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L&L - Meet the team

Labels & Labeling is the leading global information source for the label and package print converting industries with an editorial team and network of correspondents spread throughout the world





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E: subs@labelsandlabeling.com ISSN: 1478-7520

Printed by

CDT Associates Ltd, Sandhurst, United Kingdom

Jul-Sep 2021



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A breakthrough coating technology from Actega allows converters to print entire PS label constructions on a standard narrow web hybrid press

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L&L looks back (L&L issue 5, 1986)



P12 Mike Fairley visited Almac Sleeving Systems, one of the UK's leading suppliers of unit sleeving materials and systems, to talk about a new labeling method. Sleeve labels were experiencing rapid growth at the time, more than doubling in market value in just three years to a European sales value of around GBP 20 million in 1986.



P20 L&L investigated the technology and end-markets of a unique flat-screen roll-label press with continuous motion that achieved significant success in Europe, the USA and Asia. Some leading converters in Europe were then printing as much as 80 percent of their market production using the screen process.



P29 The use of metalized labels was expanding to new market applications, including cosmetics and toiletries, wines and spirits, and 'even soft drinks and beers'. Mike Fairley visited Dutch and Welsh converters to assess the considerable growth and dive into details of direct and transfer metalization techniques.



P36 Mike Fairley spoke to Ulrich Schnoor in Neumunster, Germany, one of the world's leading printers of barcodes, about the barriers of code printing technology and the company's growth. The company was then looking to extend its specialized service through an international distributor network.

People need people

Editor's note

n the previous issue of Labels & Labeling, Isidore Leiser, CEO of Stratus Packaging, likened running a business during the pandemic to playing a video game – stuck behind a screen, relying on virtual rather than face-to-face interaction.

In this issue (on page 65), Paola Iannone, head of marketing and communications at global converting group All4Labels, says that the company's current priority is to meet with customers in person: 'To understand the strategy of customers takes time, and it's not just knowing about their turnover,' she said. 'At the moment, we do not know the brands' plans to 2030, but we did know. Because face to face you have an open agenda and informal talking and go to lunch together and see how the company is running. So we need to cover the gap of

"People need people, and the return of trade shows will provide a welcome fillip to those areas of business that simply cannot be replicated online"

uncertainty and we have to do this together.'

It is likely that, as we move out of the pandemic (whenever that might be) some things will not return to how they were. A hybrid working model – with more office work conducted remotely – is probably here to stay. Some international travel will be permanently replaced by Zoom calls.

But perhaps talk of a 'new normal' is overstated. Humans are social beings. The adage 'people buy people' correctly highlights the crucial importance of personal relationships in business. We can, perhaps, maintain existing relationships virtually – but it is surely harder to successfully forge new ones.

Industry trade shows, beginning to return in the second half of this year – with Labelexpo's own Label Congress in September in Chicago and Labelexpo Asia in Shanghai in December among them – play a key role here.

Just as it is hard to replicate those informal 'water-cooler' chats in the office if you are working remotely, so too is it difficult to reengineer online those chance meetings, impromptu introductions and snatched conversations that take place throughout the exhibition halls – not to mention the bonds forged during raucous evening gatherings.

There is no question that the label industry has adapted remarkably well to extraordinary conditions over the past eighteen months. Indeed, many businesses have thrived. But people need people, and the return of trade shows will provide a welcome fillip to those areas of business that simply cannot be replicated online.

OSTON

James Quirk Group managing editor

News



The combined company will generate around 3bn USD in annual revenue

Fort Dearborn and MCC merge

CD&R acquires and merges the two companies

Clayton, Dubilier & Rice (CD&R) has acquired and merged Fort Dearborn and Multi-Color Corporation (MCC) to create one of the world's largest label companies.

The combination of Fort Dearborn and MCC, acquired respectively from Advent International and Platinum Equity, will create a diversified platform across label technologies, geographies and customers. It will serve a diverse mix of customers active in several sectors, including wine and spirits, food and beverage, beer, and home and personal care. The combined company is expected to generate approximately USD 3 billion of annual revenue.

'We see strong strategic logic and promising value creation potential in bringing these two leading label manufacturers together,' said Nate Sleeper, CEO of CD&R.

David Scheible, operating advisor to CD&R, will serve as chairman of the combined company. He is the former chairman and CEO of Graphic Packaging and serves on Fort Dearborn's board of directors.

'We believe the growth opportunities that this combination and new investment partnership with CD&R present will greatly benefit our customers, suppliers and employees alike,' said Kevin Kwilinski, president and CEO of Fort Dearborn. 'We believe MCC's global footprint and CD&R's experience helping industrial companies enhance operational execution and achieve global scale and growth will benefit the combined enterprise.'

Nigel Vinecombe, CEO of MCC, said: 'This combination with Fort Dearborn and the ongoing support of value-added investors provide the opportunity to continue to strengthen the business, invest in the expansion of our global footprint, and provide best-in-class service to our customers.'

Optimum adds Danish converters

Optimum Group has added Denmark based converters Scanket, Labelsupply and Odense Seglmærkefabrik to its network. The management of all three companies will remain in place. The additions aid the European growth ambitions of Optimum Group and will significantly expand its presence in the Nordics. As part of the Optimum Group, Labelsupply, Scanket and Odense Seglmærkefabrik will be able to better serve their customers through increased capacity, a wider range of self-adhesive labels and flexible packaging and greater delivery reliability as part of an international printing group. Optimum Group now consists of 15 member companies.



FFEI is a leading integrator and manufacturer of industrial inkjet systems

Xaar acquires FFEI

FFEI CEO Andy Cook and CFO Julian Payne to remain in roles

Xaar has acquired FFEI, a print system and printbar specialist, to accelerate the company's existing growth strategy.

FFEI is one of the leading integrators and manufacturers of industrial digital inkjet systems and digital life science technology with many years of experience in managing technical integration and engineering projects. Its innovative imaging technologies and printbar manufacturing have enabled the business to establish several joint ventures with world-leading inkjet and life sciences organizations.

The addition of FFEI strengthens Xaar's capabilities and skills and will help provide more comprehensive technologies for its growing number of OEM and UDI (User Developer Integrator) customers.

Based in Hemel Hempstead, UK, CEO Andy Cook and CFO Julian Payne will remain in their current roles and report to Xaar's CEO John Mills. Bob Wilson, FFEI's CTO, will join Xaar in a senior position within the printhead business.

'Having restructured and stabilized our core printhead business, the acquisition of FFEI will accelerate our strategy and expand our customer offering in a range of markets. As well as providing a number of ready-made solutions, the acquisition will further enhance Xaar's world-class expertise,' said Mills. 'I've personally known the FFEI team for many years and have long admired their capabilities, having previously worked closely with them. We are very excited to welcome them to Xaar and look forward to integrating the business as we continue to deliver on our strategy.'

Andy Cook added: 'We are delighted to become part of Xaar, which represents a fantastic opportunity for the business to develop and grow. Xaar has been a long-term market leader with great technology and great people and is a perfect fit for the business.'

Paragon ID acquires Security Label

Paragon ID has acquired Germany-based Security Label, one of the biggest producers of baggage tags for the air transport industry. 'We have been exploring possibilities for cooperation with Security Label since we won the Air France contract in 2019,' said Clem Garvey, CEO of Paragon ID. 'As Europe's biggest manufacturer of RFID tags, we were looking for an established player in the baggage tag ecosystem with whom we could take a leading position in an industry on the cusp of transformation through the adoption of RFID. Security Label is by far the best possible partner we could have imagined, and we are delighted to conclude our discussions with an acquisition of the company.'

News



Domino's relationship with Harn goes back to 1989

Domino opens Thai center

Bangkok site created with local partner Harn

Domino Digital Printing Solutions has launched its Digital Center of Excellence in Bangkok, Thailand, with long-term partner Harn Engineering Solutions.

