy more products and better brands. Industry growth goes hand in hand with consumption.

#### L&L: What is the most important part of effective leadership of a company, and how do you create a good working environment?

FL: The most important thing is to build a strong team. People are fundamental. AGM has a number of staff who have been with the company for many years. People who perhaps are not well known by the wider industry, as I am the more visible face of the company, let's say, but who have played a key role for a long time. A good working environment is created by everyone – people must buy into what you are trying to achieve. Here, we organize lots of family and social activities for our staff. Children of employees come in during the winter holidays; we organize family days in the countryside twice a year; we give out gifts on Mother's Day and on birthdays. I think all these little things help to create a positive work environment. I'm proud to say that we never have to go out searching for new employees – we always promote from within. People are trained and move up through the company on their own merit.

#### L&L: What are your proudest professional achievements?

FL:The trajectory of the company, from a small offset print shop with seven or eight staff 40 years ago to where we are today, is an achievement of which I am very proud. To be named 'Graphic Arts leader of South America' by the Printing Association of Florida was a huge honor. For 11 consecutive years, AGM has won the Argentina Export Award in the graphic arts category. The prize is given by the Ministry of Industry and Ministry of Foreign Trade in conjunction with an economics magazine, and in a country such as Argentina - where market conditions are constantly changing - to win for so many years is an impressive achievement. Finally, our move to begin manufacturing our own self-adhesive materials in 1991 was a key moment for the company.

#### L&L: What was the motivation behind AGM starting to produce its own materials and what have been the benefits?

FL: In Argentina at that time, there were no self-adhesive material suppliers for roll-to-roll printing. I had bought an 8-color Gallus letterpress machine, with rotary die-cutting and hot stamping the first of its kind in the country – but I couldn't source the right materials locally. So we got to work and began to manufacture our own materials. It was a step into the unknown. The breakthrough came when we managed to siliconize BOPP: when we told people, they did not believe us. Back then the material was all for use in-house, and later we began to sell and export materials, now around 10-15 percent of our production. So the initial motivation was the lack of local availability. It has brought economic benefits and also allows us to give an immediate response to clients, as we always have stock available.



#### "Our move to begin manufacturing our own self-adhesive materials in 1991 was a key moment for the company"

#### L&L: After material production began, you also started to manufacture your own applicators. How did this come about?

**FL:** Sometimes when we sold our self-adhesive labels to clients, they would complain that the label had a problem during the application process. We would go and check and usually it was a simple problem with the settings of the equipment that could be easily solved. Soon I realized that we needed to be responsible for everything — the printing, the adhesive, the applicator — so we closed the circle. First we began servicing the machines, and then building our own. We have sold around 800 in the last 10 or 15 years.

#### L&L: How was your experience as president of Argentine graphic arts association Faiga and training institution Fundación Gutenberg?

**FL**: Both organizations play key roles in the industry. It brought me a great deal of satisfaction and personal pride to be chosen by my colleagues to lead Faiga. Not only label converter colleagues, but those in carton printing, flexible packaging and more, and from all around the country. I had two terms of two years each, from 2004 to 2008, and they were calm years: we had very good relationships with the unions. Faiga is a political institution, which requires very different sectors and areas of the industry – and different parts of the country – to come to agreement. I have been president of Fundación Gutenberg for eight years and was treasurer for 23 years prior to that. Fundación Gutenberg has high-level technology, excellent programs and strong support from international suppliers. For example, DuPont, Komori, Siegwerk and Esko all sponsor dedicated classrooms with their equipment. Some 700–800 students pass through every year, and when they leave they have excellent prospects and are ready to work with first-class technology.



#### Timeline:

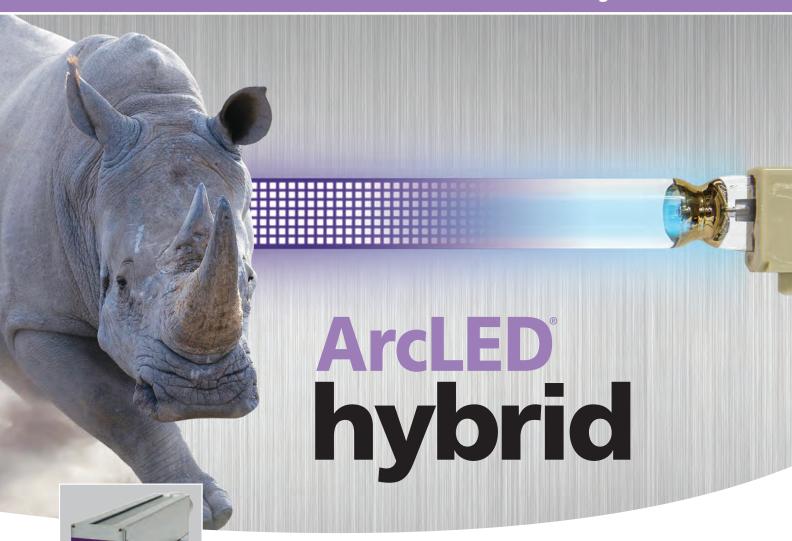
- **1963** Fernando Leiro begins working for AGM, his father's offset printing company, aged 15
- **1976** Assumes control of company
- 1980s Moves AGM into narrow web printing
- 1989 Becomes board member of Fundación Gutenberg
- **1990** AGM installs 6-color Gallus letterpress with rotary die-cutting and hot stamping the first such machine in Argentina
- **1991** AGM begins manufacturing self-adhesive and siliconized material
- 1992 Start of promotional label production
- **1996** Company begins to export throughout Latin America
- 2002 Leiro becomes president of Faiga
- 2005 Wins Conlatingraf's Benjamín Hurtado award
- **2006** Leiro is named 'Graphic Arts Leader of South America'
- **2015** Wins Fundación Gutenberg's 'Outstanding Entrepreneur' award

#### L&L: How do you view the arrival of multinational converters in Argentina? Has AGM considered acquiring companies abroad?

FL: Four or five international groups have moved into Argentina in recent years. I see it as a normal part of globalization. With regards AGM, at the moment it is not something we are considering. I think that if one day we were to do it, we would probably build an operation from the ground up in a different market, rather than through an acquisition. The most important thing is people. Duplicating a structure in another country is not easy. The acquisition by a bigger company is not always a guarantee of success.

#### L&L: What actions have you taken to reduce AGM's environmental impact?

FL: We have had a sustainability program within the company for many years, which focuses both on social responsibility and environmental sustainability. The social aspects include things such as training and contributing to the local community. On the environmental side, we are eliminating all solvent use from all our processes. We recycle waste material and have a strong policy about working only with







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FSC-certified suppliers. We work to strict standards and have achieved many certifications. These are often requirements from our clients. We have invested heavily in pre-press over the years to ensure we use technology which does not cause contamination. So it's a subject which touches upon all areas of the company.

#### L&L: Traditionally in Latin America many label converters outsource pre-press. Since when has AGM had an in-house pre-press department and what technology do you use?

FL: We have always had in-house pre-press. Even 40 years ago we made our own offset plates, so then when we moved into letterpress and flexo printing, we already had the basics. We've never had to rely on external suppliers. We've invested a great deal in pre-press over the years – in technology from DuPont and Esko. People usually talk more about investment in printing machines, but these more 'invisible' investments are what can really make a difference in terms of efficiency, quality and service.

#### L&L: How important is the role played by workflow software in connecting departments and ensuring efficient production?

FL: It's fundamental. We've used a workflow system since 2000, and are currently finishing the implementation of a comprehensive MIS. It's an important investment for the company and a project that has been going on for about a year. The new system will incorporate and upgrade our existing workflow and has been customized to our specific needs. We also use a production planning and control system, developed by a local software company in our factory, which is designed for the specific needs of the graphic arts sector.

#### Artes Gráficas Modernas

Self-adhesive labels represent 80 percent AGM's production, sleeves between 10 and 15 percent, booklet labels 5 percent, and in-mold 1-2 percent. The company operates 20 presses -11 of which are from Omet and Nilpeter – and 15 inspection rewinders, producing 2.5-3 million sqm of labels per month. Thirty-five percent of production is exported. AGM has clients throughout Latin America, with Mexico its largest export market, and was a pioneering force in the development of the region's promotional label market. Its key end user markets are food, personal care, home care, laboratory, beverage and promotional. AGM's 16,000 sqm factory houses 280 employees in three buildings that occupy both sides of the street in San Justo, Buenos Aires, where the company is based.

#### L&L: You are chairman of Club Atlético San Telmo. How did you become involved and what has been your experience of running a football club?

**FL:** I was born in the San Telmo neighborhood of Buenos Aires and lived there until my early twenties. I've always been a fan in Argentina people often support a small team and one of the giants: so my clubs are San Telmo and River Plate. In 1975 we were champions of the second division and promoted to the first. We returned to the second division a year later. Then for a while I was disconnected from the club: I moved to a different neighborhood; my father passed away and my children were born. Around eight years ago the club asked me to get involved. For a while I resisted, but in a moment of weakness I relented. It is much harder to run a football club than a business – it is very difficult to administer passion. A business has coherence, reason. Football is passion. But I enjoy it. The club is in good health. It's a nice hobby.



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# Options for the future: Part 2

Bob Cronin of The Open Approach continuous his look at the options available to label converters - from doing nothing to recapitalization

he last two years set records in mergers and acquisitions. In labels and packaging, thousands of lucrative deals were made — underscoring investors' continued interest (and premium offers) in our space. With 2017 shaping up in much the same way, label and packaging entrepreneurs need to stay on top of the market and cognizant of their potential exit possibilities. The most important thing to know is that there are multiple opportunities for your future.

In Part 1, we introduced the seven options for continuation or exit:

- O Do nothing
- 100 percent sale to a strategic
- 100 percent sale to private equity
- Majority sale
- Minority sale
- **6** 50/50 sale
- Recapitalization

"Private equity is paying high multiples in labels. If you've built a great company — and are positioned in growing segments — now is the time to sell. Never has the market been viewed by investors and lenders more favorably than it is today"

In this installment, we continue our review, applying the key consideration factors. Let's take a look at your next two options:

■ 100 percent sale to private equity — Often thought of as the money to put the deal together, private equity can allow entrepreneurs to remain at their businesses without the risk — and with an upside for future growth. But you do

give up certain freedoms, which will depend on the goals of the new owner.

Control: As the header states, a 100 percent change in control is a 100 percent change in how the business is run. Even if your private equity buyer lets you keep your executive title, the ultimate control is with the new owner. Since the new owner assumes the growth potential and risk, they are the one who makes the next decisions.

"Label and packaging entrepreneurs need to stay on top of the market and cognizant of their potential exit possibilities. The most important thing to know is that there are multiple opportunities for your future"

Value realization: With a 100 percent sale, you can maximize the financial reward for what you've built. You know the full offer, and you can make a determination if it fits the bill. Regardless of whether you stay on board, this is your opportunity to 'cash out'. A good advisor is key to ensure you get what you deserve.

Future growth and participation: Private equity can buy your property as a 'foundation' or as an 'add-on'. While in some cases you can stay onboard, in others you cannot. Make sure to work with your advisor on the model you perceive so that you aren't disappointed.

Owner(s)' objectives: While many label and packaging companies are owned by individuals or families, some include other small investors. If you have minority investors who do not concur with a sale, the deal will not happen. You may not succeed in your objective because of your ownership structure and rights. Make sure you understand the rules and obligations of your ownership agreement before pursuing a sale.

Maximizing buyer interest: Before you go to market, make sure you are well positioned in growth segments with the capabilities that make you attractive. Also, while many private equity groups are active in our space, each firm targets differently. A labels and packaging-focused advisor can bring connections to your top-paying buyers.

Risk: With a 100 percent sale, the risk passes on to the new owner. That said, for any issue that previously occurred or occurs between letter of intent and sale, you're on the hook. Resolve all legal issues ahead of time. And ensure your contract specifically states you have no future obligation or responsibility.

Impact on employees: If you are of substantial size, the acquirer will likely retain your leadership team. The strategic growth trajectory may change, but your team should stay intact. On smaller transactions, employees may be at risk. It will depend on what human resources are already in place and what is needed to execute on the buyer's strategic plan.

Timing: Private equity is paying high multiples in labels. If you've built a great company - and are positioned in growing segments – now is the time to sell. Never has the market been viewed by investors and lenders more favorably than it is today.

Majority sale: A majority sale can be a great solution if you want

to retain part of the ownership but not all the operations and risk. Theoretically, this will make it easier for you to achieve your vision or overcome pressing obstacles. Taking a majority partner can be a way to transition your company into new areas of growth. For example, a majority partner with a unique specialization may get you into a high-value segment you have been unable to tap.

Control: Control of the new entity will vary widely based on the parameters of the Purchase Agreement. The agreement may give you day-to-day operational direction or a say-so in capital expenses, but the final decisions will rest with the acquirer. Remember that even if you own 49 percent, the majority partner will be steering the ship. To ease your transition, select a majority partner who shares your vision and values.

Value realization: Since you're not selling your full stake, you obviously won't be getting your full value. That said, if you have a strong company, you can achieve maximum value on the portion sold.

Future growth and participation: With a majority sale, you have a smaller position in your business's future and your resulting reward. The impact of decisions going forward will indeed affect you, but to a much lesser extent. Still, this option gives you an avenue to stay involved - through the good and bad.

Owner(s)' objectives: This type of exit is typically made when an entrepreneur wants to protect what he/she has earned while hoping to generate an ongoing return. Alternatively, the company has a vision that cannot be achieved without an additional partner or capital infusion.

Maximizing buyer interest: Finding the right partner for this option is key. You can ensure maximum interest from those whose goals align best with yours. The opportunity for majority control will increase buyer interest, since they will gain command of future direction.

Risk: Your level of risk will now be equal to whatever percentage you remain holding. If you are comfortable with higher risk and involvement, you can structure your deal for up to 49 percent. If you want little risk, aim for single digits. The percentage you wish to sell may affect your pool of buyers, as some may not want too large a stake.

Impact on employees: If your agreement is executed wisely, your valued employees will be the same as before. You are still part of running the business. The effect on top performers should be minimal.

Timing: If you're looking to sell, you can't ask for a better time. There are three price drivers that are in your favor: 1. Market (labels have never been more sought-after than now), 2. Availability (there are far more buyers than sellers), and 3. Cheap and numerous funding sources (banks believe in our space and are offering interest rates and covenants that reflect their optimism). As the Fed raises its rates, these may change.

Hopefully I have clarified these next two options. The next article will cover the balance. Through it all, my goal is to help you become fully informed about the potential steps you could pursue. As always, make sure you have great advisors who can help you scrutinize your

If either of these exit options has piqued your interest – or you have questions on them or the previous two discussed – give me a call. Your key to a lucrative deal is knowledge. Stay apprised, stay informed, and stay nimble. Your prime exit opportunity could be right around the corner.



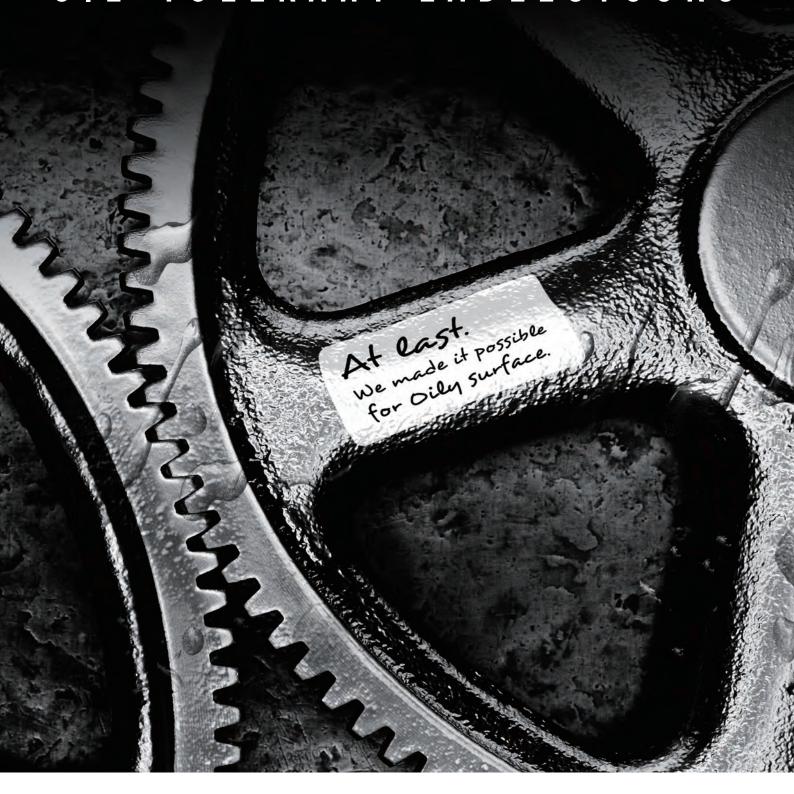
Bob Cronin is managing partner of The Open Approach, an M&A firm focused exclusively on the world of print. To learn more, visit www.theopenapproach.net, email Bob Cronin at bobrcronin@aol. com, or call (+1) 630 323 9700



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# Coca-Cola pushes boundaries with Panini project

Well-known for its innovative approach to industrial scale promotional labeling projects, Coca-Cola has pulled off another remarkable feat of partnership, design and engineering. Andy Thomas reports

oca-Cola has revealed details of a successful promotion around the Euro 2016 soccer tournament, which saw peelable stickers placed onto the back of wraparound labels on both small and large bottle sizes.