The relationship with Harn goes back to 1989 when the company started sales and service support for Domino's range of continuous inkjet coding and marking products in Thailand. Today, Harn also provides sales, marketing, service and support for Domino's inkjet presses in Thailand and Vietnam. This long-standing partnership, Harn's location and its size – over 250 employees – made Bangkok the natural choice for Domino's Digital Centre of Excellence.

Mario Fanton, director of digital printing for Asia-Pacific at Domino, said: 'Asia-Pacific is a key growth market for digital label printing, with an increase in the requirement for personalization and variable data printing and we're seeing a host of opportunities for Domino in this region. We're delighted to announce the opening of our Digital Centre of Excellence in partnership with Harn Engineering Solutions, with whom we've enjoyed a long and fruitful working relationship.'

Thammanoon Tripetchr, MD at Harn Engineering, added: 'Digital inkjet printing is gathering momentum in Asia-Pacific, and we're convinced that inkjet is the future of the industry. Through the deployment of this technology, we're certain that our customers will be able to achieve greater return on investment.'

'The Digital Centre of Excellence represents an exciting opportunity to drive growth and sales across the Asia-Pacific region. This new facility will be used for pre-sales, sampling, product demonstrations (live and virtual) and for post-sales customer training and development activity,' added Fanton.

Inovar acquires Precision Label

Inovar Packaging Group has acquired Precision Label, based in Oceanside, California, in partnership with the existing Precision Label management team. This is Inovar's sixth platform company and adds to its existing manufacturing footprint in Dallas, Boston, Fort Lauderdale, Milwaukee and Kansas City. 'We are extremely excited to have Precision Label join the Inovar family,' said Jeff Brezek, executive chairman and CEO of Inovar. 'Co-owners Pete Krudwig and Joe Feeley have built a truly differentiated label business over the last 23 years. We couldn't have found better partners in Pete and Joe and are thrilled to have them continue to lead what will now be Inovar's flagship West Coast location.'

News in brief

Mercian Labels launches liner waste collection service

UK converter Mercian Labels has launched Closed Loop, a label liner recycling service helping its customers to reach sustainability goals and contribute to a circular economy. Customers participating in the program can return pre-sorted liner waste to Mercian Labels, which will check it, collate it and send it off to the pulping plant, where it will be turned back into release liner and paper to be used in magazine publishing.

Maxcess acquires OneBox Vision

Maxcess has acquired OneBox Vision, based in Tipperrary, Ireland. OneBox Vision was founded in 2011 by Conor O'Neill and brings a suite of proprietary vision inspection technologies that will add to the existing Maxcess product range. O'Neill will join Maxcess to expand its vision inspection business.

hubergroup opens Poland plant

Printing ink specialist hubergroup has opened a new production plant in Wroclaw, Poland – its third in Europe alongside sites in Celle, Germany and Bolzano Vicentino, Italy.

Resource Label acquires Cypress MultiGraphics

Resource Label Group has acquired industrial label specialist Cypress MultiGraphics and its two locations in Tinley Park, Illinois, and Brooklyn Center, Minnesota.

Constantia Flexibles acquires Propak

Constantia Flexibles has acquired packaging producer Propak, located in Dücze, Turkey.

ePac expands in Europe

ePac has expanded its European operations into Austria with a new sales and manufacturing facility in Innsbruck.

GM names new agents

GM has appointed as distributors Beswick Machinery in South Africa, Redagraph in Morocco and GrafiSoft in Chile.

GEW names Korean agent

GEW has named PM Trading as its distributor in South Korea.

Dantex appoints Australasia agent

Dantex Digital, part of the Dantex Group, has appointed Auckland-based Nekkorb Solutions as its new distributor for Australasia.

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News



MCC acquires Hally Labels, Label Partners, Adhesif Labels, Kiwi Labels and Rapid Labels in the deal

MCC acquires Hexagon

Deal includes multiple converters in Australia and New Zealand

Multi-Color Corporation (MCC) has signed a binding sale and purchase agreement of 100 percent of the shares in Hexagon Holdings. The acquisition includes Hexagon subsidiaries in Australia and New Zealand: Hally Labels, Label Partners, Adhesif Labels, Kiwi Labels and Rapid Labels.

The transaction will complete when FIRB (AU) & OIO (NZ) foreign investment regulatory approvals have been confirmed, likely in Q3 2021.

Nigel Vinecombe, CEO of Multi-Color Corporation, said: 'Bringing these companies together creates an impressive Australasian network and clear market leadership in the region. We are delighted to be welcoming Hexagon's staff, clients and suppliers to the MCC family.'

'We are proud to have established Hexagon and built its operations over the past eight years to be the leading manufacturer of self-adhesive labels in Australasia,' added Clark Perkins, chairman of Hexagon Holdings. 'The MCC and Hexagon businesses are highly complementary, and we can see many opportunities for the combined business in the Australian and New Zealand markets.'

Because the acquisition is by way of a share sale, all existing arrangements with Hexagon employees, clients and suppliers will continue seamlessly.

MCC's enlarged Australasian group will be led by Daren Hudson, MCC president for Australia and New Zealand. Hexagon CEO Greg Howell will assist across an agreed transitional period.

SAP acquires Chromatic Labels

Signature and Action Flexible Packaging (SAP) has acquired Chromatic Labels and appointed John Attayek as CEO. SAP specializes in printing, conversion and supply of rollstock, pouches and bags used for flexible food and consumer packaging applications.

Headquartered in Irvine, California, Chromatic provides flexible packaging, shrink sleeves and labels to short-run, high-SKU count customers in the beverage, nutraceutical, cosmetic and food markets.

'Chromatic represents a natural expansion of SAP's capabilities on the West Coast,' said Howard Applebaum, chairman of SAP. 'Peter and the Chromatic team have built an impressive business over the past fifteen years. SAP is thrilled to share this significant next step in our growth plan together with them.'



Fedrigoni has added Acucote to the recent deals for Ritrama and IP Venus 📩

Fedrigoni acquires Acucote

Third acquisition in 18 months brings increased US presence

Fedrigoni has acquired Acucote, a US-based manufacturer of self-adhesive materials, as it continues its growth strategy in the premium self-adhesive products sector.

Acucote, founded 34 years ago by John Leath, operates one plant and four distribution centers with a turnover of over USD 70 million and 142 employees.

.....

Fedrigoni can now count on a new plant and a stronger commercial presence in North America, where it was already present with its operations in California and the distributor GPA, together with the Mexican company, Industria Papelera Venus, acquired in December 2020.

With this third acquisition in 18 months, after Italian company Ritrama and Mexican company IP Venus, Fedrigoni further strengthens its position as a global player for self-adhesive materials. It operates through numerous brands such as Arconvert, Manter, and Ritrama.

'The acquisition of Acucote represents a further step in the growth strategy in the increasingly promising self-adhesive materials sector, where we are determined to expand our position as the market leader,' said Marco Nespolo, CEO of Fedrigoni Group. 'It is in line with our wish to diversify our geographical penetration, strengthening our position across the Americas and in particular in the United States.'

John Leath, founder of Acucote, said: 'I am leaving my company and my people in good hands, which was my main goal.'

Avery unveils Sustainable ADvantage

Avery Dennison has launched Sustainable ADvantage, its new flagship products and technologies portfolio, to contribute to its 2030 mission to provide 100 percent recyclable products and support its ambition to be net-zero on greenhouse gas emissions by 2050. By creating a clear standard, Sustainable ADvantage will enable companies to use fewer natural resources, cut carbon emissions, reduce waste and build towards a low-carbon, circular economy. Through digital strategies and intelligent labeling technologies, Sustainable ADvantage drives circularity and provides customers with insight into their supply chain impact. This can reduce the environmental footprint, satisfy consumer demand and expectations, increase recyclability, and respond effectively to government regulations while achieving their own sustainability goals.

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John Parker, Managing Director, Spectrum Digital Labels

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New Products



Signite Actega

Actega has launched Signite, a decoration technology designed to significantly reduce and eliminate waste in label production. According to the company, the technology can currently reduce label waste by over 50 percent, compared to a similar footprint pressure-sensitive label by eliminating the label matrix, reducing the decoration thickness to about a third of that of a typical clear pressure sensitive label and eliminating label media plastic in non-print areas. Read more on page 67.

PrimePaper F005 and F026

Felix Schoeller Group (FSG) Felix Schoeller Group (FSG) has expanded its facestock portfolio with PrimePaper F005 and F026, two new product types for direct contact with food, free of harmful substances, and FSC certified.

UPM Asendo Pro UPM Specialty Papers

UPM Specialty Papers has introduced UPM Asendo Pro, a fiber-based barrier paper. UPM Asendo Pro is a two-side coated barrier paper made from renewable sources offering an advantage of an easily recyclable monomaterial. Its print side provides a basis for high-quality visuals in addition to advanced grease and moisture resistance and mineral oil barrier to keep products safe.

52W wash-off adhesive Herma

German self-adhesive technology specialist Herma has launched 52W, a new wash-off label adhesive developed especially for PET bottles that satisfies stringent requirements imposed on collection schemes. '52W enables us to ensure that label particles cannot regain their stickiness during drying and then become attached again to the washed PET flakes. In the context of separation for recycling, this is a key requirement of the Norwegian and Swedish recycling regulations. Therefore, the PET flakes can be separated from the labels, ready for recovery and conversion, using either the sink-float or air classification technique,' said Dr Ulli Nägele, head of development at Herma.

PureFX Soft Touch Varnish

Pulse Roll Label Products Pulse has launched PureFX Soft Touch Varnish, extending its special effects range to offer a unique UV tactile coating. Testing yielded results that provided a soft touch effect the company believes is comparable to soft-touch lamination films and water-based flexo. Demonstrating excellent adhesion, overprintability, press stability

and chemical resistance, PureFX Soft Touch Varnish is suitable for various substrates, including coated PE and PP, aluminum foils and paper. The product is also food packaging compliant, formulated for non-direct food contact packaging applications, and is particularly well-suited for end-use markets including cosmetics, beauty, personal care, baby care and beverages. As well as conventional UV flexo printing, the new varnish is also suitable for finishing over digital inks.

GB24U SML RFID

SML Group has launched GB24U, a dual tag technology combining item-level tracking abilities of RFID with the loss prevention capabilities of an Electronic Article Surveillance (EAS) tag. Incorporating UCODE8 capabilities from NXP, theGB24U8 enables retailers to use EAS technologies to combine traditional EAS functionality with the benefits of item-level RFID, including inventory management, auto-replenishment, and BOPIS fulfillment.

New Products



Tactile-coded bottle Domino

Domino Printing Sciences has teamed up with Procter & Gamble (P&G) to develop a tactile technology for product labeling, helping visually impaired consumers distinguish personal care products. 'Most shampoo and conditioner bottles are designed to look and feel the same,' said P&G's special consultant for inclusive design, Sumaira Latif, who is registered blind herself. 'We realized that we have a huge opportunity to improve our products and packaging and to encourage other businesses to do the same.' Dr Stefan Stadler, team lead at the Domino Laser Academy, and Latif and her team identified the bottom of the bottle, where the plastic is at its thickest, as the best location for the coding, where it would be easily identifiable without compromising the integrity of the packaging. 'The chosen design features a row of raised lines on

the bottom of the back of the shampoo bottles - S for shampoo, S for stripes – with two rows of raised dots in the same place on conditioner bottles - C for conditioner, C for circles,' said Stadler. To ensure the approach would work for consumers, P&G presented the newly coded bottles to the Royal National Institute of Blind People (RNIB) in the UK for consumer testing. A follow-up focus group with visually impaired consumers approved the new bottle design with many positive reviews from those living with partial or complete sight loss. Based on the success of the initial trial, P&G rolled out the new design across all its US range of Herbal Essences bio:renew shampoos and conditioners.

Sentinel and Label Archive Teklynx

Teklynx International has launched new versions of its enterprise label management tools Sentinel and Label

Archive with a wide range of enhancements. Sentinel enables automatic label printing from an ERP, WMS, or other business systems to eliminate manual data entry, while Label Archive offers complete visibility into the barcode label printing process with secure user access and approval workflows. The new version of Sentinel ensures no interruptions in labeling workflows during server upgrades, unexpected shutdowns, or scheduled maintenance by using an automatic back-up server activation process. New features for the Label Archive 2021 include an enhanced web interface and a new label request workflow to extend label tracking.

Metallic NFC labels Toppan Printing

Toppan Printing has developed NFC1 labels combining high-quality metallic design with the communication performance required of NFC tags. There are two types of labels available: a metallic decor type and a metallic surface type. Both offer a premium look achieved by combining multiple decorative printing technologies used for creating eye-catching designs.

Nitrox printhead Xaar

Xaar has launched Nitrox, a new printhead powered by the ImagineX platform offering greater print speeds and uniformity across a wide variety of print applications. Xaar Nitrox offers firing frequencies of up to 48kHz, enabling print at up to 100m/min, fast set-up time, and installation with drop-in printhead alignment and Xaar's AcuChp automation technology. The printhead features plug-and-print capability and TF recirculation technology.



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PowerDrop revolution comes to viscous coating

A new non-contact coating technology allows patterned or continuous jetting of viscous fluids – including metallics and hot melt adhesives – onto any substrate. Andy Thomas-Emans reports



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About Archipelago

Archipelago Technologies Group is based in the inkjet technology hub of Cambridge, UK. As well as developing its own specialist coating equipment, the company provides trouble shooting, optimization and consulting for inkjet technology companies, suppliers of inks and coatings and converters looking to bring coating functions in-house. Services include Chargesense, an electrochemical solution to the problems of ghosting, misting, and degradation.

webinar presented under the Finat technical education banner revealed an exciting new technology which for the first time enables viscous fluids to be jetted onto just about any material.

PowerDrop is a non-contact coating technology which, say its developers, could replace conventional spray and contact coating systems where precision deposition of viscous, industrial materials in clean, high volume manufacturing environments is required.

PowerDrop can deposit virtually any viscous material with precision, making it applicable to a wide range of end user industries.

For the label and package print industries, applications include any liquid with a high particle loading, from primers and UV coatings to white basecoat, metallics and hot melt adhesives. PowerDrop can even jet things like antimicrobial coatings onto flexible packaging.

While PowerDrop is not based on any existing coating technology – inkjet or the more traditional coating technologies like spraying, screen, gravure or flexographic printing – its architecture delivers some of the advantages of both.

'We asked the question – how do you jet materials that are viscous, particulate and sticky?' says Guy Newcombe, CEO of Cambridge, UK-based Archipelago Technology Group. 'Many manufacturing operations need to dispense precise, micro-liter, quantities of viscous liquids, and conventional metering systems can't deliver volumes that are sufficiently small.

"You can use a wide range of coating rheologies, meaning we are getting a more even finish with metallics than contact processes"

Inkjet systems cannot deliver viscous liquids. PowerDrop can do both. It provides precise, consistent, micro-liter dispensing of viscous liquids such as adhesives and tactile packaging.'

At the heart of the patented PowerDrop coating system is a continuously rotating temperature-controlled drum, into which a blower component has been inserted. The coating is fed onto the drum surface where it fills up tiny nozzles. When the rotating drum reaches the blower, the coating is ejected from the nozzles onto the substrate. The coating can be either continuous or patterned.

Efficiency

PowerDrop has a high transfer efficiency. Figures presented by Newcombe show that for a 560mm wide coating swathe, coating a substrate moving at 200m/min, the deposition rate would be almost 350kg/hour.