The stickers, the result of a partnership with football collectibles publisher Panini, allowed fans to peel a player or 'national pride' sticker off the back of their Coca-Cola label. The UEFA Euro 2016 football sticker labels appeared on 265 million bottles of Coca-Cola products around Europe. Around 172 million labels carried Panini stickers in Romania and Bulgaria and 93 million national pride stickers in Belgium and France - the latter being specially commissioned portraits of football stars against a Coca-Cola background.

The whole project, from concept to delivery, took just eight months, compared to 18 months for Share a Coke and almost three years for the award-winning Christmas bow label.

Comments Gregory Bentley, Coca-Cola R&D's global packaging lead for decoration technologies, 'This was a project where precision was paramount. A sticker may sound simple, but you have to find a way to apply it to the label without the ink scratching, glue squeezing out of the sides and many other technical and supply chain challenges. This was particularly essential when you consider them being used in a high-speed production line, where labels are printed at a rate of 200 per minute and then applied to bottles at a speed of up to three meters per second. The last thing the bottler wants is a problem that can bring their whole line to a stop.'

The stickers themselves are die-cut 2-ply booklet labels with a patterned adhesive. The release layer, which remains attached to the underside of the label, reveals a message spelling out the Panini license conditions. The labels use the same easy-open technology developed for the bow labels.

### Separate supply chain

To give the best possible chance of the labels running smoothly on the high-speed applicators, all the most delicate elements to do with the assembly and printing of the sticker labels were carried out in a separate supply chain, Bentley explains. 'We then



sticker labels Coca-Cola introduced for the Euro 2016 tournament

delivered the completed reels of the sticker labels to the bottler, which they could simply place onto the production line as normal.'

The first supply chain was run by Danish converter Limo Labels, with pre-slit sticker labels processed on two adapted Grafotronic machines. The second route saw label reels sent to German converter Constantia, which retrofitted five Herma applicators on the side frame of a slitter rewinder to apply stickers before slitting.

A major potential problem was that the 2-ply sticker virtually doubled the thickness of the wraparound label, and the additional pressure at the point of application could well have resulted in adhesive bleed. 'Any glue bleed would stop the filling lines and this did happen in the early stages of development - scary on a line running at 150m/min,' says Gregory Bentley.

The close work between the bottlers and Bentley's team to iron out these and other bugs was critical to the success

'In terms of scale and speed to market, this was one of the biggest and most ambitious packaging innovations we have ever undertaken in Western Europe,' says Patrick Condon, Coca-Cola Western Europe commercialization and supply chain manager. 'We have taken what was a simple idea on paper, back in June 2015, and have developed, validated and invested in application technology with the first

commercial printing and application of stickers happening just six months later. We have activated this innovation on our biggest volume products during one of the most critical periods of the year, overcoming many challenges along the way. Overall, this giant undertaking is down to a massive collaborative effort between different departments in Coca-Cola and with our bottling partners, which clearly demonstrates the power of an entrepreneurial minded project team and an empowered connected system."

Concludes Gregory Bentley, 'We have demonstrated here that as long as we can make a roll that will run through a labeling machine we can develop complex products but keep that complexity away from the bottler. For example, we could have simply applied the promotional sticker to the bottle directly, but this would have added to the complexity of the bottling line.

The Panini campaign was a marketing success, particularly in Romania and Bulgaria, which saw double digit sales increases.

It is also worth noting that the close working relationship between Bentley's team and Panini led, in part, to the latter naming Coca-Cola 'Best Panini Partner 2016'.



For an innovative Coca-Cola personalization promotion see goo.gl/gZAjLe



## Revo partners mark flexo progress

In a masterclass and open house held at Bobst Firenze, leading industry suppliers talked about progress in the Revo flexo standardization and automation project. Andy Thomas reports

evo is a hugely ambitious flexo industry initiative which aims to 'digitally' standardize and automate the flexo process from pre-press to print delivery. A recent Revo masterclass at Bobst Firenze gave converters a chance to assess the technology's progress and future prospects.

The 'Digital Flexo' Revo project brings together Bobst, DuPont, AVT, Flint Group, Esko, X-Rite, Apex, UPM Raflatac and converter Amerik Packaging. Set up in December 2013, the Revo group's aim is to develop an 'off-the-shelf' turnkey solution consisting of the following key elements: a 'digitally' automated press; Extended Color Gamut (ECG) implementation with in-line color measurement; and standardization of all print elements including plate, anilox, inks, pre-press, substrates and inspection. The group is also committed to the development of new Revo-compliant products.

Matteo Cardinotti, general manager at Bobst Firenze, explained that Revo targets the 'profitability gap' between digital printing (up to 500 meters) and 'standard' flexo (greater than 5,000 meters). 'Digital is trying to move that curve in order to increase the number of meters where it is more profitable and fill the profitability gap. This will be possible only with inkjet as dry and liquid toner have already achieved their maximum performance. Inkjet can obtain these higher speeds but it has not the same quality as today's dry and liquid toner.'

Cardinotti said non-stop production was the key to moving flexo

into the profitability gap. 'We aim to remove the constraints that stop flexo being profitable. So with just seven plates there is one set up for multiple jobs. Every time you stop the press there are 40 meters of waste in the press, so non-stop production is key – to prepare the new job while the press is running. Color matching is at the software level, like digital, using a profile of the substrate. It is a digital workflow, where we start from the file and go to closed loop print adjustment to make sure you are hitting the color target.'

### Press automation

The masterclass featured a 670mm-wide Bobst Revo M6 Digital Flexo press, optimized for non-stop flexible packaging production. Jobs were changed over in less than one minute and with less than 20 sheets waste, made possible by a range of automation and workflow features including automatic change of plate sleeve cylinders, automated pressure and register setting, and no need to change of inks or anilox between jobs.

A new feature is the tight integration of a bespoke AVT Helios/ SpectraLab workflow developed especially for the Revo program, which controls each point of the production cycle. During press start and makeready AVT analyzes the printed images and sets optimal pressure on all print units; as the press accelerates to working speed, the system carries out job verification against the master PDF and starts 100 percent print inspection; and during production the



Bobst Revo M6 Digital Flexo press

system gives live print quality feedback and sends in-line spectral measurements back to production, ensuring target colors are matched.

The latter is a particularly important feature, because Revo is designed to work only with a fixed ECG ink set. Dan Pulling, business development manager flexo and color management at Esko, explained the importance of measuring color targets throughout the workflow. Pulling said Revo with four fixed colors is now achieving 65 percent of the Pantone color gamut within a DeltaE of two, and 7-color ECG is achieving 85 percent of the Pantone gamut. Revo customers have access to substrate profiles to match a range of standards including G7 and ISO.

Flexo platemaking has traditionally been a weak link in the flexo workflow, taking up to three hours to make a new plate. But Jan Scharfenberg, DuPont's global technical manager for packaging graphics, explained how the company's thermal processing workflow brings this down to 40 minutes, demonstrated using a DuPont Cyrel 1000ECL exposure unit and a Cyrel Fast 1001TD thermal plate processor. The company's new Easy plate material combines a structured flat top dot with 1 percent digital dot, yielding less than two percent dots on the final material.

Dan Pullen noted that while Revo uses the same anilox for all materials, converters are able to adjust the amount of ink transfer for different substrates by changing the surface pattern on the Easy Plate material.

### Food safe UV

Demonstrated on this Bobst M6 press for the first time since Labelexpo Americas was a certified food-safe UV flexible packaging workflow. Introducing the system, Federico d'Annunzio, strategic products and marketing director, flexible materials, at Bobst, explained: 'We and our partners have engineered groundbreaking technologies that make this the safest press available — even safer than a solvent-based press. It meets and exceeds the most demanding packaging safety regulations throughout Europe and around the world.'

The key breakthrough is Bobst's new in-line UV output monitoring system, with two sensors continuously measuring the exact UV dose on the substrate for every meter of printed roll. The press was using Flint's low migration/low odor Flexocure Ancora ink series. Niklas Olsson, Flint Group Narrow Web global brand manager, said the ink meets 10ppb migration standards on non-evaluated substances, with optimized adhesion to a wide range of labels and flexible packaging films. 'Revo inks are compliant to the highest level of migration testing,' said Olsson.

Olsson went on to explain the complexity of current legislation concerning migration, which applies equally to solvent, water-based and UV ink systems: 'There is no single European Union law about what is allowed, and the potential migration risk has to be assessed on a pack by pack basis. It depends on a complex interaction of factors including substrate type and thickness, whether there is a functional barrier, and the properties of the product to be packed. Another factor is the ink density compared to the size of the printed area, and the Revo process helps here because it requires less ink coverage per shade compared to a solid ink.'

Olsson said conventional UV inks are suitable for packs with absolute barriers – glass, metal and evaluated plastic materials

### Sustainability argument

An interesting insight into the waste reduction seen by Americk was given by Revo partner UPM Raflatac. Compared to a standard flexo job, Revo was found to reduce energy usage by 16 percent, CO2 emission by 24 percent and water usage by 25 percent, all because less waste is generated.

– but for all other substrates low migration UV inks should be selected. 'Note though, that low migration does not mean no migration, just as a low odor product will not necessarily show low migration.'

The Revo team aims to measure and control all factors which affect the UV curing process, including power output, reflector geometry, spectral output, UV light absorption of ink pigments, the amount and reactivity of the photo-initiator and film weight/ink thickness, and press speed and anilox configuration.

'We also need to know the storage conditions of the printed roll and of the finished pack, the type of food or liquid, the time it is in contact with the food packaging, and the heating, cooling, sterilization and pasteurization processes to which the pack is exposed.'

Good Manufacturing Practice needs to be strictly adhered to, including quality assurance and control and traceability.

Olsson advised converters to attain a Declaration of Conformity for their flexible packaging products on behalf of the brand owner. 'Although the ultimate responsibility is with the "person placing the pack on the market", we all have to work together. The responsibility for compliance does not lie with only one individual member of the packaging supply chain.'

Flint has been a major pioneer of UV-LED and is currently fine tuning its LED inks for the Revo 7-color process. Olsson suggested that LED should make quality assurance easier: 'lamp output is more easily measured, allowing superior process control in low migration/food packaging applications.'

Olsson went on to describe Flint's positive experience of UV-LED in production environments: up to 30 percent higher press speeds – since LED is particularly effective on whites, dense blacks and multiple film layers; energy savings of between 50-80 percent; installation, maintenance and health and safety benefits – lamps don't get hot, are lightweight and compact, eliminate toxic mercury, ozone and noise, and LED light is not harmful to the eyes. Lack of heat output means better performance on heat sensitive films – a particular advantage for flexible





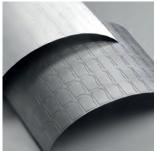


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### Converter experience

Having a converter as part of the Revo team to test new the technology in a commercial production environment has been key to its success. Daragh Whelan, technical director at Americk Packaging Group, has been a strong advocate of Revo since the project started, and gave delegates an insight into his experience over the last three years.

Americk Haverhill in the UK specializes in short run, fast lead time production of flexible packaging and labels for the food and cosmetics sector, with a customer base that reads like a Who's Who of global brands. The company runs two Revo presses – a Bobst M5 530mm cylinder press and a Bobst M5 630mm-wide sleeve press. Close to 70 percent of the site's production is now converted to Revo.

'Before Revo we were looking for a quick makeready solution, and color matching was contributing to a large section of downtime.'

Whelan had already tried to implement 4-color process 'but it returned a very poor gamut – 65 percent using seven colors. Paper substrate was mottled and a lot of pantones could not be converted. The blame game started between suppliers and it was evident that the suppliers did not understand each process, which was a surprise to me. At that point, digital printing seemed like a better option.

'Revo was formed to tackle these issues. We spent months testing and improving the flexo print process. Today we can hit 65 percent of pantones using four colors and nearly 90 percent with seven color, and paper now prints to a similar quality to polypropylene. And this all happens by a simple press of a button.'

Americk Haverhill is now achieving makereadies of less than 20 minutes,

with all jobs printed at 223 lpi/90 lcm. 'We are seeing reduced ink coverage and an average of 0.05 deltaE from start to finish of a print run. The AVT 100 percent inspection system is recording 99 percent good production, so waste is minimal. Because we are printing less ink, adhesion is better as well.'

Revo has allowed the company to reduce lead times from two weeks to four days: 'We can be printing within hours of receiving a file,' said Whelan. 'We now call Revo "a different kind of digital".'

Revo allows Whelan to print multiple special colors in the same job, as well as printing multiple designs in one pass. 'We actually find that Revo is more consistent than spot color. The repeatability is there. In three years we have had no complaints and our customers are only getting charged for one set of plates.'

The consistency of the Revo process allows Haverhill to move work seamlessly between presses. 'We can move work from one Revo press to the other without compromise,' said Whelan. 'We have profiled machine in the UK and put the same plates on the Bobst press here in Florence and it matched the jobs to under 1 deltaE.'

Asked to give advice to converters considering a move to the Revo system, Whelan said: 'Get used to the machine first. It took us six months to get used to cameras controlling register and pressure and the operators saying they could do it better. Now operators won't use the machine without cameras. So don't get the pre-press in-house before you understand the press.' He added that in-line lamination had been added seamlessly and with no need to take on extra staff.



For more information on the Revo project visit http://www.revo-digitalflexo.com





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## Narrow web cartons a profitable niche?

German converter GEWA and Pantec recently joined forces to explore the potential for producing high-end luxury cartons in-line on narrow web presses. Andy Thomas reports

ne of Germany's leading label converters, GEWA Etiketten, based near Frankfurt, has worked with Pantec to demonstrate high value-added carton production on a narrow web press using in-line flatbed hot foil/embossing.

Before the last drupa trade fair, GEWA was approached by Peter Frei, managing director of Pantec, with a request to produce pharma and cosmetics cartons, chocolate wrappers and book covers on the company's Gallus RCS press with its in-line Rhino foil/ embossing unit. The open house was held at GEWA during drupa, with Uwe Refflinghaus, production director at GEWA, leading the project.

Says Peter Frei, 'When we initiated this, the question was: "Why would it not make

sense to do complex packaging jobs in-line, just like labels, eliminating the risk of multiple passes from several off-line processes and cutting time to delivery to a fraction?" Uwe's answer was basically: "I don't know – let's do it". If a label printer's web press suits for light cartons, the only thing they might need is the suitable die-cutting equipment.'

'We had never made packaging before - just pressure-sensitive labels,' says Uwe Refflinghaus. 'But Peter knew we were very experienced with the Rhino, and that we knew how to get the most out of it.' Interestingly, GEWA is not only strong in PS labels, but also has a sheet-fed package printing division – putting it in a unique position to understand where the narrow web niche might be.

'Talking about it in May,' continues Frei, 'there was a feeling that there is a huge potential that could change the packaging industry, in certain sections, completely. It could be a chance for label printers to expand their business into packaging, as they already have web presses. Uwe showed me with a value-added example how the risk grows over several steps in sheet-fed. If in-line web printers could offer cartons, would their offer be more competitive than a sheet-fed printer's offer?'

### **Advantages**

GEWA's Pantec Rhino unit is installed on a Gallus RCS 340 offset/flexo/screen press line. The Rhino combines the advantages of a flatbed unit – lower cost tooling, longer dwell







time compared to a rotary unit, and the ability to combine foil and embossing – with the advantages of in-line production.

'We can do in a single pass what it would take 2-3 passes through a narrow web press without a Rhino – and of course multiple machine passes in sheet-fed,' says Refflinghaus.

The idea of the demonstration was to produce luxury carton packaging from

blank roll to finished piece in a single pass, including combination print with the Pantec unit adding tightly registered foil, micro embossing, debossing and security features.

Both Refflinghaus and Frei agree that the open house was a success. What did GEWA learn from the experience?

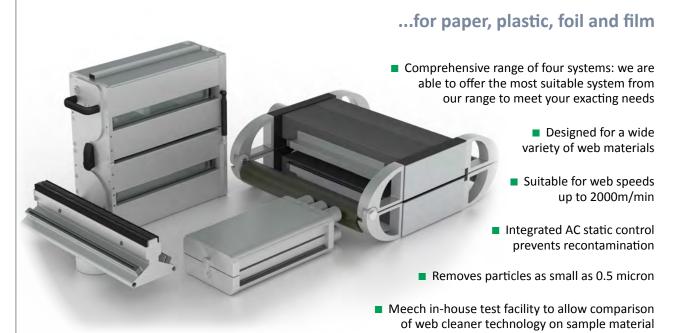
'I think we could do a carton in narrow web with the Rhino if a customer wanted very high quality in short-ish runs,' says

Refflinghaus. 'Compared to sheet-fed, the tooling is cheaper and registration is better because there is only a millisecond gap between color and registered foil application.

'For narrow web cartons, it's not a question of big volumes. But you could use it to produce dummies before you start production in sheet-fed to allow market testing, because the tooling is cheap and you are ready to go after a single pass.