The 200mm-wide proofing unit which Archipelago is offering has a coating speed up to 120m/min with a viscosity range typically between 100-1,000mPas.

'The key advantages over gravure and flexo coating are you can vary the coating thickness without changing the drum/plate and you can get a much wider range of coating thicknesses, from 10-200um,' says Newcombe. 'You can use a wide range of coating rheologies, meaning we are getting a more even finish with metallics than contact processes. We can coat uneven surfaces and there is no transfer of material on the web back onto the drum. The web cannot be damaged by the drum meaning we can print even onto delicate webs.'

Newcombe says the coating materials should be no more expensive than those used for gravure or flexo coating.

The width of the PowerDrop Proofing unit is 200mm, but it is fully scalable, and Newcombe says there are plans to go out to at least 670mm. The system is also extendable to multi-layer coating.

Archipelago Technology is offering the 200mm-wide PowerDrop Proofer to enable converters to develop and prove the coating process as it would be on a fully operational PowerDrop machine. The company quotes around 6 months from system specification to Powerdrop Proofing Machine build, training and installation, with three months of technical support following installation.



Finat members can access the PowerDrop presentation at www. finat.com. Other presentations in the series include exciting new linerless technologies

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Installations



Durst Tau 510 RSCi All4Labels, Germany All4Labels has invested in multiple Durst Tau 510 RSCi presses after successfully completing beta-testing of the machine. The Tau 510 RSCi was installed at the All4Labels plant in mid-2020 and was then tested under real production conditions for a dedicated range of label and packaging applications. Another machine has been installed in the same press room to further increase production capacity needs in Gebesee, Germany, to be followed by multiple installations in other All4Label plants across Europe. 'This investment in Durst's RSCi printing technology, software, and service represents a further step up in what we offer for customers demanding the very best,' said Christian Kraft, plant manager at All4Labels, Gebesee.

PCMC Fusion C flexo press Yellowstone Plastics, USA Flexible packaging supplier

Yellowstone Plastics has installed a new 42-inch, 10-color PCMC Fusion C flexo press. Since the installation, Yellowstone Plastics has increased the quality and quantity of its product offerings with Fusion C features including Flextreme drying, 100 percent web inspection, the Intelliprint auto-impression setting and SteadyPrint. 'We are running a mixture of short runs and long runs, at 1,000 to 1,200 feet per minute, and the press adjusts very nicely between the two. It is very easy to operate, and its features – such as SteadyPrint and the touchscreen HMI – have been beneficial to our printing and our operators,' said Lou Figueria, director of Printing and Graphics Operations.

🛛 GEW GD3

FlexON, Czech Republic GEW has completed its 20,000th UV curing lamp installation. System number 20,000, a 35cm width, four-lamp configuration of GEW's GD3 lampheads, is retrofitted to a Gallus Labelfire 340 press at FlexON's label printing facility in Vestec, Czech Republic. To mark the installation, each of the UV lampheads has been specially anodized with a gold finish. 'Our 20,000th system installation is another momentous occasion in GEW's history and development, coming soon after the celebration of the company's 30th anniversary,' said Marcus Greenbrook, GEW's international sales director.

B Nilpeter FA-2500

Color Label, Denmark Color Label has increased the number of its Nilpeter machines to ten with the installation of a fully refurbished, pre-owned FA-2500 press. The 8-color UV FA-2500 is the second of its kind in Aarhus, Denmark. The press software has been upgraded, and all vital mechanical parts and electrical components controlled or changed. Cosmetically, all panels and covers have been powder coated to factory standards. 'The newly refurbished FA-2500 fits right in. We know it's reliable, and it's a sustainable choice that allows us to reuse existing tooling and continue producing green and cost-effective linerless labels,' said Erik Grønning, CEO and owner of Color Label.

HP Indigo 35K digital press CCL Industries, Canada CCL Industries has installed the world's first HP Indigo 35K digital press in a move to expand further into the folding carton market. This investment marks a milestone installation: the company's 100th HP Indigo press. CCL's fleet of HP Indigo presses is running at more than 60 sites worldwide and includes narrow web and mid web labels and packaging presses, as well as the B2 sheet-fed HP Indigo 30000 and commercial HP Indigo 12000.

Installations



Mark Andy P7 AWT Labels & Packaging, USA

AWT Labels & Packaging has installed a Mark Andy P7 press to increase production capacity and operational efficiency. AWT produces labels and flexible packaging for a variety of end-user market segments, including medical, personal care, industrial, food, beverage, household, and specialty. 'The new P7 press gives us the much-needed capacity to serve our customers as they grow,' said Ted Biggs, VP of manufacturing at AWT Labels & Packaging. 'This asset fits seamlessly into our current fleet of Mark Andy equipment, providing efficiency gains in our pressroom operations and further leveraging opportunities for automation.'

Lemorau CRL 330

Autajon, France Autajon, a family-owned label converting business based in Montelimar, France, has invested in a second Lemorau CRL 330 in-line slitter rewinder for its production facility in Bordeaux to further expand production capacity.

 ABG Digicon Series 3 Astron Packaging, UAE Astron Packaging has added two ABG Digicon Series 3 complete semi-rotary flexo units with GEW UV curing systems, spot varnishing, cold foil/lamination and super gloss unit, matrix rewind, slitting unit and dual rewinder. The semi-rotary die-cutting system runs at 150m/ min and works in-line with the digital print engines. Based on its positive experience of installing multiple ABG lines in its India plant, Astron decided to install the latest Digicon Series 3 for its Dubai facility. The purchase is set to expand Astron Packaging's product offering, according to Ross Hollaway, sales manager for India and the Middle East.

Bobst Master M6 Derschlag, Germany The investment in a new Bobst Master M6 in-line press is part of a large expansion for Derschlag. The 9-color UV flexo machine was chosen in expectation of ongoing growth in demand for flexible packaging and new sustainable materials. The press handles all types of substrates for labels, flexible packaging and folding carton, and can be fitted with multiple printing and in-line finishing processes, including screen and gravure printing. The Master M6 can be equipped with DigiFlexo registration and pressure adjustment and oneECG color management for non-stop production through a fully digitalized press operation.

Omet XJet 420 Indet, Italy

Italian label converter Indet has invested in an Omet XJet 420 press to expand its capacity and introduce hybrid production capabilities. The investment in a hybrid machine will allow the printer to create short just-in-time runs of customized labels, but also to combine digital technology from Durst and flexo from Omet. The machine features the benefits of digital technology, such as immediacy, variable data, personalization and high uptime, along with new high-performance features such as in-line integration of finishing and converting units. Additionally, Omet flexo stations enable use of primers and special varnishes, Pantone or metalized color printing.

Konica Minolta AccurioLabel 230

Yunshui, China

Chinese label converter Yunshui has invested in a Konica Minolta AccurioLabel 230 press to introduce digital production capabilities and boost its position as bottled water label and packaging manufacturing center. Founded in December 2020,

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Installations



Yunshui is a subsidiary of Hubei Lvyuan Drink, one of the largest producers of custom bottled water in Hubei province.

Depson SurePress L-4533AW Leapin' Lizards Labels, USA Leapin' Lizards Labels has added a third Epson SurePress L-4533AW to keep up with increased demand and meet quick turnaround requirements. The third digital label press delivers efficiencies in operation and expands its volume of label output for small batch producers across a range of industries, including health and beauty, food and beverage, cannabis, retail, nutraceuticals, and more. Todd Boyt, president of Leapin' Lizards Labels, said: 'We've used two SurePress presses for the past four years, so when it came time to bring on another machine, adding a third Epson press was a no-brainer – in large part because of the color consistency we can produce from label to label and run to run.'

Gallus ECS 340 Libako, India

Libako Packaging has installed a Gallus ECS 340, a UV flexo press with in-line foiling, lamination, and die-cutting. 'We want to diversify into a complete packaging solution provider with a wide service offering,' said Balai Adhikary, director at Libako Packaging. Read more on page 119.

Cartes GT365VSHSR Carlucci. Italy

Italian self-adhesive label converter Carlucci has invested in Cartes GT365VSHSR label machine to expands its production capabilities and capacity. The modular label converting machine offers up to 360mm web width and is configurable with silkscreen, digital finishing, hot stamping, embossing, flexo printing and varnishing, flatbed die-cutting, semi-rotary die-cutting, and laser die-cutting modules.

Kodak Flexcel NX Ultra Dion Label, USA

US-based converter Dion Labels has invested in solvent and VOCfree flexo platemaking technology, Kodak Flexcel NX Ultra, developed by Miraclon. 'We'd been tracking the Flexcel NX technology for some time and had no doubts about the production and quality benefits, but we believed that solvent-free platemaking is the way forward and decided to wait for that solution,' said John Dion, owner of Dion Labels.

1 GM LC350

Elefantprint, Denmark Denmark-based converter Elefantprint has invested in a GM LC350, a compact and fully digital laser finishing machine, as part of the company's strategy to offer a wider product portfolio. The GM LC350 digital finisher includes laser die-cutting, slitter, dual rewind with SmartFlexo varnish station and offers optional modules such as spot varnish, lamination, cold foil and SmartSlit technology.

Domino N610i Mammoth Labels & Packaging, USA

Mammoth Labels & Packaging has installed a Domino N610i UV inkjet press. 'The Domino machine complements our flexo business, and we have migrated some work from flexo to digital to reduce waste and efficiencies due to faster make readies and no plates,' said Stuart Reeve, president of Mammoth Labels & Packaging. 'The industry-leading throughputs of the Domino allow us to competitively price our work while increasing margin. By bringing in the outsourced work, we are now able to sell and market our own production capabilities.'



For more installations, go to www.labelsandlabeling. com/news/installations

Label & packaging showcase





41st Finat Label Competition 2021

The judging panel was led by Tony White of AWA Consulting and featured Murat Sipahioglu of Fin Etiket, Steve Wood of Steve Wood Services and visiting judge Noel Mitchell, Finat's technical advisor. The competition attracted 222 entries from 46 companies representing 27 countries.

Group winners

Best in show and
 Marketing/end-uses group
 Etiketten Carini, Austria
 Priorat Sobre Todo

 Printing processes group (joint winners)
 Multi-Color Montreal, Canada Valley of Mother of God ¹³ DGS Baski Teknolojileri, Turkey Dalin DüşBahçesi



Non-adhesive
applications group
Azimut, Russia
Coffee Doypack Giraffe

Innovation group Schreiner Group, Germany CPT Patch (Plasma Patch for chronic wound treatment) Digital printing group
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The Mike Fairley column The past, present and future of digital label printing

Digital printing has had a major impact on the label industry over the past four decades

t's now more than 40 years since Labels & Labeling first started to carry news and features about digital printing technology, both inkjet and toner. Printing capability was black-only in those early days, and applications were primarily for marking or simple coding of address labels, tickets and tags – a far cry from today's sophisticated multi-color, multi-application digital printing technologies that have grown exponentially in recent years for label and package printing.

Initially, inkjet print heads used in the early 1980s were 25mm wide, inks were still somewhat problematic, applications were limited, yet many of those early inkjet pioneers – like Domino Printing Sciences, Epson, Canon and others that were largely based around Cambridge, England – are now global operations providing digital inkjet printing, heads and/or control systems for a complete range of labeling and variable data printing solutions.

Toner printing technologies have also evolved at pace since the late 1970s and early 1980s, with the first IBM and Xerox high-speed laser printers appearing in the market. By 1984 the first Xerographic laser printing systems were starting to be used in the business forms sector, including for the production of computer and address labels.

Digital black and white or spot color toner printing onto labels, tickets and tags was already being carried out in the early and middle part of the 1980s by companies such as Delphax Systems, while GMC Digital Systems in Switzerland was also developing digital label and document printing solutions in the 1980s. A number of other digital document printing machines from Xerox, Canon and Nipson were additionally finding application in business forms plants for address and mailing label production. All these companies were using digital monocolor dry toner printing technologies.

In the early years of the 1990s came the evolution of the pioneering color electrophotographic printing systems emanating from Indigo and Xeikon, the forerunners of today's liquid and dry toner color printing machines that now make up a large percentage of all narrow web press installations in the global label industry each year.

Transformation

The Indigo liquid toner system and the Xeikon dry toner system both used roll-fed web printing. Both technologies triggered a subsequent revolution and transformation in the way that, initially, short-run, personalized, multi-versions and varieties of labels could be produced in high quality color. Subsequent generations of HP Indigo and Xeikon presses have significantly further developed performance, run length, quality, durability and end-use applications.

It was not until the middle part of the first decade of the 21st century that color inkjet began to develop any significant market

"From just a couple of digital presses that could have been considered by the label converter in the late 1990s, there are now more than a dozen digital toner or inkjet presses to choose from"

share in the drop-on-demand color inkjet printing of labels. Since then, many key players with inkjet pedigrees – Durst, Domino, Epson, Konica Minolta, etc – have launched, and continued to develop updated higher performance color inkjet label presses. Other inkjet presses and the first hybrid conventional/digital label presses also all came into the label market place in the post-millennium period.

Today, digital color label printing is commonplace, almost worldwide. Whether toner or inkjet, it has become an established part of the label, and increasingly package, printing plant. Advances in the past ten to fifteen years have certainly seen digital label presses become ever more reliable, faster, wider and able to produce a quality of printing accepted by pretty-well all major end users and brands.

From just a couple of digital presses that could have been considered by the label converter in the late 1990s, there are now more than a dozen or so digital toner or inkjet presses to choose from.

Compared to conventional label printing presses using flexo, UV flexo, offset or letterpress, these latest digital presses offer enhanced outputs and a higher breakeven, and their quality color output is today accepted by thousands of end-user customers worldwide in all kinds of applications and in a wide range of run lengths.

Add to that the greater understanding by converters of how to integrate digital printing into a flexo or conventional printing and converting plant, of how to meet new and changing customer demands for personalization, producing random numbering, product differentiation, variability or brand protection, and also that it is undoubtedly now possible for most converters to make money with digital printing, and it can soon be recognized why digital label printing has now become a key mainstream printing process – alongside flexo/UV flexo in particular.

Complemented by advances in digital design, origination, artwork and the pre-press stages of digital label printing, as well as enhanced color management and front-end technology, a better understanding of how to manage digital printing and workflows in the label plant, more embellishment options (hot and cold foiling, embossing, laminating), the use of more sophisticated finishing machines, and most recently, the introduction of hybrid presses – these factors all combining to take the digital label printing (and the package printing processes) rapidly forward into ever more new and exciting applications.

Put together, the key markets for digital color label and package printing today include wine and beverage, pharmaceutical, vitamins, food, health, beauty and hygiene, industrial labels, automotive labels, paints, inks and chemicals, consumer durables, and even self-adhesive postage stamps.

Typically, many of these digitally printed jobs contain lots of different designs or variations, have a variety of different container or pack sizes, have batch printing requirements or need long runs of variable data. Consequently, digital continues to gain an increasing volume share of the label market and is also growing much faster in value.

There are also developments with digital printing in facilities management applications and in serving customers that require both flexo and digital printing. Inkjet, in particular, has successfully



Package printing, such as this example from ePac, is now considered to be one of the next key frontiers of digital printing

"Package printing is also now considered to be one of the next key frontiers of digital printing"

captured increasing levels of work in the industrial labeling field, as well as for the printing of blister pack foils, tube laminates, sachets, pouches and a variety of other flexible laminate applications. Little wonder then that more and more label converters have continued to see investment in digital printing as a key part of their future growth, many now purchasing multiple machines.