"We could quickly change all the elements in a job for test marketing purposes. When we did the demonstrations on behalf of Pantec. we showed a job change from the complex chocolate wrapper to pharma packaging in just 40 minutes"

It's great for the creative to see the final result before you commit to full production. Usually you only get to see the job in stages as it goes through each machine in the sheet-fed process. We could quickly change all the elements in a job for test marketing purposes. When we did the demonstrations on behalf of Pantec, we showed a job change from the complex chocolate wrapper to pharma packaging in just 40

With GEWA's positive experience of luxury carton production in-line, it will be fascinating to see if other narrow web converters take up the

Peter Frei says there are already converters with narrow web machines producing commercial full-length carton jobs using a Rhino as part of an in-line combination process. As with the GEWA production trial, these are aimed at the high end consumer markets where hot foil embossing is best positioned to make an impact.



For more information on GEWA go to goo.gl/Ea6K63

### Creative converter

GEWA is well known for its creativity, and here Uwe Refflinghaus forms a close team with Oliver Jung, head of the company's pre-press department.

'We use all technologies to get something crazy and new, with a look and feel that gives the packaging another dimension,' says Jung. 'For example one customer in the wine industry had an oil color painting and asked us to recreate it for their label. We have also used an embossed screen white to get the feeling of a skull; we have printed on different materials like leather and velvet. Basically anything you can get on a reel, and if you can't print it, then you can foil or emboss it!'

'Agencies get the best results when they come out and talk to experienced companies like us,' agrees Uwe Refflinghaus. 'Designing labels is a more in depth process if you know what is possible. We can tell a designer what we can and cannot achieve on the machine – to say for example "this is too fine". This also means that when the job comes to us it is easy to print because we have been involved from the beginning. Having a good relationship with the tool maker is also important in pushing the possibilities of the Rhino to the limit.'

Concludes Jung, 'The closer we work with design companies, the better for all. The designer cannot know all the possibilities. Better is when the printer can understand what you as a creative want to achieve and let us find out what we can do to get this message better to customer to the max. We often say 'this effect could have been more dramatic – we think it could have been better if he had told us about his idea". They are used to buying on price, and the cheapest way is not always the best.'

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# Industry-wide skills gap has label converters bracing for crisis

Label converters continue to cite a gap in the number of press operators entering the industry and the number of those permanently exiting the workforce as a primary pain point. Some come up with creative responses. Chelsea McDougall reports

n the back room of Minneapolis-based AWT, four students – all in their early-to-mid 20s and conscious of the journalist watching over them and taking their picture – are working a label job. They're taking turns changing the anilox rolls on a Mark Andy 2200 press under the watchful eye of Shawn Oetjen.

These students are on a newly formed Flexographic Tech course, a hands-on training course for future flexographic press operators. Flexographic Tech, or Flexo Tech as it's commonly called, is a nonprofit endeavor and a unique partnership between AWT and fellow Minnesota label converter Computype. Under Oetjen's tutelage these students will become fully trained flexographic press operators.

By the time they're finished with Flexo Tech's 12-week course, they will have printed a fully functional, 7-color, double die-cut label as if it were a real job for a customer. Some students are so proud of this accomplishment, Oetjen says, they keep the label in their wallet, much like a proud father shows off pictures of his newborn baby.

This training program, and others like it, aims to educate future press operators amid what some are calling a workforce crisis in the labels and packaging industry.

### By the numbers

According to a recent Flexographic Technical Association survey, 40 percent of US flexographic printers surveyed indicated that they had difficulty filling job postings. Fifty-six percent of such employers reported that the talent shortage had a medium to high impact on their ability to meet client needs.

Digital and flexographic press operators are needed across the nation as senior press operators are soon to exit the industry permanently due to retirement. Data from the US Bureau of Labor Statistics says that 18 percent of the press operator workforce nationwide is at or approaching retirement age, which in the US typically is 62 years old. (In the interest of clarity, it should be noted that the BLS statistics do not define whether press operators are those in label, commercial, wide format, or other disciplines, but rather the BLS uses 'press operator' as a blanket term.)

At Computype, the employment outlook was even bleaker. 'We looked at the demographics of our workforce and found that about 40 percent of our employees are approaching retirement,' reveals Todd Roach, vice president of innovation at Computype. 'That could dramatically affect us. Getting trained operators has been difficult for years, if not decades.'

As the labor pool continues to age, many are turning to the millennial generation to fill these roles. The problem is: millennials aren't looking back. Bureau of Labor Statistics found that only seven percent of the press operator workforce is under 25 years old, indicating a huge gap in young people entering the printing industry.

'We print packaging,' Oetjen says. 'In this industry, it's hard to reach out to millennials. A lot of kids don't wake up and say "I want to be a printer".'

### Who can help?

TLMI has named workforce recruitment as one of the key elements in its latest strategic plan. The association will offer itself as a resource



to label converters in attracting a more qualified workforce.

In the next three to five years, TLMI plans to identify and quantify its members' workforce recruitment challenges and will start with a new Wage and Labor Survey in 2017. The association wants' to help its members increase their ability to recruit locally, educate job seekers on the industry, and will increase TLMI's outreach to educational institutions. In other words, TLMI wants to 'tell the industry's good story at a local level and show young people looking for a career that we have a lot to offer,' TLMI's new chairman Craig Moreland says.

Moreland, president of Coast Label Company, also discussed the strategy before TLMI member converters at the association's annual meeting. He said: 'The tag and label manufacturing industry isn't what young people think it is. It's not a dirty, ink-and-grease-under-yourfingernails industry anymore. It's becoming cleaner and more exciting every day."

'Comparing today's label converting plant to an old-time print shop is not valid, and hasn't been for a few decades,' Moreland continued. 'Clean, air conditioned plants with good lighting and computers everywhere are the new normal, and the work is challenging, important and fulfilling. People stay in our companies and in our industry for good reason.'

The Label Academy founder Mike Fairley (see boxout) echoed that sentiment during a conference session at Labelexpo Americas 2016. He noted that the problem is not exclusive to the US. Label converters worldwide lament the skills gap and image problem.

'It's seen as a blue collar job,' Fairley said. 'The image of the industry is a worldwide problem. We are not doing enough to sell our industry. We don't sell digital or workflow automation. It can be much more glamorous than people think.'

And a career in print can be a fulfilling one. According to data from TLMI's 2015 Wage and Labor Survey, the salary for flexo press operators varies depending on one's job duties, region, seniority and sales volumes of the label converter by which they are employed. Average base salary, reported in the TLMI survey, ranged from 17.17 USD an hour up to 22.85 USD an hour for more senior positions.

A supervisor in a flexo press room can make an average median salary of 62,218 USD a year, the survey found.

### **Creative responses**

In Minneapolis, Minnesota, the problem was exacerbated when Dunwoody College of Technology, a two-year vocational school, stopped offering courses for flexographic press operators. As Dunwoody's flexo instructor, Oetjen moved on to a new job, but two years he later received a call from two local label converters with an idea. AWT and Computype would partner together to form a nonprofit training course for future flexographic press operators. With that, Flexographic Tech was born.

Since starting in October 2015, the program has graduated 15 students. The average age of participants is between 25 and 35 years old.

### Label Academy continues growth

Founded by Mike Fairley, The Label Academy is a global training and certification program for the label and package printing industry. There are currently nine modules already published, and more are in the works. The Label Academy covers topics such as conventional and digital label printing processes, sustainable labeling, design and origination, die- cutting, security labeling and much more. Projects being worked on now include diverse subjects such as label substrates, label end usage, types of labels, and management information systems and workflow automation. It is hoped that the initial proposed series of 20 titles will be completed by the end of 2017.

The students are hired employees of both Computype and AWT, and recently a student from neighboring Flexo Impressions, also went through the training. The students' employers send them to AWT five days a week for six hours each day. The course is a mixture of classroom work, and practice on the Mark Andy 2200. At the end of the 12-week course, and 160-question final exam, they will have learned the basics of flexographic printing. They learn web handling, die-cutting, quality requirements, color matching and more.

'If we look at all this [coursework], it's the basics, but if you do the basics right, it will run smoothly. If you start short cuts that's where you get into trouble,' Oetjen says.

Meanwhile, in Central Valley, California, three entrepreneurs quit their jobs at wine label manufacturer G3 to start a venture aimed at closing the skills gap.

Fred Dale, James Stone and Brendan Kinzie created GoGetter, a mobile app designed to connect job seekers in the skilled trades with potential employers. In short, users create a profile and an algorithm created by the trio will match the candidate with an employer, and those parties can start conversing: think dating website, but for job seekers.

'One of the biggest challenges we always faced was finding and hiring skilled labor,' says Kinzie, who was a plant manager at G3. 'We heard the same thing from machinery companies, bottling companies, label companies, you name it. It didn't matter the position in the skilled trade, there was huge gap.'

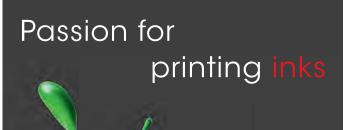
The app is free for users and businesses must pay a monthly subscription fee. Since launching in May 2016, GoGetter has approximately 5,000 users and boasts 60 percent connection rate, Kinzie said. The app can be downloaded for free in iTunes, or accessed at www.gogetter247.com.

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For further information on The Label Academy, visit www. label-academy.com; Flexographic Tech at www.flexographictech.org; and GoGetter at www.gogetter247.com







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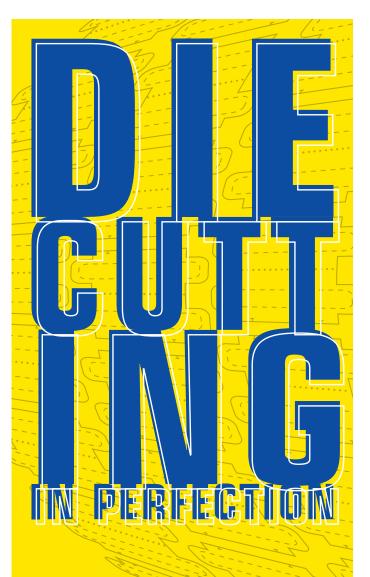
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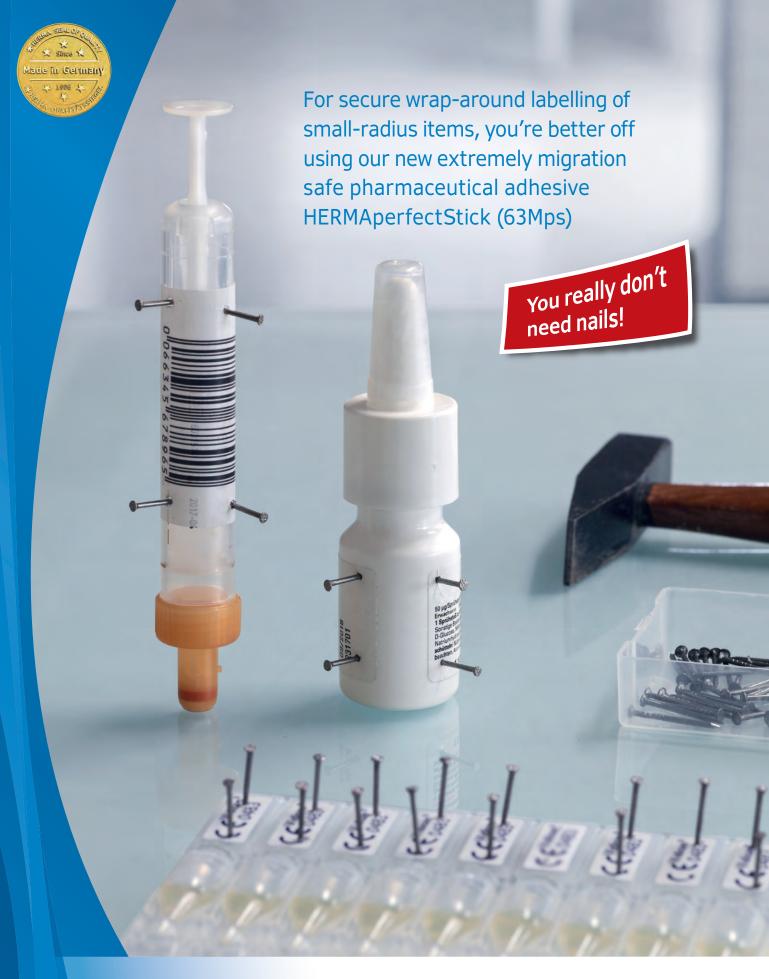
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# IML: a niche market with room for growth

Compelling data was presented at the annual IMLCON & IMDCON, sponsored by Alexander Watson Associates. Chelsea McDougall reports

hough in-mold labeling is predicted to grow in the next few years, the technology remains largely a niche market, according to data and presentations at the annual three-day IMLCON & IMDCON, presented by Alexander Watson Associates.

During his keynote address, AWA president and CEO Corey Reardon reported that in-mold labeling currently makes up 2 percent of the global label market. That's only a small fraction of the labels produced worldwide, especially when compared to pressure-sensitive labels, which accounts for the majority of the global market at 39 percent, or glue-applied labels at 36 percent.

While in-mold label technology still claims only limited market acceptance, that data also shows that in-mold labeling has plenty of room for growth. And the IML market is predicted to do just that as a 'significant shift from direct print to IML' is likely to continue, Reardon said.

'IML showed continued year-on-year growth both globally and regionally,' Reardon said, reporting 2015 statistics, the most current AWA data available. Global IML packaging volume is forecasted to grow at an estimated 4 to 6 percent through 2020, according to Thio Henkes, managing director for LEK Consulting, a business consulting firm in the packaging market as well as many other segments.

### **Growth drivers**

European food and dairy markets have led the adoption of IML. Dairy foods such as soft spreads, margarines, cheeses, sauces and ice-cream are 'well-suited for food applications because the label is protected from water, ice and other environmental factors,' Henkes said. Other factors are making IML attractive to brand owners including a lower packaging weight and a growing demand for in-mold labeling in thin-walled containers. In-mold labeling also can provide greater protections for brand owners.

'IML is beginning to be adopted in personal and home care products,' Henkes said. 'IML can be make it more challenging to counterfeit medical or beauty products.'

Traditionally, economic factors and the high cost of producing these labels have stymied their growth. The only way IML labels were economical was in extremely large production quantities. But recently there's been a shift in the converting process from traditional sheet converting to roll-to-roll, making the process entirely more economical, explained Chris McGuire, sales and marketing manager at Treofan during his presentation. Cost reductions also have been made in film substrates and molding technology driving further growth, he said.



### IMLCON & IMDCON 2017 conference set

IMLCON & IMDCON 2017, the AWA International in-mold labeling and decorating conference and exhibition will be hosted this year in Washington, D.C. on May 17 to 19.

IMLCON & IMDCON provides a platform for industry updates, aids in understanding the current market trends and technologies, and offers industry networking opportunities.

The conference program will feature presentations by leading industry players. Topics will include the latest technologies, discussions on today's industry issues, innovations, and up-to-date market intelligence.

#### IML demand

According to AWA data, the demand for in-mold labels is the greatest in Europe, which accounts for 60 percent of the global IML label demand. Africa and the Middle East currently make up 4 percent of the IML label market, but are poised for the biggest gains at 3.6 percent through 2018, Reardon said. North America accounts for 22 percent of the IML market demand, and Asia demand is 11 percent. Those two regions are predicted to have growth margins through 2018 at 3.4 percent for Asia and 2.6 percent growth for North America. The IML demand in South America is 3 percent, and projected to grow at a rate of 2.2 percent.

In 2015, IML made the largest gains in Asia at 3.6 percent. Globally, IML volume grew at a rate of 2.7 percent. Though in-mold labels make up two percent of the world market, which amounts to more than 18 billion packages decorated with in-mold labels, according to data presented by Henkes. Of that, 12.2 billion packages are created in Western Europe, 2.7 billion in the US and 3.7 billion in the rest of the

IMLCON & IMDCON ran from November 16-18 in Rosemont, Illinois. Also presenting at the conference were representatives from Taghleef Industries on neuromarketing, Berhalter on die-cutting and Xeikon on digital printing, Blaige & Company on industry consulting, Meech International on static solutions for IML and Advanced Decorating System on product surfaces. Parveen Werner, formerly of Tyson Foods offered his insights on marketing from the brand owner perspective.



For further information on Alexander Watson and Associates events and data, visit www.awa-bv.com







# Labelexpo India 2016 reaches new heights

More than 8,000 people attended the largest edition of Labelexpo India in the show's history. Aakriti Agarwal reports

abelexpo India closed its most successful edition to date on November 20, 2016, with footfall of more than 8,029 visitors. Held at its new home for the first time, the India Expo Center in Greater Noida (Delhi-NCR), the show saw participation from more than 200 exhibitors.

Prominent personalities from the Indian label industry cut the ribbon and lit a lamp to mark the opening of the show. Among the dignitaries were Sandeep Zaveri, president, LMAI; Rajesh Nema, honorary secretary, LMAI; Sunil Jain, president, Delhi Printers' Association; Lisa Milburn, managing director, Labelexpo Global Series; James Samuel, events portfolio director, Labelexpo Global Series; and Pradeep Saroha, country manager, Labelexpo India.

The largest label and package printing show in South Asia, Labelexpo India 2016 was buzzing with new launches and technology, business deals and industry networking on all four days.

The show was used as a launch pad for new products and machinery by several companies, including Atul Papers, Avery Dennison, Bobst, Brotech, DuPont, Focus Label Machinery, Flint Group, GEW, HB Fuller, Hyden, Konica Minolta, Lombardi, manroland, Monotech Systems, Multigraph, Multitec, Omet, PGI Technologies, SMI Coated Products, SPGPrints, UPM Raflatac, UV Graphic Technologies, Vinsak, Webtech Engineering and Zonten, among others.