Flexibility

There are other factors that have also undoubtedly changed. Less than 20 years ago, digital printing was the solution used



"The future of digital printing will not only be about printing for brand, retail, industrial or other customers, but about helping them – and the world – to become more sustainable"

to overcome the inefficiencies of running short-run work on larger conventional presses, as the costs were largely passed onto the marketplace. Today, the converter market understands that label user customers simply do not always require them to run large quantities. That changed market demand is here to stay, and has additionally become more affordable to small and medium label printing companies.

Converters and their customers have become used to enjoying the flexibility of printing digitally – and being able to achieve things that have generally not been possible with the conventional printing processes, especially when using new inks, substrates, or applications.

Package printing is also now considered to be one of the next key frontiers of digital printing. Whether it's new substrates, inks, or foils, digital printing devices are exploring many new possibilities. Yes, there are certain substrates and vertical markets where toner is perhaps better suited than inkjet, and maybe provides an alternative for the packaging markets where there may be a concern for health and safety, but digital is here to stay and there is certainly a lot of growth opportunity in this market for the future.

Digital printing has undoubtedly given label and package printers the latitude to meet new and ongoing customer expectations and to service new product niches. Interestingly, it has also enabled a number of entrepreneurs, perhaps from the IT or marketing fields, to enter the world of digital label printing industry, often very successfully.

Looking to the future, digital label and package designers and printers will most likely need to better educate their clients on how to produce more environmentallyfriendly design applications, on the use of more sustainable substrates, coatings and inks, and in the creation of print that takes the life cycle of the product into account. In short, the future of digital printing will not only be about printing for brand, retail, industrial or other customers, but about helping them – and the world – to become more sustainable.

Digital label printing is undoubtedly now one of the important mainstream label printing processes, alongside flexo, UV flexo, or offset. It will certainly continue to further evolve and play a key role in the future of the label industry, as well as continue to grow rapidly in a variety of package printing applications. It will not replace other printing processes – they all have a role to play.

However, digital has proved that for the right markets and applications it can provide profitable and exciting solutions where other technologies strive to compete and, today, is largely able to offer a good return on investment.

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For more Mike Fairley columns, go to www.labelsandlabeling.com/ contributors/michael-fairley

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The Andy Thomas-Emans column Applicator bottlenecks

Brands often recognize the advantages of new label technologies, but find it too disruptive to change production line technology

he news in this issue of L&L (see page 65) of a potential breakthrough in clear-on-clear self-adhesive label technology is an exciting one. Signite is a technology developed by Actega which allows the converter to literally print the label substrate as a coating, followed by reverse application of colors and an adhesive layer. These layers are all deposited on a carrier with a double-sided release coating to stop the adhesive from sticking when the roll is wound up.

Actega points out that Signite eliminates matrix waste, since there is no die-cutting involved, with all coating and print layers deposited only on the image area.

It will be fascinating to see how the trials of the new technology roll out. But what is also clear is that Signite will require dedicated application equipment to transfer the adhesive side to the container.

And it is the machinery side which has so often held back the deployment of new self-adhesive labeling technologies. The simple fact is that no matter how efficient, or sustainable a new label technology may be, there is an enormous amount of 'investment inertia' in the installed label applicator base. This means that the big brands have invested considerable sums of money in installing super-efficient high-speed self-adhesive label application equipment. Krones' latest modular automatic self-adhesive label applicators, for example, run at up to 72,000 containers an hour.

Label converters have invested proportionately large sums in inspection and inspection-rewind technologies which ensure that every label delivered to the end user is quality checked, sometimes multiple times.

Behind this sit multiple layers of sophisticated technologies such as silicone release coatings which ensure that labels can be released consistently at these sorts of speeds.

The result is a robust decoration system which allows production lines to run at high speeds with practically zero downtime from label failures, with the labeling system usually running in line with further production processes such as filling, capping, sealing and palletization.

So this is the environment into which new PS label technologies are launched. Brands often recognize the advantages of new label technologies, but find it simply too disruptive to change over production line technology.

This largely explains why linerless label technology has failed to establish a really significant foothold in the prime label market.

Imperative

Linerless has a clear market imperative at a time when sustainability has never been so high on brands' agendas. But linerless labels require a dedicated applicator. Not only does this run up against brands' reluctance to invest in different applicator technology, but it can also limit brands' ability to choose between competitive suppliers, since linerless usually forms a 'closed loop' system requiring a particular brand of applicator machine. "For new self-adhesive label technologies to succeed, end users must also be prepared to invest in the new applicator technology – which is often considered disruptive to their existing automated self-adhesive labeling workflow"

As an example, Ritrama, now part of the Fedrigoni Group, developed the innovative Core linerless system some years ago, which allowed any label converter to print on rolls that were converted to linerless in-house. But it still required brands to invest in a dedicated applicator machine manufactured by Ilti, and this has limited the technology's market penetration.

Avery Dennison is an example of a company which recognized the key importance of applicator technology when trying to push the boundaries of self-adhesive label technology. L&L readers might remember the Curve Appeal system which allowed the application of large format self-adhesive labels onto curved container surfaces, offering up to 30 percent more billboard space than standard PS body and neck labels.

This required not just new materials development, but also a specialist applicator, which was manufactured under license from Harland Machine Systems based on the company's Titan applicator. A line was installed at Silgan Plastics in Indiana, USA, but once again the entire system – capable of challenging shrink sleeves in terms of front of container branding space – did not achieve its full market potential.

What this brief review makes clear is that for new self-adhesive label technologies to succeed, end users must also be prepared to invest in the relevant applicator technology – which is generally considered disruptive to their existing automatic self-adhesive labeling workflow.

Maybe the missing link here is the contract packer. In the same way, Avery Dennison was proactive in setting up a whole Curve Appeal decoration line at Silgan Plastics, would a certain size of contract packer be interested in forming a partnership to install an innovative self-adhesive applicator/material system which would offer key benefits to their target end user base?

Perhaps inviting the contract packer industry to the next Labelexpo might be a way to find out?



For more from Andy Thomas-Emans, go to www.labelsandlabeling.com/contributors/andy-thomas

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Understanding metrics

Paul Brauss on how driving metrics can impact results



he market pressure on converters in label and packaging printing has long impacted the course of action being taken by their owners. For many of the small and middle-size converters, understanding where they are concerning the competitors seems an ominous undertaking as the larger firms and private equity-backed groups seem to be advancing with technology investments that can outpace traditional legacy equipment or the smaller organizations. I am, however, reminded of the annual label awards throughout the world, often being won with legacy equipment by smaller converters.

"If employees are not engaged, then all technology investments will fall short of expected returns"

Today the technologically advanced converters are faced with the same problems as the less technology-capable. The competitive landscape is evened by the most important asset they have: their people. If employees are not engaged, then all technology investments will fall short of expected returns.

Recent reports from major economic and business magazines are discussing post-pandemic trends, including that 25-40 percent of employees are thinking about quitting their job. To avoid this trend, employers must develop their company culture so that it encourages an individual to stay and become engaged, and then facilitate a feeling of accomplishment.

Fostering this cultural awakening starts with talking about the right things at the right time. The shift in communication includes a focus on metrics at the source that are meaningful to the operators and can be directly impacted by their actions. Additionally, the old saying 'We pay our people competitively' really means you are paying averagely. Leading organizations understand that competitiveness is also about company culture.

This puts more pressure on leaders to build an engaging culture. They have to fully understand market variables that impact overall financial performance and then understand the correlation of operational activities and their impact on the financial performance.

A key element of leadership is setting the direction for the organization and then building strategies and action plans to advance it. I can speak to this process from my own experiences, and because I've visited dozens of printing facilities and have seen first-hand what 'excellence' is all about. It starts with aligned leadership balanced with a focus on hierarchical process-driven metrics. This asset investment tops any equipment investment.

Philosophical or cultural changes in an organization need a catalyst. Sometimes that catalyst must come from outside the group, from someone who can work, hand in hand, educating leadership. The fortunate organization finds the internal champion who has learned the correct values, rules and procedures and can become the influencer a senior executive can rely on to help with fundamental changes and help teach others to take action. Even better is if that champion is a member of the executive staff. Advancing as change agents, leaders must understand organizations will go through various phases of adoption on the path to internalizing the change.

Therefore, the organization will require preparation including

education and communication of the need to change.

Learning organizations have typically established libraries of information and made it readily available on the company's shared drive. Others have established a Lean Promotion Office (LPO) reporting directly to the COO or CEO. In these early stages of implementation, organizations are often met with resistance to change due to unawareness, confusion, and the negative connotations associated with change. Important to this transition is being able to explain what winning looks like.

Financially focused individuals would say: It is easy, the goal is to make an improved profit. That sort of thought process does not resonate on the production floor or in the order entry department. The communication has to be about something the operator can impact.

Fundamentally these metrics are cycle time, quality (First Pass Yield), and productivity. The lack of understanding of this requirement is exactly why organizations slide back into old routines or why improvement initiatives stall.



Hierarchy of metrics. The advantage of a driving metric is that it relates to the activity of an individual, group of individuals or machine in real-time, while result measurements are typically accumulation and outcome of the driving activity. Revenue, bookings and EBITDA are examples of results

You must have aligned metrics

Earlier in my career as a middle manager and an evangelist for continuous improvement, I struggled when the financial performance of the company was shared with employees at quarterly meetings. It wasn't that I was not interested in the company's health; rather in these meetings we always heard about falling short of financial expectations when it was too late to impact the outcome. Often, we were confused as to the viability of the improvement projects we were working on and their direct benefit to the financial performance. We could not tie our actions to the results. What I discovered when moving from a shop floor focus of improvement initiatives to an overall company focus was that the linkage between functioning groups was disconnected. What was important in one department may have negatively impacted performance in another department based on the way we were measuring.

The best metrics are developed with the help of the operators



"When focused on the drivers impacting time, converters were able to reduce cycle time by 35 percent within three months"

and stimulate activity by the operators, work cell leaders, supervisors and support staff. An organization must separate reported metrics as 'results' from the immediate information an operator needs to 'drive' action – impacting the performance in real-time, during the production run.

Much of this confusion is further ironed out when we fully understand a focus on process drivers. Driving metrics are leading indicators to results metrics. A driver metric is time-based, waste-based, quality-based or productivity-based. Time is one of the most important measures to driving improvement. Think about this in any department – the cycle time it takes to complete a process step. Job changeover time, customer response time, time to get problem resolution, waiting time caused by interruptions or lack of information – all these impact time to market.

If you can reduce the time, you inherently focus on improving quality and reducing costs, leading to improved service. In the production world, managers and operators may have heard the term OEE (Operational Equipment Effectiveness). Fundamental to this measure are time and quality. Time is also a great driving metric for nonproduction departments.

Converters I have visited and helped have reported waiting three or more days for correct order data from the sales department or from the customer just to process an order into the management system. Sometimes this delay was the fault of the salesman and sometimes of the customer. The impact is the same.

Waiting adds to cycle times, missed shipment promises, and expedites on the production floor. Internally the process could not start because of a lack of information or incorrect information. The customer does not understand this or rarely cares: they just need the product.

I found this single issue in over a third of production orders I examined. Everyone in the organization knows the delay causes havoc because it leads to schedule interruptions with 'expedites' which, simply stated, is a substitute process. The better course of action is to hold the order and not release it to the floor, help the sales team understand the impact of the lack of information, and help the customer understand they can speed response by providing correct information up front.

When focused on the drivers impacting time, converters were able to reduce cycle time by 35 percent within three months. In these examples, all customers benefited. And in this industry when the customer is educated and participating with the organization, they typically become a customer for life.

Simple and visual

Evolving a workforce around driving metrics is facilitated by making those metrics simple and visual. While technology has advantages, we've learned that when an operator has to track and post key metrics manually, they become more personal and important. This is also one of the primary reasons the operators in every department have to be involved in defining how a metric is scored. Something as simple as 'on time' has to be clearly defined at the operator level. Key driving metrics could include uptime, downtime, counts, speed, changeover time, interruptions. Simple Transformation - Accountability and Involvement

Fundamentally change accountability structure for speed and accuracy.....



Transformation and Flip metrics focus

tracking on the floor at the work center becomes a communication hub for the operators and the support staff. The metric focus is further enhanced by aligning each level of the organization to the drivers selected.

- The best driving metrics:
- · Improve as the underlying process improves
- Worsen as the underlying process worsens
- Are viscerally meaningful to the operator
- Are applied consistently in similar situations within the company
- Drive correct behavior
- Deliver a justifiable benefit/expense ratio

• Benefit the customer and help make the customer competitive Transformation with simple visual metrics will fundamentally

change the accountability structure in the company.

Being visual is more than posting metrics at defined locations on the production floor. The metric review at the work cell level, usually reviewed at least in two-hour intervals and called the Tier 1 meeting, hones the conversation for the operator and their immediate group or cell leader. Having the metrics visual helps drive focus on self-explaining, self-cleaning, self-improving and self-regulating. Everyone immediately knows the current status and problems. More important is the capability to immediately identify the cause and assign resources to help fix any performance deficiency.

At the start of the shift, the work cell boards are reviewed and handed off from one shift operator to another, keeping the momentum of the production run and making sure important conversations are held with details of equipment performance, special instructions and interruptions.

Additionally there is usually a round-up for the day when a supervisor may choose to hold a kick-off meeting with a larger workgroup. These meetings, typically 10 minutes in length, are referred to as Tier 2 and focus on a round-up of a defined workgroup around Safety, Quality, Delivery, Interruptions, Productivity (SQDIP). Because these visual metrics are local and simple, they make the perfect backdrop for conversation when leadership completes their weekly or daily GEMBA (Go and see) walk.



Paul Brauss, former CEO of Mark Andy and a past board member of TLMI, is a consultant and executive coach. See Braussconsulting.com, and buy his book at amzn.to/2NFzXkB



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Packaging through the eyes of the consumer

Vicki Strull on why designers and brands are taking another look

t may come as no surprise to you that e-commerce sales grew during 2020. But just how dramatic that increase was may blow you away, with a rise of 83 percent from April to June alone. Online grocery sales, which is an important subset of e-commerce (particularly for packaging) grew a whopping 110 percent. Experts predict that by 2025, more than 20 percent of grocery sales will occur online.

Are you part of the e-commerce growth? Let's take a quick assessment: how often did you order retail goods and groceries online prior to the pandemic? Once every few months? Monthly? Once a week? (For me, it was monthly). Now, how often did you order online during the pandemic? (For me, it became daily.) And how much are you ordering online now?

"The acceleration of e-commerce leads to a critical consideration for brands: how does this change in shopping behavior affect the role of packaging?"

The acceleration of e-commerce leads to a critical consideration for brands: how does this significant change in shopping behavior affect the role of packaging through the eyes of the consumer?

Packaging's role in-store and online

Prior to the pandemic, when I spoke or wrote about packaging through the eyes of the consumer, I was primarily talking about interacting with products in person, in a retail environment, where we can see them, touch them and experience them, versus packaging and its role in an e-commerce environment. Designing in-store packaging takes into consideration what consumers notice, how quickly they notice it, and what packaging elements entice people to pick it up.

A primary consideration is that in-store packaging has a very short amount of time to drive shopping behavior. You may have heard me quote the statistic that the average person has an attention span of eight seconds, less than that of a goldfish! For many product purchases, it's even shorter: a study of consumer interactions in the cereal aisle found that, on average, people spend two and a half seconds choosing their cereal.