### Show floor sales

Sales announcements were made on all four days of Labelexpo India

Weldon Celloplast, the exclusive distributor of Omet presses in the country, confirmed the sale of an iFlex press to Huhtamaki PPL Webtech Labels in Mumbai. Installed in January 2017, it is Huhtamaki's first Omet press and India's first iFlex. On the second day of the show, Weldon announced the sale of a second Omet iFlex in the country to Insight Graphics, based in Kolkata.

Alphasonics, also represented by Weldon Celloplast in India, sold its Melanie Duo ultrasonic cleaning system to Anygraphics, a label printer in Delhi-NCR.

Harish Gupta, managing director at Sai Com Codes, twice rang the bell at the Nilpeter stand to announce the purchase of two FB3300S flexo presses, bought for its plants in Sonepat and Guwahati. On the following days, Nilpeter announced another sale of a FB3300S to Homemade Bakers, based in Sonepat, for laminating paper and aluminum foil in-house.

Skanem Interlabels purchased an HP Indigo WS6800 digital press that will replace the company's old HP Indigo press in its Mumbai factory. A Appadurai, country manager for HP Indigo in India, commented: 'The consumer market is pushing many products to digitally printed labels. The SKUs are becoming small. Digital helps when packaging competes on the supermarket shelf. I believe that demonetization in the Indian market will increase the volume of digital. As the number of pages increase, the install base of digital presses will increase too.'

Zircon Technologies made waves on the show floor by ordering two Xeikon 3500 digital presses with a 20in web width. Sanjeev Sondhi, director at Zircon, said: 'Digital is a difficult line but with the print quality and 20-plus years' experience of Xeikon, we will be able to









create a good market in India. As always, we have undertaken a big challenge. However, with Xeikon being part of the Flint Group, a long term relationship secures quality support and service for my digital venture.'

Zircon Technologies also invested in a SPGPrints rotaLen direct laser engraver, to provide a digital pre-press workflow for imaging high volumes rotary screens at its Dehradun factory.

Martin Automatic signed a two-machine order with Kap Cones, based in New Delhi, with an MBS automatic butt splicer and LRD automatic transfer rewinder to ship in 2017. This is the second order of Martin Automatic non-stop roll changers for Kap Cones. Installation of its first splicer and rewinder, on a narrow web flexo press, occurred in November 2016. Hope Hu, Asia-Pacific regional manager at Martin Automatic, said: 'We had a good experience at the show in a comfortable and more professional environment. We prefer the new venue that has a much higher standard compared to the previous one. We met people at our stand who were very serious about improving efficiency and profits, and are happy with the show. This time we not only met label printers but also laminating tube and folding box manufacturers. We even met web offset printers and stationery converters from all parts of the country including Chennai,

"Demonetization in the Indian market will increase the volume of digital. As the number of pages increase, the install base of digital presses will increase too"

Hyderabad, Sivakasi and Kolkata, as well as from Africa.'

Vinsak, the exclusive distributor of Lombardi presses in India, sold a Lombardi Synchroline 430 flexo press to Excel Graphics, based in New Delhi. The company also announced the sale of an 8-color Lombardi 330 press to Mangalam Creations in Bengaluru, a corrugated box manufacturer diversifying into flexo label printing. Nicola Lombardi, marketing manager at Lombardi, said: 'We are working very well in last few years in the Indian market. This is our first time with a press at this exhibition and it has been very well appreciated by the Indian market.'

Also a distributor of AB Graphic in India,

Vinsak finalized a deal of Vectra ECTR 430 finishing equipment with Rational Business Corporation based in Sonepat. Mudrika Labels also invested in a Vinsak LSR 330 slitter rewinder with EyeC inspection system.

### Fast-growing market

Zhejiang Weigang, represented by Global Graphics in India, sold two ZJR-330 servo presses in the first two days of the show. The 8-color and 6-color modular presses are equipped with Rexroth Bosch servo system, water chiller and sleeves. Spring Xu, international sales manager at Weigang, said: 'While our modular flexo press took a little longer, we are happy with the enquiries. We have created a good launching pad and we should do well.

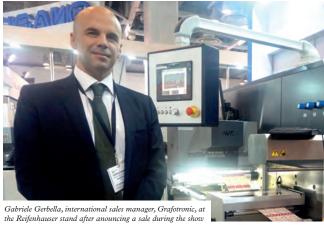
Global Graphics also confirmed a deal with A&A Labels, based in Gurgaon, for a Weigang ZM-320 semi-rotary label die-cutting and slitting machine.

Reifenhauser, the Indian representative for Grafotronic, sold a Pharma2 re-inspection machine to Art O Print, and it was shipped to the company's factory in Ahmedabad right after the show. Gabriele Gerbella, international sales manager at Grafotronic, said: 'India is a fast-growing market and we like to be here at this show. We have had multiple enquiries in the last two days for the machine.'









"This year we not only met label printers but also laminating tube and folding box manufacturers. We even met web offset printers and stationery converters from all parts of the country including Chennai, Hyderabad, Sivakasi and Kolkata, as well as from Africa"

AVT, also represented by Reifenhauser, sold a Helios automatic inspection system to Dutta Press in Noida. Itzick Barazani, sales and marketing director at AVT, described India as a 'challenging and interesting' market for the inspection systems manufacturer.

Sai Enterprises, a flexo platemaking trade shop based in Bengaluru, signed a deal for its second Esko CDI 4835 flexo plate imager. Indian label press manufacturer Multitec sold its newly launched

servo press Ecosmart Servo to Team Labels, based in Hyderabad. Labelexpo India 2016 was Multitec's first exhibition after its partnership with Multigraph, the trading division of Manugraph. The company represents the Indian machine manufacturer in the Middle East and Africa.

Another Indian press and ancillary equipment manufacturer based in Ahmedabad, R K Label Printing Machinery, sold all the machines from its stand. G Naresh, the company's manager, revealed it sold multiple rotary label printing machines and ancillary equipment including an intermittent rotary die-cutting machine, label die-cutting machine, label slitting and rewinding machine, and a stamping and die-cutting machine. Naresh said: 'We are very happy with the response received and are going back with a lot of orders for different machines. We will come back to the show in 2018 and have already rebooked a bigger stand for the next edition.'

Marks Enterprises sold a total of eight hot foil stamping and die-cutting machines during the four days of the exhibition. Sarfaraz Khan, partner at Marks Enterprises, said: 'The show was very good. We got customers from north, south and west India. We also met some customers from Africa and the Middle East.'



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PGI Technologies, another Indian machinery manufacturer, launched its 3-color flexo press at the show and sold five machines. The company has four more orders in the pipeline. Sanjeev Atre, managing director, revealed that he also sold a rotary die-cutting machine with turret rewinder to a label printer in Delhi. In addition, the company sold four plate mounters during the show. Atre said: 'This was the best show in terms of sales, enquiries and appreciation of our product design and quality. It wasn't picnic time like at many other events; Labelexpo India was a very serious trade show.'

Jade Grace, Labelexpo India event director, commented: '2016's edition of Labelexpo India has been an enormous success, with a 50 percent rebook for 2018. The venue move has been well-received and got the seal of approval from both exhibitors and visitors. Business being done on the show floor was amplified by the numerous innovations unveiled during Labelexpo that could be transformative for the Indian market.'



More details about the technology launched at the show can be found at www.labelsandlabeling.com/sites/labelsandlabeling/files/magazine/ labels-vol38-issue5-2016/index.html

### LMAI Avery Dennison Label Awards

Supported by the Label Manufacturers Association of India, All India Federation of Master Printers, Delhi Printers Association and Authentication Solution Providers' Association, Labelexpo India also hosted the LMAI Avery Dennison Label Awards. The event was also supported by silver sponsors Iwasaki Tekko, Label Planet, Nilpeter, Omet, Orthotec, UPM Raflatac, Vinsak and Xeikon.

The winners were: Flexo Line: Webtech; Flexo Line & Screen Tone: Mudrika Labels; Flexo Color Process: Kwality Offset Printers; Flexo Wine & Spirits: joint winners Kumar Labels and Ajanta Packaging; Letterpress Line: Webtech Labels; Letterpress Line & Screen: Webtech Labels; Letterpress color process: Sicon Packs; Letterpress Wine & Spirits: Kumar Labels; Offset Line: Update Prints; Offset Line & Screen Tone: Update Prints; Offset Color Process: Seljegat Printers; Offset Wine & Spirits: Update Prints; Combination Line: Universal Print Systems; Combination Line and Screen Tone: Kumar Labels; Combination Printing Color: joint winners Any Graphics and Kumar Labels; Combination Wine & Spirits: Pragati Pack/RP; Digital Printing: Any Graphics; Digital Printing Wine & Spirits: Pragati Pack; Screen Printing Wine & Spirits: Any Graphics; Rotogravure: Mudrika Labels; Booklets & Coupons: joint winners LetraGraphix and Unick Fix-A-Form. The Innovation Award went to Mudrika Labels and the Jury Award to Any Graphics.

LMAI president Sandeep Zaveri announced a ground-breaking initiative to take orphans from around India and train them as flexo press operators at Avery Dennison's Knowledge Center in Bangalore.









# Indian entrepreneur masters different label printing technologies

V S Raveendran, managing director at Sel-Jegat, details his journey and investment in various print technologies. Aakriti Agarwal reports

el-Jegat, a family business, is a leading pressure-sensitive label manufacturer based in Sivakasi, south India. The company is growing at 15 percent per annum and is planning to diversify into printing of shrink sleeves as well as in-mold labels at its 80,000 so ft factory.

Increasing demand for small-volume shrink sleeves and in-mold labels catalyzed the need for Sel-Jegat to cater to these requirements from its customers. The company started partnering with a local rotogravure printer who gives them short run jobs for printing shrink sleeves. The company is now in the process of investing in an inspection slitter rewinder that will be used for shrink sleeves, self-adhesive and wraparound labels.

Another investment, still in the pipeline, will include a 430mm width machine for printing labels and packaging products. The premises already houses an IML punching machine from Iwasaki.

Today, Sel-Jegat is one of the few label printing companies in India that masters multiple technologies such as offset, flexo, letterpress and screen, and also prints pressure-sensitive labels. The company houses pre-press facilities for all the above technologies from Esko and a Glunz & Jensen flow line processor. A digital workflow streamlines pre-press, press and post-press works through PDF references.

### Early days

Now a printing house to reckon with, success did not come overnight to Sel-Jegat. V S Raveendran, a chemical engineer by qualification, started with a proposal to start a pigment manufacturing plant in Sivakasi. He joined his uncle Arumugasamy to run the first Shiki label printing Japanese machine imported for manufacturing of non-adhesive labels. With this Sel-Jegat started its journey in 1980 to become one of the most respected label printing houses in the country.

The first year, however, was tough, as Raveendran recalls. He

"We wanted to go into offset label printing technology four years ago but at that time we did not have volume to print on full rotary offset press. The Iwasaki TR2 intermittent offset press allows us to offer high quality litho printed labels in short to medium runs"

visited drupa in 1982 where he observed the increasing focus on self-adhesive labels. He was determined to try something new, so bought a Heidelberg Platen hot foil stamping machine, the first in south India. Hot foil stamping was still done manually at that time.

To market the business, the Sel-Jegat team would go door-to-door to sell the hot foiling concept to offset printers. Eventually it was carrying out all the hot foiling jobs for most of the offset printers in Sivakasi. As demand increased, the company bought several Heidelberg Platen machines and cylinders to do the work for other printers.

In 1993, when then finance minister Manmohan Singh opened up the economy, the company invested in its first new Heidelberg GTO offset printing machine and started printing liquor labels on the single-color press and decorate them with hot foil stamping. There were few self-adhesive labelstock suppliers at that time in the country so Sel-Jegat was printing mostly wet-glue labels.

For self-adhesive label printing, the company associated with Iwasaki of Japan and started investing in its first series of VSD machines as well as RUH semi-rotary presses. Today, Sel-Jegat houses six Iwasaki presses.

When Raj Srinivasan, the first chief executive officer at Avery Dennison India, heard that Sel-Jegat was printing self-adhesive labels in Sivakasi, he visited the factory and advised Raveendran to invest in rotary roll-to-roll printing machine. Sel-Jegat evaluated some presses and started full rotary flexo printing on a Mark Andy 2200 in 2001.

The second flexo press, again a Mark Andy 2200, was installed in 2004 along with its first inspection slitter and rewinder machine. Raveendran says, 'The Rotoflex VLI was the first machine in India with AVT inspection camera. At that time, only AVT offered a 4k inspection camera for defect detection which we needed for inspection of pharmaceutical labels.' Subsequently two more AVT camera systems were installed on Prati slitter rewinders.

Sel-Jegat now houses two scanners to compare the first printed sheet with customer PDF for text, color, barcode, pharmaceutical code and other aspects using a Nikka camera from Germany. Two more Nikka camera systems were installed in two bi-directional machines first in 2007 on a Rotoflex and another one on Prati in 2014. Another two Nikka camera systems were installed in printing machines to check the printed labels with customer PDF files for all parameters and to implement digital workflow. The company implemented an ERP system in 2012 that has improved its workflow.

Sel-Jegat also houses India's first Prati Sun Bidi, a sale announced at Labelexpo India 2014. The machine features bi-directional web inspection and uses a Nikka high-resolution camera featuring modular apps for 100 percent print inspection such as color measurement, PDF-to-print verification, barcode and 2D code verification, ISO grading and statistical data collection.

### Investment

Raveendran's elder brother Jegatheesan always insists on investment in new technologies. After reading an article on intermittent letterpress in Labels & Labeling magazine in 2008-09, the company chose to invest in a 6-color Iwasaki LR3 instead of a digital press. 'It made sense to invest in the technology for short run labels and to invest in highest automation with GMI ink control. When a repeat printing order comes, the earlier ink feeding data saved is retrieved to reprint the job and thus make-ready time and wastage is reduced. We can run the machine even at five to six meters a minute to do make-ready and match the Pantone colors. However, we will invest in digital printing when our variable data printing increases.'

In 2016, Sel-Jegat invested in offset label printing with an Iwasaki TR2 press. Raveendran says, 'We wanted to go into offset label printing technology four years ago but at that time we did not have volume to print on full rotary offset press. The Iwasaki TR2 intermittent offset press allows us to offer high quality litho printed labels in short to medium runs. With the lowest cost of origination for offset, the intermittent process offers unlimited repeat sizes and low set-up web waste. We find this process a complementary technology to our flexo presses and it helps us compete against short run digital work as well. The ability to print on textured substrates is also a great advantage in many markets.'

The company supplies labels to different types of industries



### **Training**

With a staff of 120 people, Sel-Jegat takes pride in its flexibility to supply labels at short notice. The company trains its workforce to the fullest and encourages women to run production machines. 'Buying a machine is easy but training and retaining workers is challenging,' says Rayeendran.

Emphasizing on the need to educate about printing technology, Raveendran details the effort by the local printers' association. The Sivakasi Master Printers Association realized the need for skilled workers and started graphic art school in 1977-78 which is now called Sivakasi Master Printers Association Printing Technology. It has grown impressively. Spread in a built-up area of more than 80,000 sq ft, the institute is approved by the All India Council for Technical Education (AICTE). It houses a 3-color Mark Andy 830 press that has been donated by Flexo Image Graphics and flexo platemaking from DuPont. Avery Dennison has committed to give labelstock whenever requested and Flint Group agreed to donate water-based inks to the institute for training purposes to students. Raveendran says that about 50 to 60 printing technology diploma holders come out of the institute every year and most of them work with prestigious companies in India and Dubai. Another printing institute in Sivakasi, called The Arasan Ganesan Polytechnic, also AICTE-approved, has a printing technology course too and educates some 60 students a year.

Sel-Jegat also takes efforts in training women and then employs them at their factory. The company sends women for a six-month computer course after which they start working with an existing operator for training on production floor. This on-the-job training takes another six months, after which they work as independent operators. 'A lot of women get married and relocated in different towns. The basic computer knowledge and exposure helps them to get a job anywhere they get settled after marriage,' concludes Raveendran.

including pharmaceutical, food and beverage, cosmetics, electrical and electronics, and automobile. More than 45 percent of production goes to the pharmaceutical industry. The company is audited and approved by several leading pharmaceutical companies. Sel-Jegat is in the process of creating a separate facility that will only cater to that sector.

The company also works on innovations with raw material suppliers. Recent product additions include manufacturing of booklet labels, bottle hanger labels, multi-layer labels, and wet wipes labels for larger pack size. Most of the labels printed are deemed exports. Sel-Jegat focused on direct export in 2016 and received an encouraging response. However, to cater to the market overseas, Raveendran feels that the company needs to increase its production capacity.

The younger generation now working at the business is interested in specialty label printing using modern technology.



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# Opportunity out of instability

Argentine converter Grafica Impress is used to navigating the country's regular periods of economic instability. James Quirk reports

here are four kinds of countries in the world: developed countries, undeveloped countries, Japan and Argentina,' the Nobel-winning economist Simon Kuznets is supposed to have said. One of the richest countries in the world in the early 20th century, Argentina's history of boom and bust has long baffled economists. Periods of prosperity come and go: most recently, growth driven by the China-led commodity boom of the last decade gave way to protectionist policies under former president Cristina Fernandez de Kirchner, resulting in import restrictions, currency controls and rampant inflation.

A change in government in late 2015 saw a dramatic shift in economic policy. But, like turning around a large ship, progress has been slow. Last year saw a hefty recession and fall in consumption. Inflation – running in recent years at anywhere between 20-30 percent per annum, depending on whose statistics you care to believe continued unabated.

Local label converters interviewed by your correspondent in recent years tend to be sanguine about the frustrations of doing business in Argentina. Despite the challenging, complex business environment - or perhaps as a result of it - they are highly skilled at spotting opportunities and diversifying their businesses to protect against periods of downturn.

### **Opportunities**

Buenos Aires-based Grafica Impress is a perfect example. Marcelo Kinigsberg founded the company in 1990, at a time when the supermarket industry in Argentina was expanding dramatically and international giants such as Wal-Mart and Carrefour were moving into the market. Grafica Impress began distributing thermal paper

"It is crucial to focus on relationships with clients and on building trust. In Argentina, orders will often increase or decrease at the last minute. You have to be able to react quickly"

imported from Ricoh in Japan and serving supermarkets with price and logistics labels, printed on a 4-color CI press built in-house by Kinigsberg – whose background is in engineering – himself.

He moved the company into prime label production in the late-1990s with the installation of a 6-color Nilpeter FA2400 water-based flexo press, equipped with UV varnishing and lamination. Then, in 2001, Argentina defaulted on its debt – the largest default in history - and the economy was plunged into chaos.

'During the 2001 crisis, importing thermal paper became difficult, but there were opportunities to be found,' says Kinigsberg. 'We had a great relationship with Avery Dennison, and had been buying materials from them since the company arrived in Argentina. At the time, there was no reference between the dollar and the peso, so I said: "Sell me the material, and I will pay you later, when the price in pesos is set." Fortunately, our business was strong at the time and we worked very quickly to respond to the situation. The market was difficult, but people were still eating and still buying products from





supermarkets.' While other converters were struggling to get hold of materials, Grafica Impress was able to attract new business and 2002 was one of the best years in the company's history.

If an eye for opportunity and strong relationships with suppliers and clients were key to weathering the 2001 storm, they have also served Grafica Impress well in the difficult market conditions of 2016. 'Last year was hard, but the economic situation created opportunities,' says Kinigsberg. 'By paying in advance for materials we were able to keep costs down and negate the impact of inflation.

'It is crucial to focus on relationships with clients and on building trust. [Local supermarket chain Coto, for example, has been a client since 1990.] In Argentina, orders will often increase or decrease at the last minute. You have to be able to react quickly.'

This year, Grafica Impress has found a further way of turning adversity into opportunity. It has signed a deal with UK company Display Data to distribute its electronic shelf label technology - including hardware and software - in Argentina as well as neighboring Uruguay and Paraguay. 'The technology has huge potential worldwide,' says Kinigsberg. 'From one computer, you can change prices in 100 stores simultaneously. In Argentina particularly, where high inflation causes prices in supermarkets to change on a regular basis, there is enormous potential.'

### **Technology**

Grafica Impress's move into prime label production began with the installation of its first Nilpeter press in the late 1990s. In 2006, it added a second: this time an 8-color FA3300 with hot stamping and rotary screen capabilities.

Four years ago, the company installed an 8-color Mark Andy Performance Series P5 press. 'The P5 is an excellent machine and was an important step forward in terms of technology from previous Mark Andy press models,' says Kinigsberg, 'The infrastructure that the manufacturer had put into place was also impressive. The local support was also an important factor in the investment.'

Finishing takes place on four Rotoflex slitter rewinders and a Cartes machine equipped with silkscreen, hot stamping and





embossing. All the company's presses are equipped with BST inspection systems, while software developed in-house ties production together.

With his background in engineering and high level of technical expertise, Kinigsberg is a self-confessed tinkerer. 'Every machine every single one – in our factory has been modified at least a little to suit our needs,' he reveals.

Grafica Impress's 1,000 sqm factory in Buenos Aires houses 25 employees and produces 250,000 sqm of labels per month. Production is spread across a wide range of end user sectors, including wine and beverage, cosmetics, food, laboratory and many more. Clients are a mixture of large and medium-sized companies. 'We are not dedicated to a specific market,' says Kinigsberg.

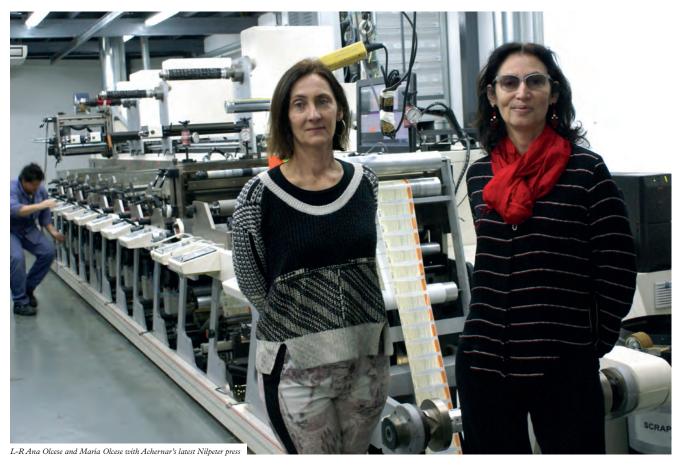
Prime labels now represent 80 percent of production and commodity labels 20 percent. 'We have maintained commodity label production because even in a crisis, these products continue to sell. They help to keep the company growing and compensate for a slowdown in other sectors during a difficult period."

'The market has changed dramatically since our foundation in 1990,' concludes Kinigsberg. 'In recent years the landscape has changed further still with the arrival of multinational groups such as CCL, CTI Invest and Baumgarten. Argentina forces you to reinvent yourself every year. It is a country of tremendous opportunities and tremendous frustrations.'



For more on the Argentina label market in this issue of L&L, read about Artes Gráficas Modernas on page 36 and Achernar on page 67

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## Achernar benefits from collaboration

Argentine converter Achernar, acquired by Sato Group in 2012, is benefitting from collaboration with its sister companies. James Quirk reports

uenos Aires-based label converter Achernar, which was acquired in 2012 by Japan's Sato Group, is reaping the benefits of collaboration with its sister companies in South America, Furone and Asia.

The converter now forms part of Sato Primary Label International, a division dedicated to expanding Sato Group's activities from automatic identification technology into the prime label market. Fellow converters Prakolar (Brazil), Okil (Russia) and Jenkins Labels (New Zealand) are also among those acquired in recent years, creating a network of label printing operations around the world.

It is a business model increasingly seen in the label and packaging industry: regional networks of converters which can serve multinational brands with the same quality and standards in multiple

María Olcese, general manager of Achernar and executive officer at Sato Holdings, in charge of the group's activities in South America, says the company founded by her father Haroldo Olcese in 1971 and now run by María - has a more collaborative and outward-looking vision compared to before the acquisition.

'The vision of the company has changed since the acquisition. We now look more towards the global market,' she says. 'We have travelled to other companies in the group to learn about their

"Visiting our sister companies around the world provides us with another view of the market. Each country has its own culture and peculiarities"

activities and processes. We share know-how and technology, and have improved the service to our clients as a result. We are now supplying key global clients served by other Sato Group companies.

'Visiting our sister companies around the world provides us with another view of the market. Each country has its own culture and peculiarities.'

### Geographical spread

Thanks to the group's wide geographical spread, the cultural and linguistic differences between the companies are significant. Each maintains its own identity and reacts to local market characteristics. 'Communicating via all the different languages can be a challenge,' reveals María Olcese, 'and cultural differences can be seen in label design and the different processes used. But we have learned a great deal and the exchange of information has been beneficial to all involved.'

map which highlights Sato Group's global coverage

After drupa in 2016, management from Sato's assorted prime label operations gathered for a summit in St Petersburg, Russia, where Okil – the group's largest converter in Europe – is based. Fortunately, one Belarussian member of the Sato Primary Label International team speaks fluent

English, Russian and Japanese, and so has become a key figure in communicating between the companies. Factory staff, too, travel between sites to learn and exchange ideas.

'I have visited many label converting plants, but Okil is particularly impressive,' says María Olcese. 'We learned a lot from their micro-embossing techniques and the varnishes they use, and we are now replicating these in our factory in Argentina.'

It is with fellow South American converter Prakolar, based in Sao Paulo, Brazil, that Achernar has a particularly close relationship. With complementary expertise in prime label production as well as variable data and security printing, the two companies share some clients and have quoted together for label jobs. There are weekly phone calls between senior management and, says María Olcese, there is potential in the future for sharing work between the plants.

Achernar and Prakolar's converting operations in Argentina and Brazil respectively are also complemented by Sato Argentina (formerly Nodos) and Sato Brazil (formerly Europen), both former distributors acquired by Sato Group, which specialize in IOT services, software, identification equipment and thermal printers. Combined, the four companies work together to supply a complete offering to clients in the region.

A further benefit to being part of a global



"I have visited many label converting plants, but Okil is particularly impressive. We learned a lot from their micro-embossing techniques and the varnishes they use, and we are now replicating these in our factory in Argentina"

group, says María Olcese, is the increased attention and better prices offered by industry suppliers who are keen to gain a foothold in such a global operation.

Indeed, investment has continued apace since the acquisition, with Achernar adding an HP Indigo ws4500, a Nilpeter FA series press and a 17in web-width Mark Andy Performance Series P5 in the last four years. According to María Olcese, the company

is now looking to install advanced converting equipment to complement the presses. 'There has also been investment since in the acquisition in know-how, research and development, materials and

Sato Group continues to seek expansion around the world to add to its global network, says María Olcese. 'We are actively looking for more companies to acquire. Sato looks for companies which are printing high value-added labels. The size of the operation is not so important: it's more about quality and added value.

'The companies acquired tend to be spread across different segments, partly due to the size of the local market and partly to insure against economic fluctuations. Globalization is not necessarily about servicing globally, but being present in each market."

### Argentina's economic woes

Following a change in government in late 2015, the economic landscape in Argentina has changed dramatically. Former president Cristina Fernandez de Kirchner's protectionist trade policies and currency controls were abandoned from one day to the next when new president Mauricio Macri took office. The transition has been hard, with a recession and high

inflation affecting the country during 2016. 'It was a very difficult year in Argentina,' says María Olcese. 'End users underestimated the fall in local consumption and found themselves with too much stock. They were not expecting such a strong recession, and orders became smaller. According to data from [local graphic arts association] Faiga, production by local label converters was down by around 25 percent. The strong local competition in the industry resulted in a price war.

'But there have been advantages too. Now that import restrictions have been lifted, we have access to a wider range of consumables and don't need to hold so much stock. We have been focused on sectors which are particularly benefitting from these changes, such as the electronics market. We hope that in 2017 the economy will improve.

'In Argentina, it is impossible to get bored. But there are always opportunities to be found.'



Read a O&A with Prakolar CEO Alexandre Chatziefstratiou from L&L issue 3, 2016, here: www.labelsandlabeling.com/opinion/latest/qa-prakolar-ceo-alexandre-chatziefstratiou. Read a 2009 report on Achernar here: www.labelsandlabeling.com/news/ features/labels-all-climates

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### Latin America nervs





### Label Pack hosts inaugural awards

Mexican industry magazine Label Pack recently organized the first edition of the Graphic Industry Supplier Awards. The event also marked the one-year anniversary of Label Pack magazine.

According to Label Pack editorial director Keren Becerra, the awards were conceived as a way of giving a voice to industry suppliers and allowing them to recognize the achievements of their converter customers.

Some 70 international and local suppliers took part in voting. Representatives from Daetwyler, Heidelberg, Kodak, RotoMetrics, UPM Raflatac and Wink handed out the awards.

The awards, which will return in late 2017, were given in five categories: Printer of the Year was won by Litoprocess. Packaging Manufacturer of the Year: Imprenta Reyes Hermanos. Label Manufacturer of the Year: Eticom. Most Innovative Company: Mayapack. Most Sustainable Company: Offset Santiago.

### Xeikon sells 3030 digital press to Chilean converter

Chilean label converter SCM Etiquetas Autoadhesivas ordered a Xeikon 3030 digital press during Print Santiago 2016.

SCM Etiquetas Autoadhesivas specializes in industrial labels and serves the retail, chemical and pharmaceutical markets with its existing Mark Andy flexo presses. It produces 100,000 sqm of labels per month. According to general manager Juan Carlos Urruticoechea, the new Xeikon 3030 digital press will aid the company's move into wine label production. Local support comes from Xeikon's Chilean representative Davis Graphics, a distributor of graphic arts equipment operating since 1960 and which also acts as an agent for Mark Andy, Rotoflex, Pantec, Flint Group, Nazdar, Harper Corporation and API Foils among a host of industry suppliers.

With 52 employees, Davis Graphics is run by general manager Felipe Arias. 'Clients are seeing that Xeikon machines are working well in Chile and producing good results,' he said. 'This helps to grow the market's confidence.' Chile, with its huge export market for wine, has long been a stronghold of digital label printing: HP Indigo has more



### Etirama to launch E-Series flexo press

Brazilian manufacturer Etirama is to launch its E-Series flexo press range in March this year.

The new range is comprised of the E3, with a print width of 340mm; E4, with a print width of 420mm; and E5, with a print width of 500mm. Aimed at self-adhesive label production, the presses can also be equipped with a chill drum for shrink sleeve printing.

The E-Series range, which has a maximum speed of 180m/min, will incorporate another new Etirama innovation. The Easy Concept system consists of print units which are said to be easier to operate thanks to the plate cylinder being supported by two lateral discs.

The servo-driven E-Series also features an automatic pre-register system which allows for easy set-up and register adjustment through an HMI touch screen control panel. The machines' components are supplied by French manufacturer Schneider.

According to Etirama sales director Ronnie Schroter, the new E-Series will complement the company's existing Evo, Fit and Superprint lines, with each press range serving different market niches.



machines per capita in the country than in any other in Latin America. Xeikon's Latin American sales manager Patrick Pittoors has been a regular visitor to the country in recent years, and the digital press manufacturer's efforts, combined with Davis Graphics' local support, is bearing fruit, with six press installations in 2016.

'It has been a fantastic result. Chile has been our strongest market in Latin America this year,' said Pittoors. 'It's the result of much work from the people at Xeikon and Davis Graphics. It is very important to have strong local support, and Davis Graphics offers excellent after-sales service and has a longstanding reputation in the market.'



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# China's new anti-counterfeiting power

Wenzhou Haoge is seeing strong growth thanks to its focus on anti-counterfeit labels, as Kevin Liu reports 

hile the pace of growth has slowed in the Chinese label industry, anti-counterfeit expert Wenzhou Haoge is bucking the trend with growth of more than 25 percent and recently won the combination printing category at the World Label Award 2015.

Haoge is located in Longgang in the city of Wenzhou. Known as the 'Printing City of China', it is among the most concentrated areas for the print sector in the country, with more than 1,200 printing factories and 50 label printing plants.

Before establishing Haoge, Zhang Xianzang was in charge of a PS label printing plant in Longgang, Wenzhou. In 2003, that plant became one of initial members of Alibaba and received lots of orders after promoting its label products on the internet platform. It achieved rapid development in this high-growth market after transitioning to automatic labeling from manual labeling.

In the following years, the local PS label industry in Longgang grew prosperous and attracted many new companies moving into the field. Competition increased. The

price of a roll of labels fell sharply, and profits dropped. 'There was a price war between converters who were competing for the same business,' said Zhang Xianzang. 'Everyone had similar equipment. As a result, nobody could make money.'

The price war hurt Zhang Xianzang too, but also taught him a valuable lesson: it was not a viable long-term strategy to compete for customers by cutting prices. Differentiation was the key, and the Labelexpo trade shows provided the answer. 'I sought out digital label printing equipment each time I attended Labelexpo shows. I could see that anti-counterfeiting labels with variable data could have a strong future.'

In 2010, Zhang Xianzang separated from the other shareholders in his previous label printing company and established Wenzhou Haoge Anti-counterfeit Technology with his wife. They purchased an HP indigo ws4500 digital press and focused on the manufacturing of variable data anti-counter-

'Counterfeit goods are a serious problem in China, so demand for anti-counterfeit

products is huge,' says Zhang Xianzang. 'However, not many domestic companies are engaged in anti-counterfeiting technology, as it requires a certain scale and independent research and development capabilities.'

Within a short time, Haoge was seeing the benefits of Zhang Xianzang's vision, with rapid development and growth of up to 25 percent per annum.

To cope with increasing business, Haoge purchased successively an HP Indigo ws5600 sheet-fed digital press, two HP Indigo WS4600 web digital presses, a Weigang offset press, a Labelmen full rotary UV letterpress printing machine, a silkscreen machine and a host of ancillary equipment.

"I was originally a designer, and my focus is on printing the design perfectly, irrespective of the process. Many of our labels are produced through a combination of conventional and digital printing"







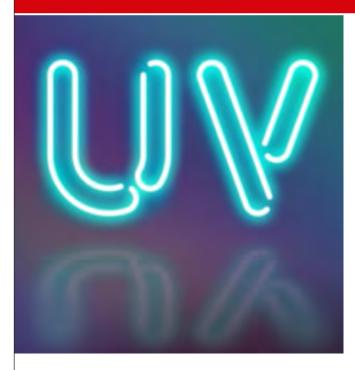


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"Counterfeit goods are a serious problem in China, so demand for anti-counterfeit products is huge. However, not many domestic companies are engaged in anti-counterfeiting technology, as it requires a certain scale and independent research and development capabilities"

#### Conventional and digital

While many converters might identify themselves as an offset or flexo or digital printing house, Zhang Xianzang quickly realized that equipment is just one factor that determines a company's success. Competitor companies who were over-reliant on technology to the detriment of service soon lost their footing in the market.

'Whether we are talking about digital or offset or silkscreen printing – these are merely tools in the production process,' comments Zhang Xianzang. 'I was originally a designer, and my focus is on printing the design perfectly, irrespective of the process. Many of our labels are produced through a combination of conventional and digital printing.' At Haoge, sales are split 50-50 between digital and conventional printing.

Anti-counterfeit label production requires sophisticated printing processes. Thanks to its multi-process combination printing, Haoge garnered numerous national and international awards. In 2013, it won an industrial label award in Asia-Pacific; in 2014, the WLA award for combination printing and a Sun Cup Asia Label Awards gold prize in the anti-counterfeiting category and silver recognition in various others. In 2015 it won silver prizes for anti-counterfeit printing at the China Print Awards and a Singapore industrial conference.

## Big data and e-commerce

'Anti-counterfeiting is the business of big data,' says Zhang Xianzang. In order to establish an anti-counterfeit database for customers and to facilitate the search for end users, Haoge set up a QR code cloud data platform, providing background data for companies' anti-counterfeiting activities. To ensure the security of the data, Haoge invested heavily and establish its own server platform, the first such company to do so. 'In the old days, we made products. Nowadays, we provide service,' he says with pride. Thanks to Zhang Xianzang's previous company's success through Alibaba, after establishing Haoge he continued to prioritize e-commerce and built a dedicated online ordering system. A specialist foreign trading team expands business abroad through Alibaba, and export sales now represent 30 percent of Haoge's business.

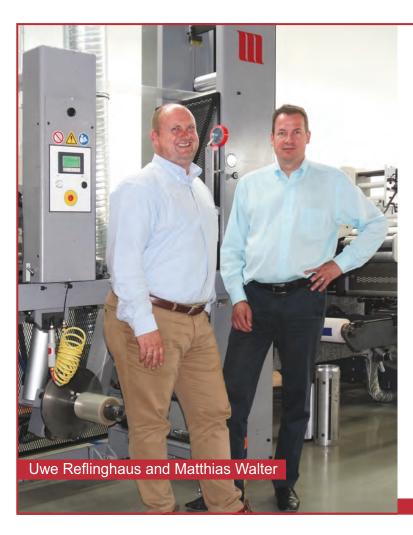
#### The future

'We believe that the next five years will continue to see high-speed growth in traceable anti-counterfeit labels, and we continue to increase our investment in research and development,' says Zhang Xianzang. In recent years, Haoge has recruited talent from Shanghai and Guangdong to help build a powerful R&D department. Twelve of the company's products, including its multi-layer variable data anti-counterfeit labels and nano-particle anti-counterfeit labels, have been granted national patents.

Aside from its focus on anti-counterfeit labels, Zhang Xianzang reveals that the company plans to increase its production of personalized and customized labels, while maintaining its insistence on combining conventional and digital printing to produce diverse and special products. 'We don't aim for the company just to grow, but also to be professional and sophisticated. We want Haoge to be the leading producer of anti-counterfeit labels in China.'



Read more on the Chinese market from Kevin Liu at www. labelsandlabeling.com/author/kevin-liu



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# Jindal Films Europe prepares for the future

Jindal Films Europe CEO Oliver Bruns outlines the material supplier's entrepreneurial spirit and how it is helping position the company for future growth. David Pittman reports

ounded in 2013 following the acquisition of ExxonMobil's global BOPP films business by Jindal Poly Films Ltd, itself part of the diversified BC Jindal Group, Jindal Films Europe is a business serving Europe, the Middle East, Africa and Asia-Pacific. Its main markets are labels and flexible packaging, for which it manufactures a range of materials, from multi-layer clear, white opaque and metallized films to water-based coated films.

Oliver Bruns took up the position of CEO in May last year to help grow the business beyond its position as a supplier of BOPP films, positioning the company as a fast-growing specialty films business. In part, this is in response to the state of the industry, especially for BOPP, where he identifies capacity as 'all over the place' with supply and demand 'out of balance'.

'The market is oversupplied with commodity films from all over the world flooding the market and prices are a disaster. You quickly run into trouble trying to make money off commodity films and the only way to make money is to do something different. Otherwise how do you finance the future?

'Innovations often take years to implement, and while the cost is not at the very high end, they are expensive. If you've not got a strong base to finance building up an innovation pipeline, where do you go? We have a foundation on which we can build and invest. We

# "The flexible packaging and label market is very dynamic, and we need to be dynamic to match it"

invest more than most in R&D, and have a strong track record for innovation and new products. We want to be leading the market in terms of R&D, as well as size.'

## **Entrepreneurial spirit**

The desire to lead the market is driven by Bruns' mindset to tackle issues and projects head on. He advocates a less structured approach to R&D and new product development, preferring to try and fail than not try at all. 'If I know there's a product on the shelf and a market opportunity, I can't sleep. Honestly, I'm not that interested in the last digit of the business case. Ask "how realistic is the opportunity?" and if you believe in it, go for it. I'd rather give something a try, see where the limitations are and resolve them, learning on the way, than wait for our competitors to come to market first.

'The outcome is sometimes different to what you start with but you never get anywhere if you constantly block yourself.'

This creates an environment where people are able to propose ideas and are open to discussions, which, says Bruns, 'builds a network of innovation within the company that helps a lot', while having a flat organizational structure means taking ideas from the drawing board to concept, and beyond, is simplified. Jindal Films Europe is not restricted by extensive analysis of market conditions before moving on an idea.

'The flexible packaging and label market is very dynamic, and we need to be dynamic to match it. We don't think in hierarchies and I don't believe in a rigid structure. Sometimes you have to react.'

#### **Product development**

So far, this strategy has served Jindal Films Europe well, with more than 60 development projects in advanced stages, with new products already brought to market including Digilyte, a new brand designed specifically for HP Indigo digital presses and end users. Digilyte films offer protection, packaging line performance and printability on HP Indigo digital presses.

Bruns identifies digital as key area of interest for Jindal Films Europe and its development cycle, although it will not be confining its R&D to one digital process. 'Everyone is jumping on digital, including us. Digital will continue to strengthen its position in labels and packaging. Some technologies will be better suited to certain applications than others, but all will have a place somewhere; we want to be ready for them all – EP, inkjet, even nanography.'

Another new product is SealTough, a unique coextruded packaging film targeted to replace sealant layers in a lamination or single layers in mono-web applications. This product is claimed to provide 'unmatched' puncture resistance, in addition to enhanced clarity, improved modulus and seal strength that can exceed 5,000g/2.54cm. This allows

# CEO's first year

In the year since taking the reins at Jindal Films Europe, Oliver Bruns has leveraged his experience to position the company for future growth, embracing an entrepreneurial spirit and mindset intended to set the company apart from its competitors. This is fuelled by his prior experience as managing director of Coveris Flexibles Germany and head of the packaging business unit of Treofan Group. Previously, he held numerous positions at Bayer MaterialScience (today Covestro) and its subsidiaries.

Bruns specialities include responsible leadership, corporate entrepreneurship, B2B marketing, diversity management, corporate social responsibility, growth strategies, people development and organizational culture management.

the potential to downgauge by 30 percent, 40 percent or more compared to traditional sealant films.

Products such as Digilyte, SealTough and Platinum Thermal, a white, surface-printable polyolefin film that can replace both coated direct thermal substrates and thermal transfer ribbons, mean Jindal Films Europe is supplying a wider variety of segments and applications, and seeking to take market share from a growing pool of competitors, such as those supplying thermal transfer ribbons and cast/blown polypropylene films, and not just its BOPP peers. In fact, Bruns is at pains to point out that the company no longer presents itself as purely a BOPP company.

'Lots of our new products are non-polypropylene-based as we look to create solutions, and establish a broad portfolio and full product offering to compete in many different areas and take market share above the industry growth rate.'

#### **Partnerships**

Key to entering new segments and bringing innovations to market is collaboration between stakeholders across the supply chain. This ensures products are fit for purpose, such as being receptive to the applicable print process; meeting the requirements of the application, such as food safety; and being able to run on packaging lines.

Jindal Films Europe has joined the HP Indigo Pack Ready program, a set of post-print technologies for HP Indigo digital presses that enable digital converters to print, laminate and pack on demand for immediate time-to-market. Pack Ready, much like the larger HP Indigo partner network or Xeikon's Aura Partner Network, includes companies throughout the supply chain who collaborate



to deliver new tools to label and packaging printers.

'No longer can you develop a product and take it to market independently of the rest of the supply chain,' says Bruns. 'Rather, you need to go market with a total package and a solution that works in its entirety. As a converter, you don't want to have to speak to the material supplier, ink manufacturer and hardware vendor to understand the capabilities and implications of the product you're being sold. Rather, it needs to work outright, and provide an optimized option that will improve a converter's operations and efficiencies.'

## **Agile**

Bruns' ideas and management style are designed to make Jindal Films Europe as agile as possible, coupling an entrepreneurial spirit with the backbone and resources of a global company.

'We want to be able to move fast and try to have lean processes to allow us to capitalize on our market position, and grow our reach and share. With the trend from rigid to flexible packaging, and from glass to plastic packaging, we occupy a sweet spot.

'It is a capital intensive business though, so having the resources and backing of shareholders to be entrepreneurial is a key ingredient of our very positive growth story so far, and we want this to continue. We are not ignoring the commodity market either, rather developing a broad and balanced portfolio to serve the flexible packaging and label market effectively.'



For further info, see the packaging films feature on p85 and the label films feature on p79

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# Updating label films

As films are taking an increasing share in the label market, suppliers are investing heavily in pursuit of innovation. David Pittman reports

t's quite a demanding world out there, opens Jasper Zonnenberg, director, Films at Avery Dennison Label and Packaging Materials Europe. 'Materials are becoming thinner, and therefore less conformable, while designers want more conformability and functionality within the label and use more complex label shapes, with packaging becoming more challenging with tubes, shaped containers, etc.

'It seems counterintuitive but with proper engineering, we can achieve such characteristics, and others. For instance, we have launched thinner films that are more opaque than their thicker versions.'

This is just one of the challenges facing manufacturers of label films, alongside new applications and formats, such as single-serve and reclosable packs, food and compliance with the latest regulations; multilayer labels; larger format labels; growth in shrink labels; and greater use of clear-on-clear labeling.

Products that are suitable for specific environments, such as those that are oil tolerant and suitable for cryogenic freezing, are highlighted by Yasuyuki Amano, general manager, technical planning office, Lintec Corporation, who sees films being suitable for multiple printing methods and converting

processes as additional requirements.

Zonnenberg outlines the work to ensure the elimination of optical defects, which are an issue during extrusion: 'A lot of end users have a "zero defects" policy, so a lot of work goes into the optical appearance of films, as well as ensuring the runnability of the films as press speeds increase, and delivering optimal printing.'

In relation to these trends, films have advantages compared to paper label facestocks, as they retain functionality, dimensional stability and visual appeal each in a single material.

Denis Rousseau, label market segment manager at Jindal Films Europe, says these hybrid materials offer all the plusses of PP and PE 'with none of the minuses. You end up with products that are lighter but with the same attributes and level of performance in sealing, etc.'

#### Sustainability

Downgauging, resource efficiency and reducing environmental impact are also pressures on label film manufacturers.

"Materials are becoming thinner, and therefore less conformable, while designers want more conformability and functionality within the label and use more complex label shapes"

when exposed to humidity, water, chemicals, grease, oil and UV light. Polypropylene (PP) and polyethylene (PE) remain the dominant label films, with new products being developed to combine the best properties of

These can be grouped under the heading 'sustainability', which Tuomo Wall, director of films at UPM Raflatac EMEIA, says is 'fast becoming the new norm' in the packaging industry. 'Thin and light label films provide tangible benefits in resource efficiency and reduced environmental impact.'

'A lot of customers are very considerate of the environmental impact of labels,' comments Masaaki Yoshitake, general manager, printing and variable information products operations, Lintec Corporation. Lintec's KP5000 facestock, which won the Sustainability Award in the Label Industry Global Awards in 2015, is designed with this in mind, using 80 percent post-consumer recycled PET while maintaining the performance characteristics of virgin PET.

UPM Raflatac received Critical Guidance recognition from the Association of Plastic Recyclers (APR) for its two new shrink sleeve films, confirming that UPM Raflatac's undecorated RafShrink PO MDO 40 LS and RafShrink PO TDO 45 HS shrink sleeve films are compatible with recycling and meet requirements stated in APR's Critical Guidance Document, established for improving the quality of post-consumer plastics entering recycling. In addition, a study conducted by UPM Raflatac and Plastic Forming Enterprises has demonstrated that the supplier's RafShrink PO MDO 40 HS product boosts recycling







rates in full-body shrink sleeve applications on clear PET bottles when compared to the industry-standard film label for shrink sleeve applications.

Doing more with less is Rousseau's summation of the situation, reducing waste from the product and making production lines more efficient. One major beverage brand he references has moved from 47 micron film to 33 micron, with the reduced density of the film reducing the label weight by half while the processing speed has doubled. 'We are working on new polymers and new processes for manufacturing to offer the same performance with less material or new materials.'

'Thin and light label films also yield more labels on the same diameter roll,' adds Wall. 'This reduces downtime on roll changes during label conversion and label dispensing – enabling productivity gains for label printers and label end users.'

'The market desires thinner materials, and bio-based content, or at least products that facilitate recycling,' notes Zonnenberg. 'We are the only supplier in the pressure-sensitive industry to offer a bio-based PE construction, as an example, and have reduced fossil fuel components and solid waste in other products, creating more sustainable products but with great functionality and which improve productivity.

'With a recycling program, aims for zero waste to landfill and CO2 reduction targets, we have very clear and ambitious sustainability targets.'

# **Applications**

Film labels are found in a growing range of applications, from shrink sleeves to booklet labels, and each requires expertise and developments to suit the application.

Innovia Films has developed a range of specialty films for various applications, including pressure-sensitive, booklet, and health and personal care, while its work in functional labels and coatings has resulted in products with enhanced barrier properties to oils, gases, moisture and aromas, with tire labels one notable application. These barrier properties eliminate migration of additives from both adhesives and tires that often impact label quality through staining, wrinkling and curl. These films also provide food contact compliance to EU and FDA legislations, with a clear variant used for resealable labels on food packs, with the barrier properties extending the shelf life and post-opening storage of a variety of packaged foods; from dry or fatty foods to fresh and chilled produce.

Innovia's range of in-mold label films target large formats as well as clear containers, and are designed to improve productivity

# NAStar – SynEster White synthetic paper

The thermal transfer printable film is a PET-based synthetic paper made from recycled PET resin. It is priced the same as thermal transfer polypropylene making it an economic alternative to polyester. 2mm Gloss White SynEster provides 'excellent' ink adhesion and is compatible with flexo, UV inkjet and HP Indigo printing technologies. SynEster is matched with NAStar's T1055+temporary adhesive and a 50# RMK liner.

and process flexibility at both the printing and molding stages. Its RayoForm IW film is described as the thickest and stiffest IML film, with RayoForm ICU claimed as the clearest with 'exceptional' sheet feeding capability. Combining these films with coating technology has created RayoForm ICDi and IWDi – clear and white pre-optimized IML films for digital printing HP Indigo presses. Klöckner Pentaplast similarly has an option for printing using the HP Indigo digital process, with its Y470 coating able to be applied to most of its products.

Klöckner Pentaplast is a producer of rigid plastic films for primary packaging applications of food, pharmaceutical, medical devices and electronics, as well as labels under the Pentalabel brand, including eklipse, a light blocking film, and ClearFloat film, a low density floatable label that complies with APR guidelines and more easily separates the label from the container in post-consumer PET recycling. Avery Dennison's CleanFlake improves rPET yield in the PET recycling process while maintaining the shelf appeal pressure-sensitive labels are known for. Pressure-sensitive labels typically limit PET recyclability into food-grade rPET due to adhesive contamination. However, CleanFlake technology cleanly separates in reaction to the caustic bath, leaving no adhesive residue on the PET flake. CleanFlake can be used with a variety of film facestocks, as well as recently added paper grades.

UPM Raflatac has added to its food labeling range with food-safe, top-coated (FTC) PE and PP films, including PP White FTC 60 in Europe and a food-approved version of its Vanish ultra-thin, clear PET label face material. PP White FTC 60 is a multipurpose top-coated film designed for labeling applications on rigid packaging where good water, chemical and oil resistance is required. For personal care



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# "Finding the right film on any given application is essential"

products, UPM Raflatac's Raflex PRO offers high transparency and greater flexibility on contoured and semi-squeezable containers, where polypropylene would be too rigid.

# Material selection

Choosing the right film for the right application is essential, underlines Wall. 'With so many products competing for attention on store shelves, the right choice of label film can provide a strong foundation for printers to transform labels into artwork. The greater the clarity of the label, the greater the appeal,' he opines.

Chris Frank, global marketing, labels at Klöckner Pentaplast, outlines how this can have cost and efficiency implications further along the production process. 'Besides being more than "just a decoration", products must be easy to process in the print as well as application process. They must do this without reducing efficiencies at any point in the production process, minimizing the total cost of ownership for the brand owner. Inefficiencies in any part of the value chain result in a more expensive product.



# M&A in the supply chain

CCL's acquisition of Innovia and Lintec's acquisition of Mactac Americas are two major M&A stories that came towards the end of 2016, and highlight the potential in the films market, as well as the healthy appetite for M&A within the wider label industry.

With Mactac, Lintec has increased its ratio of overseas sales to 49 percent, and while Japan remains the company's primary market, the Mactac acquisition is 'very important', states Masaaki Yoshitake, general manager, printing and variable information products operations, Lintec Corporation.

'The Japanese market is slowing, so we have decided to increase our cooperation with overseas markets and increase our market share. Mactac is one part of this project.'

CCL Industries' acquisition of Innovia Group allows the world's largest specialty label business to grow and further enhance its offer in security printing, polymer extrusion and surface engineering. CCL has a complementary presence in the markets in which Innovia operates, with capabilities in security printing, polymer extrusion and surface engineering that are deployed across all business segments. The acquisition will provide a platform for CCL to grow and further enhance its offer in these markets.

Geoffrey T. Martin, CCL president and CEO, sees the deal as 'another transformative acquisition for CCL', and says it strengthens the company's depth in the materials science arena with proprietary BOPP films technology for the label, packaging and security sectors.

'Finding the right film on any given application is essential, and a critical reason new applications and container design should be vetted with a film or print converter application specialist.

'All new generation films require a technically based recommendation regarding ink and seaming solvents to make the perfect label. Always discuss print, seaming, application and shrink parameters to assure success of your new label throughout the value chain.

'As an example, our eklipse material is surface printed and will require varnish overcoats to obtain the appearance the brand marketer desires to achieve. These overcoats are widely available on the market.'

'The market is very dynamic,' says Rousseau, 'There is a lot of opportunity to explore new things. We are developing a lot of new products and have a lot of leads.'

This needs to be combined with a full understanding of the production process and brand owner's ambitions, as Zonnenberg explains. 'There is a lot of pressure on compostable products but it is very important to ensure compostable inks are used, otherwise the result is not compostable.'

'Determining the brand owner's usage and their technical requirements are key to success,' says Amano. 'The substrate the label is to be applied to, the environment, intended lifetime, the assurances the brand owner wants, these are factors printers must know.'

Frank sees brand owners wanting packaging that will drive consumer preference, 'but they have to balance that with the overall cost of the package.

'Short lead times, quick changes and the flexibility for multiple designs are all preferable characteristics as long as they create more value than they cost. Scorecards have become a tool by which we are all increasingly being measured. As an example, source reduction might work for some materials and more recyclable components might work better in others.'



For further information, read the packaging films market update on p85

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# Positioning packaging films for the future

Manufacturers detail the latest technical developments in packaging films, and explain what label converters need to know when handling the next generation of packaging films. David Pittman reports

ith flexible packaging adoption continuing to grow around the world, manufacturers of packaging films are having to develop new structures and compositions to suit the ever-more demanding requirements of brand owners and consumers, and the use of their products in increasingly sophisticated ways. From fresh and frozen produce, to ready meals, pet food, chemicals and industrial products, there are few applications where flexible packaging has not found a use.

'More and more people are looking at flexible packaging,' notes Pramod Sirsamkar, president, technical and new product development, Films at Uflex. Tom Dupont, product development manager at acpo, adds, 'We're finding many of our customers who are strong in labels are discovering packaging. Flexible packaging used to be a clear bag with a label on it, but now the bag is the label."

## **Trends**

'Developments have been driven by three pillars – film manufacturers, converters and brand owners/end users,' continues Sirsamkar. 'If you look over the last 35 years, much of the demand, developments and innovation have focused on the cost of packaging, of the laminate, of the film. While cost will remain important, factors such as performance, food safety, convenience and sustainability will drive the market going forward.'

Innovia Films identifies the quest to protect products and extend product shelf life as a major ongoing focus within the packaging arena, translating to a need for better barrier protection from aromas, moisture or even mineral oil migration. Additionally, new constructions are being reviewed to see what film combinations are possible that provide the same high barrier levels achieved without

using foil in the structure.

Amanda Whaley, product manager in the Torayfan division at Toray Plastics (America), details the end user's need for high performance films as a key driver for the market. 'End users continually seek improvements in moisture barrier, oxygen barrier, seal strength, print quality and adhesion properties, or any combination of those properties.

'Another area where we see growing interest is clear barrier films, a trend driven by consumer demand. Customers want to be able to see the food product through the packaging. Satisfying that desire requires the use of a clear, robust film with barrier levels that are on par with those of metalized film, which is opaque and offers excellent barrier.'

To meet such demands, suppliers are developing and extending the capabilities of their products, as Taghleef's Extendo and Nativia show. Extendo brings together the advantages of BOPP films with the barrier performance typical of other high barrier polymers, delivering packaging weight reduction and improved recyclability. Nativia are biodegradable films made from renewable resources (PLA bio-based resin), and in many applications can replace oil-based plastics like polypropylene, polyester or polyethylene, providing two key environmental advantages: bio-based origin and compostability.

Uflex's extensive R&D program has resulted in: F-PGX, the thinnest PET AlOx film available globally; F-PGB, a transparent BOPET film with an oxygen transmission rate less than 6cc/m2/day; B-TUB-M, a super barrier BOPP film; and B-MHR, a matte BOPP film with high heat resistance.



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Toray Plastics (America) recently expanded its line of clear barrier films with the commercialization of Torayfan CBS2 BOPP film, a PVdC-replacement film with enhanced oxygen and moisture barrier properties. Further, its new Barrialox SBR2 is a high barrier, transparent, aluminum oxide-coated polyester film for retort pouch applications. A new white polyester lidding film, LumiLid XL7W, is suitable for dairy applications, and provides excellent barrier and a strong, secure seal, yet offers the consumer the convenience of a clean, easy peel. Similarly, KM Packaging's KPeel 3G is a printable, heat sealable polyester film that peels cleanly from trays in ambient or chilled conditions, and is said to provide superior cold peel in one piece without shredding, even direct from the freezer. It is also suitable for microwave and conventional oven cooking. K Reseal is a more recent development from KM Packaging, offering resealing multiple times, with added optional features of anti-fog and laser perforation.

Acpo and Innovia Films are using coatings to deliver enhanced performance in films, with Sun Chemical supplying its SunBar oxygen barrier coatings to acpo, which is coating and supplying various films in order to meet the growing demand from brand owners and flexible packaging converters for high barrier transparent packaging. Innovia Films' Propafilm RCU and RBCU have been engineered using proprietary coating technology to provide a barrier to mineral oil hydrocarbons and mineral oil aromatic hydrocarbons. Both grades have been shown to provide two years of protection against mineral oil migration, although Wayne Middleton, global leader, new product and market development at Innovia Films says, 'the indications are that the protection timeline will increase to three years.'

#### **Technical requirements**

As with suppliers in the label films market (see feature on p79), many of the demands placed upon packaging films along the supply chain can seem counterintuitive, as KM Packaging commercial director Graham Holding explains with the example of lidding films. 'There is a constant battle between consumer demands for a securely sealed product that doesn't leak and retailers wanting consumers to have a pleasant and convenient peeling experience. Food manufacturers are also looking for a secure seal to ensure there is no leakage in the supply chain.'

Innovia Films explains that such seal integrity must be coupled with the need to seal at lower temperatures and faster speeds, resulting from increasing line speeds, while modern films for printed packaging are also under more pressure not only to perform better functionally but also be better from environmental and regulatory, specifically food contact, standpoints.

S Satish, global head of sales and marketing at Cosmo Films, states that to be considered safe for food packaging applications, films must be virgin food grade, and be compliant with global standards for food contact materials laid down by regulatory authorities like FDA and the European Commission Directorate-General for Health and Food Safety. Whaley says that FDA compliance for food packaging applications can generally be achieved by ensuring that raw materials used are



adequately compliant for the target applications. She adds: 'When applications require additional certification, consultation with leading food compliance experts provide assurance that our film is fit for use. Other technical requirements around barrier, machinability, and sealability are highly dependent upon the end user's application and package format. Those are addressed with the end user on a case-by-case basis.'

# Collaboration

With smaller formats and shorter runs taking a large share of the market, narrow web flexible packaging will only have a bigger role to play in the future.

The growth of narrow web flexible packaging has brought about its own challenges, which the whole supply chain is rising to the challenge of. From HP Indigo and its wider web width 20000 digital press, Nilpeter's FA-6\* flexo press and Bobst's UV Track technology, to food safe inks, new supply models and narrow web converting equipment, each step along the supply chain is doing its bit to facilitate the growth in narrow web flexible packaging. And these developments rarely occur in isolation, as best highlighted by HP Indigo's Pack Ready initiative, combining the digital press manufacturer, converting equipment specialist Karlville and multiple film manufacturers.

'We find that converters that collaborate closely with us are generally quicker to market than those that go it alone,' states Whaley of Toray Plastics (America), a member of the aforementioned Pack Ready community. 'Print work and lamination bonds are dependent on the film and converting process. It's a two-way street. Working together makes the process much more efficient. As film manufacturers press for extremes in the barrier and sealant performance desired by end users, converting may not be as robust as it might be with a simple, less effective commodity film. Collaboration will help the converter find their optimum conditions much more quickly, which is more important than ever.'

The collaboration between Sun Chemical and acpo reiterates this; with only a few converters having the capability to coat thin films, only a limited number were able to take advantage of its SunBar barrier coating technology to date. This partnership means converters will have access to SunBar without needing to make capital investments in a coating unit. Capital investments is a point Dupont returns to, with acpo actively looking at how packaging is constructed using narrow web technology.



SealTough is a coextruded packaging film targeted to replace sealant layers in a lamination or single layers in mono-web applications

'Sealing is the big difference between labels and packaging, and to do it effectively in narrow web you need to supply materials that can be run to output a roll that is then put straight onto a bag or pouch machine. All narrow web presses have nips and narrow web printers have the know-how to laminate for self-wound. We want to help label printers turn their label presses into packaging machines, supplying both sealing and printing webs.'

#### **Specification**

Today, a wide range of films are available for specific needs and products. 'Converters need to pick the most appropriate film or combination of films to design a laminate structure which is best suited to the product, desired pack aesthetics, expected shelf-life and target packaging cost,' comments Satish.

Innovia Films states that printers and converters need to have an in-depth knowledge of the technical aspects of their supplier's films, to ensure they select the right film for the right application, and need to understand the product itself, its shelf-life and storage requirements, what food contact compliance is required and for which countries. 'A good understanding of fitness-for-use requirements of the application is essential in order to determine factually what is acceptable or not regarding the performance specifications,' says Whaley.

Sirsamkar says that work is ongoing to provide even more options, although notes, 'It is a challenge to bring products to market that meet all of the different requirements and performance characteristics demanded by film manufacturers, converters and brand owners/end users.'



For further info, read the label films market update on p79



# Product showcase

#### Cosmo Films - Black velvet lamination films

These thermal lamination films offer a velvety touch and feel, and provide intense black color to the printed surface. Apart from touch and feel characteristics, these films give excellent scuff resistance and are suitable for UV spot lamination and foil stamping as well. Engineered on special matte base films, these films not only protect the printed surface but also enhance the overall aesthetics.

## Innovia Films - Propafilm RCU (clear) and RBCU (white)

These films are the result of a major development to produce films with a barrier to mineral oil hydrocarbons (MOH) and mineral oil aromatic hydrocarbons (MOAH). Both Propafilm grades have been proven to provide two years of protection against mineral oil migration.

## Jindal Films Europe – SealTough

This coextruded packaging film is targeted to replace sealant layers in a lamination or single layers in mono-web applications. It is said to provide 'unmatched' puncture resistance, in addition to enhanced clarity, improved modulus and seal strength that can exceed 5,000g/2.54cm. Compared to blown PE, SealTough offers improvements in tensile strength, modulus, puncture resistance and impact resistance.

## Taghleef - Extendo

This high barrier film range brings together the advantages of BOPP films with the barrier performance typical of other high barrier polymers. They have a low thickness coupled with highly efficient gas, moisture, aroma and mineral oil barriers for food, medical and consumer applications. They are also an effective way to replace aluminum foil and reduce packaging waste, whilst making recycling easier, thanks to the possibility to design mono-material barrier laminates.

## Toray Plastics (America) - Torayfan OTM

This BOPP film series is designed to prevent packages from bursting when transported in high altitude and low atmospheric pressure conditions, and have been engineered with a proprietary, modified polypropylene core layer and a proprietary sealant, which work synergistically to provide superior seal performance. Seal strength and hermetic seals help to maintain the integrity of the package, and protect the oxygen and moisture barrier that allow food to stay fresh. Studies have shown that these films can survive altitudes of about 17,000ft before exhibiting a leak and about 38,000ft before rupturing completely.

#### Treofan – CLG

Coated BOPP films from Treofan have been proven to protect food products against the migration of mineral oil residue according to a new guideline that allows assessment of barrier properties. Measurements were taken by the Zürich Canton Laboratory in partnership with SQTS on behalf of the Swiss Packaging Institute during the development of its new 2015.01\_Innenbeutel guideline. According to the new guideline's assessment criteria, Treofan's CLG film with an acrylate coating on both sides reliably prevents migration for at least five months, while the CLB film with a combined acrylate and PVdC coating reliably prevents migration for at least 27 months.

# Uflex – F-UVC

This specialty polyester film is suitable for direct UV offset printing without requiring any treatment, and is available in both transparent and metalized versions. The unmetallized side is used for UV offset printing and UV curing. The metalized polyester film, Flexmetprotect F-UVC-M, is available in optical density ranging from 1.4 to 2.2. The metal bond between the metal and the film is 130-180 gm/25mm.



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The permeability of some label materials to vapors can have a major impact on performance. Versaperm director Christopher Roberts explains the problems and how to avoid them

hen you look deeply into the technology behind any industry you find a lot of practical issues that seem to get in the way of 'the perfect job'.

With the label industry there's a particularly big one that, surprisingly, most people don't know much about, yet it not only affects print quality, surface, adhesion and sometimes the physical stability of a label, but it is often critically important in these areas.

The problem is vapor permeability – the way a vapor can sneak, molecule by molecule, through paper or plastic in a way that liquids can't. It doesn't sound important, does it? But let me give you a surprising example – cellulose, EVOH and PVOH are all widely used plastics and form great barriers to liquid water. However, water, as a vapor, can pass straight through all of these, almost as if they weren't

The same thing is true with every material, to a greater or lesser extent. It affects both the gasses that help cure inks and adhesives plus the vapors from inks, toners, solvents and adhesives themselves. Even more complicated is the fact that each and every material acts

differently for each and every vapor. Don't get me wrong, sometimes this is a good thing – for example the way inks dry and print quality both depend on it. But with the wrong choice of coating, substrate or laminate, issues can arise and you can lose print quality, adhesion and physical strength to name but a few things.

#### Carbonated water

Carbonated water is another example where problems can arise from vapor permeability. Lots of people like 'fizzy water' and have been drinking it since it was first produced artificially in the 1750s. One problem is that the glass bottles traditionally used are heavy and expensive. When plastic bottles were introduced in the mid-1900s they were seen as a wonder product, and when PET bottles arrived in the 1970s they must have seemed like the ultimate answer for fizzy drinks. But in just 12 weeks a plastic bottle can lose up to 15 percent of its carbon dioxide content.

With the advent of shrink sleeves, it was realized that if you make the label from the right barrier material, with the right permeability



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# "If you make the label from the right barrier material, with the right permeability to carbon dioxide, you can keep water fizzy for longer"

to carbon dioxide, you can keep the water fizzy for longer. The same applies to lots of products that decay, from cheese through to strawberries, with packaging now used explicitly to preserve content. Incidentally, if you pack either cheese or strawberries in the other's packaging they actually go off far more quickly.

Every paper, board or plastic, label, ink, toner and solvent requires an individual option to optimize vapor permeability, but, nonetheless the system works. In a very similar way, print quality, adhesive strength/ durability/curing, and sometimes even the physical strength of the label, can all be affected by the way vapor permeates through the substrate, as can label swimming, caustic label removal and the print (especially on paper) surface as, during manufacture, air becomes entrapped in microscopic ganglia.

#### Competing requirements

The answer to the problem, at first sight, seems obvious; a good choice of substrate, a suitable coating or laminate and the

problem is solved. Not so.

Many characteristics have competing requirements, for example, a paper coating that optimizes print quality, may well affect adhesion. And, more importantly, a coating that is good for a specific ink or color, will almost certainly be wrong for many solvents and adhesives. The vapors that evaporate from solvents, adhesives, inks and toners are highly complex and each molecule has an individual vapor permeability value for every substrate and coating.

Great strides have been made in the last few decades in understanding the detailed physics behind this process, but it is still not completely understood. In the real world, the best option is invariably a compromise between the competing requirements, and there is a growing trend towards multiple coatings using different materials to give the most appropriate 'designer solutions'. The question becomes, how do you achieve this for your specific requirements?

Well, those nice fellows who design and produce coatings usually have a lot of experience and an understanding of the physics and chemistry of it all. Don't worry, you don't need to understand everything, but you do need to understand the principles and have a grasp of what they do.

# How do you measure permeability?

Until 30 years ago the most realistic way to measure vapor permeability was using gravimetrics, which involved sealing a little cup filled with vapor-absorbent granules, weighing it, exposing it to the vapor for some

# "There is a growing trend towards customizing coatings to make products suitable for specific applications"

weeks or months, and then weighing it again to see how much vapor had passed through.

Today, we use instrumental techniques that measure it both quickly and accurately. First of all, coating(s) is/are added to a specific, strong and stable base. Then the sample is fixed in a chamber and its two sides are exposed to different controlled atmospheres, one being the vapor under test, the other an inert gas.

Where required, perhaps for a shrink sleeve, the system can measure permeability under a range of temperatures and pressures, which both affect permeability in non-linear ways. Basically, the vapor under test flows across one side of the coated sample or film, molecules from the vapor pass through the coating and are counted when they reach the other side. Different vapors and environments need different sensors to do this but they have become extremely sensitive, with accuracies ranging from parts per million through to parts per billion.

You can actually measure the overall permeability of a bottle of fizzy water complete with its shrink sleeve, simply by placing it in a container with the inert gas flowing around the outside of bottle.

# Getting it right

Using a material with the right vapor barrier properties for your labels, no matter if they are paper, plastic, card or anything else, can make a huge difference to the finished product. This is why coated papers represent a 40 billion USD industry.

There is a growing trend towards customizing coatings to make products suitable for specific applications. This same trend took off some while ago in the food industry, kicked off by the needs of modified atmosphere packaging, but is now spreading throughout the drinks industry and beyond.

Getting it right can lead to better print quality, adhesion and improved products with better performance. With permeability, what starts out to be a barrier may well end up as a solution.



Versaperm manufactures equipment to measure vapor permeability and also offers a laboratory service. Go to www.versaperm.com for more information

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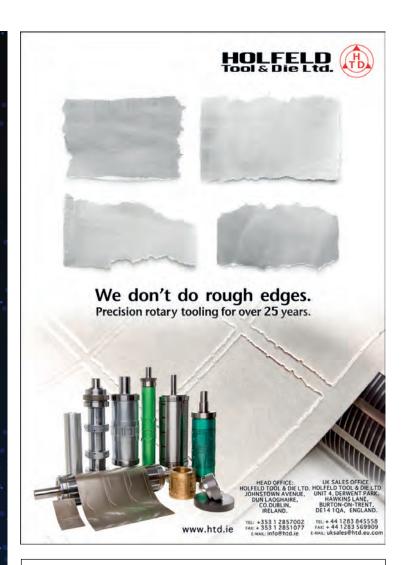
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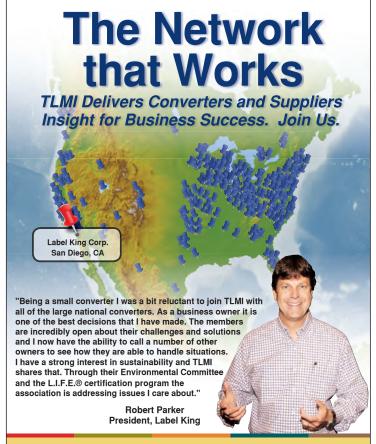
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# Ink market update

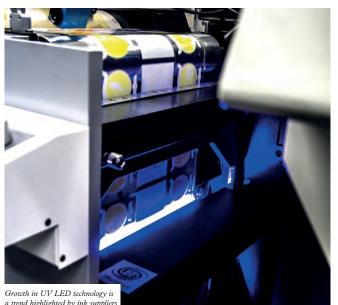
Industry manufacturers explain the factors driving development in label and packaging inks. David Pittman reports

ith new and emerging print processes and converting technologies, coupled with evolving customer demands, ink suppliers to the label and package printing market are having to continuously develop new products suited to 21st century label and package printing. Growth in digital printing, advances in hybrid printing, energy curing, an evolving regulatory landscape and environmental concerns are just some of the headline factors shaping developments in inks.

Flint Group sees low migration UV inks, which can also be categorized as food packaging compliant inks, being used widely across central Europe today, with demand expanding around the world as global brand owners extend their requirements in other regions. North America has seen rapid adoption of LED inks, based on the economic and environmental benefits of UV LED curing. Four hundred such lamps are in use on narrow web presses in the region and Flint Group says that UV LED is starting to make inroads in Europe, with the technology now more readily available.

Michael Müller-Samson, head of the narrow web business unit at Siegwerk Druckfarben, says, 'Additional expansion of UV LED ink applications will further enable printers to use these inks for the full range of products. In the US, UV LED flexo technology has also started to replace standard UV flexo and is already widely used, such as for the production of shrink sleeves. In general, we expect a further volume switch from conventional UV to low migration UV inks, especially when printing labels for food applications. Next to the expected increase of UV LED ink systems, electron beam offset inks will find more applications especially for food packaging, due to the existence of more presses in the market.'

Niklas Olsson, Flint Group Narrow Web global brand manager, sees the combination of low migration UV and LED technologies as helping converters diversify into new markets: 'Converters can now consider expanding their businesses into a new world of short run flexible packaging printing. The technical capability matches nicely with the market drive to shorter printing runs in flexible packaging. We see increasing requests from brand owners for short runs of



# "Diversified applications and markets mean that any ink has to adhere to a variety of substrates"

sleeves, pouches and sachets, in addition to more traditional flexible packaging.'

Mark Walkling, product manager for ECP packaging and narrow web labels in Europe at Sun Chemical, comments, 'Label printers are starting to diversify their product offerings by entering non-traditional narrow web markets and look at ways to differentiate themselves from their competitors, perhaps through innovative products, technologies, specialty effects and compliant applications.'

Shrink sleeve label applications and the use of opaque whites feature on Pulse Roll Label Products managing director Gary Seward's list, as does process printing to ISO flexographic printing standards and expanded color gamut printing, which is gaining momentum. 'The benefits of a 7-color ink system enables the color gamut to be extended through the use of process printing, thereby removing the use of spot or special colors but without compromising on color quality and a brand's visual appearance. With the elimination of ink changes and clean-ups, reduced press downtime means greater production efficiencies for label printers.'

## Innovation

To meet these demands, ink suppliers are providing optimized products that deliver key characteristics, such as faster and stronger curing. Making inks and coatings BPA-free is one such development noted by Amanda Jones, Paragon Inks business development and marketing director: a response to legislative changes and 'the constant evolution of our product portfolio.'

GSB Wahl's UV-Flexoink 80 LM low migration UV flexo ink series has been developed to print on different kinds of material, especially films, and is claimed to offer excellent adhesion and printability and low viscosity.

'Diversified applications and markets mean that any ink has to adhere to a variety of substrates as well as withstand the rigors of the product's life-cycle,' adds Walkling. 'Therefore, as ink developers, we are constantly looking to extend the versatility of our ranges





# "In an increasingly global market, the responsibility on brands and package producers for assuring product safety is growing"

and enhance characteristics such as adhesion, resistance, resilience, shrinking, stretching and retort. Inks also have to be compatible with other in-line print processes such as foiling, lamination, coating and later stage variable data print.'

Zeller+Gmelin's new generation of flexo printing inks for food packaging, Uvaflex Y81 FCM, shows improved migration behavior and features an extreme low odor, as well as excellent curing, high color density/color strength, low and stable viscosity, and no ink misting. It is also formulated with BPA-free raw materials and compliant with the latest Nestlé Guidance Note.

Further, label printers increasingly ask for ink systems that are compatible with different printing methods, including digital printing, while modern presses are able to print jobs at higher speeds, requiring faster drying inks. This, says Müller-Samson, is coupled with the desire for inks with great printability and good runnability as well as easy handling. In UV flexo printing, converters ask for higher pigmented ink systems to enable the use of finer anilox rolls.

'Another technical challenge for ink manufacturers these days is that the market is increasingly requiring a higher comparability of migration optimized and standard inks in regards to ink properties. As the formulation of migration optimized inks is based on a limited selection of raw materials, due to the restriction by stringent regulations especially for food applications, this topic will continue to engage the R&D and ink development of the industry going forward.'

Olsson identifies an increase in both performance and processing requirements, driven by the constant need for brand consistency and for lower cost/label. 'Label print quality and color consistency is vital in maintaining brand integrity on a global scale,' confirms Seward. 'Historically it has been a real challenge for label printers to achieve consistent color ensuring that brand and corporate colors are matched accurately, time and time again. It is these trends that drive our R&D focus and shape the development of products.'

#### Investment

As well as development in performance characteristics, ink suppliers are investing in their manufacturing to support growth. Toyo Ink Group, for instance, is working to more than double production volume of UV inks by 2020, and installed a dedicated UV ink production line in Japan last summer.

Zeller+Gmelin is to place further focus this year on the development of its manufacturing process for low migration printing inks, and the development of UV LED printing inks and lacquers. For the development of low migration UV printing ink systems for food packaging, Zeller+Gmelin has invested in an Analytic Center and in new production technology, including a fully automated dispensing system for high viscosity raw materials, which is connected to the in-house ERP system.

Siegwerk has introduced a new batch checking process for migration optimized inks to detect potential contamination directly during production, alongside a dedicated inkjet laboratory at its Technical Center in Annemasse, France, and automation and increased capacity for manufacturing water-based and energy curable products at its US site in Morganton, North Carolina.

Sun Chemical has invested in a dedicated LED curing development facility, incorporating a flexo printing press installed with LED lamps to enable onsite testing, analysis and monitoring, with Flint Group to upgrade its R&D press in Trelleborg, Sweden, as well as adding a second in Rogers, Minnesota. To support the low migration trend, it has also increased production capacity and is fully GMP accredited at both its Swedish and US manufacturing facilities for both conventional and UV LED curable low migration inks. Further, it has added 40 team members in 2016.

Investment in the future at Pulse Roll Label Products has focused on people as much as R&D and new product development. This has included the appointments of Anthony Tan as sales director for Asia, Kevin Green as new technical sales manager and Mikaela Harding as product manager.

#### The future

Akihiko Koya, assistant manager within the packaging material department of the Global Business Division at Toyo Ink, identifies growing pressure on brands and packaging producers to ensure product safety as having a big impact on ink suppliers.

'As consumer safety regulations are becoming increasingly strict on a global level, we as an ink manufacturer have also stepped up efforts to develop formulations based on chemicals or alternative materials that show low or no migration to the packaged content.'

'We have to ensure that our inks and coatings are based on materials that are suitable for compliant printed products,' comments Walkling, 'whether it is by raw material batch selection, supplier specification and certification or production control to minimize contaminants'

'The market asks for inks based on cleaner raw materials but with the same technical properties and ink performance,' concludes Müller-Samson. 'We at Siegwerk already exclude toxic substances based on regulatory exclusion criteria and design all food packaging inks to minimize the potential for the transfer of ink components of concern into food, whilst meeting the high end-use requirements. We have implemented a comprehensive raw material introduction process striving to achieve complete knowledge of the chemical composition of all raw materials intended for food packaging inks, down to traces in the ppm range.'

••••••



Read exclusive comment from RK PrintCoat Instruments on the opportunity for low migration UV inks and LED curing technology at http://tinyurl.com/hlv4kag





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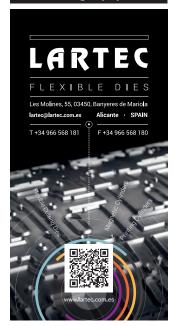
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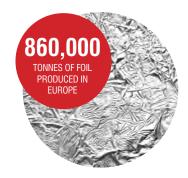
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# Label Trends

Aluminum is an integral part of many flexible packaging constructions. The following statistics from the European Aluminium Foil Association outline this importance



Around 860,000t of aluminum foil is produced in Europe annually



14 billion sqm (14.000 sq km) is used for flexible packaging, or an area the size of Montenegro, one third of the Netherlands or five times that of Luxembourg



1.5g of aluminum foil protects one liter of milk over months without cooling



About 75 percent of aluminum foil is used for packaging and household foil



The average aluminum foil consumption in Europe is over 26 sqm per capita



Around 60 percent of aluminum packaging in Europe is recycled



Aluminum foil provides absolute barrier against moisture, light and oxygen



75 percent of the aluminum ever produced is still in use

# Label SOCIETY



- Argent Tape and Label got in costume at Women's Business Enterprise National Council conference. From left: Amanda K, Lynn Perenic and Jennifer Jasinski
- 1 TLMI converter members from left: Mike Henry and Dan Muenzer of Constantia Flexibles; Christie Barrett of Mac Arthur Corporation and Mark Glendenning of Inland, at the TLMIannual meeting
- From left, Inland Label's Olivia Schneider, Paige Conforti, Liz Riddle and Daniel Volden volunteer at the La Crosse Rotary Lights near Inland headquarters in La Crosse, Wisconsin

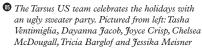




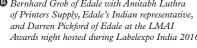




TLMI members Anthony Dardano and Mark Turk of International Label & Printing stand with Bill Myers of Domino (center) at the TLMI annual meeting



 Bernhard Grob of Edale with Amitabh Luthra of Printers Supply, Edale's Indian representative, and Darren Pickford of Edale at the LMAI Awards night hosted during Labelexpo India 2016



- **©** Manish Kapoor of Nilpeter (second from left) and Mehul Shah, president of Vadodara Association of Master Printers (center) seen with other colleagues during the Labelexpo India 2016 roadshow in Vadodra in October
- A team from Outlook Group in Neenah, Wisconsin, enjoy Labelexpo Americas 2016. Pictured are: Patrick Culver, Bailey Fernau, Pat Harvath, Wyatt Benz, Jim Zeman, Ryan Corbett, Chris Quandt, Doug Grambow, Trista Rahn, Mark Jansen, Danielle Jerschefske, Blaine Ott
- 1 Rajan Vyas of Nitai Press with the HP team during the Labelexpo India 2016 roadshow in Vadodra















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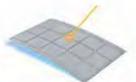




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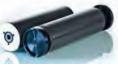
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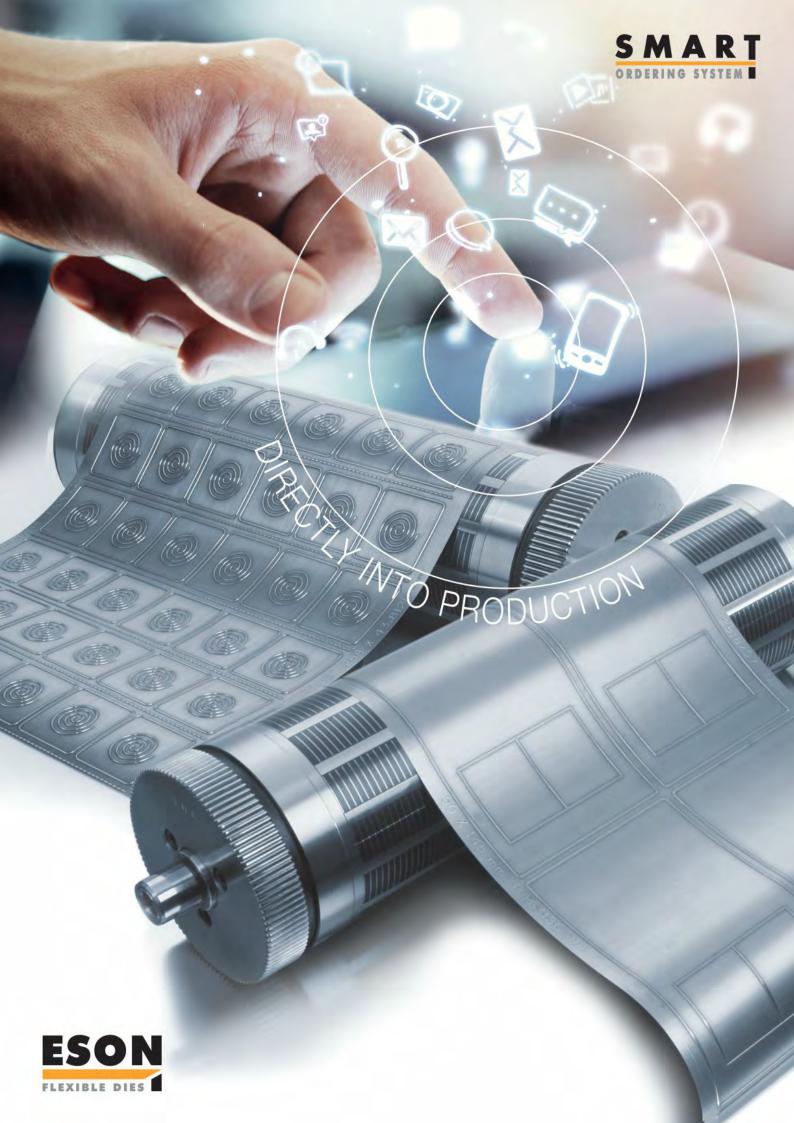
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NTP

Standard or laser hardened flexible die with a very hard coating NTP, ideal for the abrasive thermal (thermal transfer) papers and cardboard. A thick layer of NTP enables extremely high running performances with outstanding wear properties.

Hardness of cutting edges: 60-63 HRC



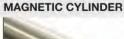
DLC

Standard or laser hardened flexible die with a very hard and non-stick coating DLC, ideal for the separation of inks and adhesives, combined with a very long life.

Hardness of cutting edges: over 100 HRC

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