The same study showed that people will spend up to 60 seconds in the aisle choosing their olive oil. Whether we spend two seconds or 60, a product's packaging in-store must quickly differentiate itself on the shelf.

Designers do a lot of things to achieve that differentiation: vibrant colors, captivating imagery, white space, embellishments, high-quality substrates, et. al.

The goal of the package is to scream to us from the shelf, so that we will choose that brand, that product and pick it up. Studies show



that once a person holds a product in their hands, they begin to add value to it and thus are more likely to buy it.

So those are some of the ways we think of packaging design through the consumer's eye in an in-store environment.

However, with people increasingly shopping for products in an e-commerce environment, what role must packaging play in connecting with consumers and driving purchases online? First, the package has to ensure that the product and brand are discoverable. Discoverability is how we find a product online, and packaging does matter.

There are two leading ways that products and brands are discoverable online. First, through search engines like Google. When I Google something, what pops up? Imagery pops up – imagery of the package, not necessarily the product itself (i.e. the bottle or packaging of the olive oil, not the olive oil itself). As online shoppers, we are attracted to that imagery. Packaging online, therefore, must be highly photogenic and consistent with the brand image, quality and credibility.

Of course, another way that packaging is discoverable online is through social media. Most brands' multi-channel campaigns include posting products and their packaging on Facebook, Instagram, TikTok, etc. But it's not just brands that are posting that content, it's consumers.

Ordinary people like you and me (and our kids) are posting images of products that we use, that we love, and that we're excited about. We're sharing them in our stories, we're recommending them to friends and followers. And a focal point of our content is about the packaging. We're literally showing everything from the outer box to the product container – whether



"When I Google something, what pops up? Imagery of the package, not necessarily the product itself. Packaging online, therefore, must be highly photogenic and consistent with the brand image, quality and credibility"

that's a flexible pouch, corrugated box, can, bottle, clamshell – we're posting the 'unboxing experience' that spotlights the packaging and design details.

Therefore, the role of packaging online, now more than ever, must reflect the brand quality, brand personality, and consumer perception. Because when you see a product on a friend's social media, something you didn't search for, it may be your first encounter with that brand or product – before you ever get to see it face-to-face as you would on the retail shelf.

Engage and delight

One of the other roles of packaging is to engage us. Earlier I mentioned packaging design elements such as substrates and embellishments. These may include tactile effects, imagery, finishes, as well as size and shape. These elements are designed to entice us to pick up and hold a product; to engage with it beyond the store shelf. Online packaging has to do the same thing; only because we can't hold it, it has to entice us to learn more about the product and add it to our cart.

That's one of the great things (or not, depending on your ability to resist a rabbit-hole) about e-commerce shopping: we have the ability to spend time reading or watching videos that describe a product's details, reviews, ingredients, uses and more. If a package drives us to learn more, it's doing an excellent job of engaging us.

And finally, the job of the packaging is to delight us. In the store, we want to be so delighted that we assign a certain value to the product – enough to decide to buy it and take it home.

When we shop online, the packaging must do the same thing, and even more. Once our online order arrives on our doorstep, the outer and inner packaging must be everything we expected, and consumers' expectations are high. They judge a product by both the outer and inner packaging. The outer box is the first impression: did it get bent or torn in transit? Did rain ruin the logo? Did it protect the product inside?

Once opened, is the product packaging consistent with the brand? Does it meet the quality expectations of the product itself? Are there extras such as samples, instructions, promotions? Today's brands are meeting the challenge. The unboxing experience has become a front-runner of content marketing, both by brands and consumers. Brands want consumers to be so delighted with the packaging that they share it online again and again.

So those are the primary roles of product packaging through the eyes of the consumer. When brands view and create packaging from this perspective, they gain consumer trust, credibility, and value, while building brand loyalty and fans.

On a more granular level, brands and designers also spend time understanding and identifying the various types of shoppers, which then informs the packaging design. Are you targeting a new shopper? A repeat shopper? Are you trying to acquire a new age group, like an example from Jif?

In a recent consumer strategy, Jif wanted to attract millennials. So they developed a limited edition campaign, where they partnered with GIPHY and humorously spotlighted the age-old pronunciation debate: Is it Jif (with a soft 'g') or Gif (with a hard 'g')? You can see that the packaging itself was designed to attract the specific demographic.

Another way brands identify their customers is geographically. For example, you've seen limited edition packaging that reflects different cities' sports teams, on everything from beer to soft drinks to candy and snacks. Mountain Dew ran a campaign with a limited edition label for every single state, along with a sweepstakes that encouraged people to collect all 50 labels. Consumers took to social media and took pride in their state's packaging; the game-like engagement acquired new customers and repeat sales.

These are just a few of the packaging trends that emerged during the pandemic and in recent months. As we go back into stores, brands, designers and converters are paying close attention to which trends become true strategies that continue to drive revenue, consumer engagement, consumer-driven content and more.

Because in addition to the role of packaging, we're also talking about our role; our ability to consult with our customers (brands) and provide the latest and best advice regarding what their packaging needs to achieve online and in store.



Vicki Strull is a packaging designer, strategist and speaker who advises top-tier and emerging brands on how to leverage the power of print and packaging within opti-channel marketing strategies. Follow the latest trends at vickistrull.com or follow Vicki on LinkedIn @vickistrull



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Converging to drive growth

Bob Cronin of The Open Approach on what label companies can bring to other industries

s recently as 15 to 20 years ago, businesses could survive on doing one thing, and doing it well. Computerland sold computers. Grocery stores sold groceries. And a tiny online company called amazon.com sold books.

Today, things are dramatically different. Not only are most 'specialists' gone, but there are tremendous expectations for every company – in every industry – to provide a total, onestop-shopping experience. Companies in many industries have 'converged', combining capabilities to reinvent themselves as something that can be much more attractive to the purchasing departments that are doing the buying today. The bigger and more diversified you are, the greater your opportunities.

In industries such as labels, we've been largely shielded from these impacts. Our innovative nature has produced strong sales and profitability over the past decade. Thus, we've been able to be successful independently. Still, the continued consolidation of our industry (and print in general) is leaving fewer (but more diversified) entities to compete in what is becoming a drastically different market.

The concept of converging is indeed timely. While many of our counterparts' industries have flattened, labeling still has fortuitous possibilities. This maximizes not only your opportunity for a merger, sale, acquisition, or strategic partnership, but also your chances for long-term success from it. Plus, because of labels' far-reaching value, you may find a transaction in a different industry to be your best bet.

This makes any deal you may enter a bit more complex. So before considering a transaction, let's look at the top reasons why investors still find labels so attractive, and how these characteristics will support a new opportunity.

1. Labels are profitable. First and foremost, most labeling businesses run at healthy margins. They have carved out very specific niches and finetuned operations to enjoy an average EBITDA of 12–30 percent versus the 3–15 percent of commercial print. Such financial muscle enables our owners to stay up-to-date, make steady growth investments, and attract good talent – a hurdle for far too many businesses today. This can provide a great platform entity for an investor or for an entrepreneur.

2. Labeling companies are innovative. Labels can answer consumer and manufacturer needs in creative ways. This helps respond to the trend for one-stop sourcing and deters pressure for commodity pricing. One example is private labeling. While private-label products have historically commanded a good portion of retail sales in Europe (40 percent of grocery sales), they are only just becoming embraced in the US. The excitement over new brands has created premium pricing for the product, letting the label provider to follow suit. Many label companies also have their own R&D. Inventiveness across both the product and labeling/packaging can be a huge asset to manufacturers in almost any industry.

"Because of labels' far-reaching value, you may find a transaction in a different industry to be your best bet"

3. Label companies run self-contained operations. Companies in our industry largely run their business with various required file preparation, printing modalities, and finishing/converting capabilities within their own shops (or through very close relationships). This makes it possible to do a single acquisition that propels sales instead of a series of them (or roll-up strategy), gaining results quicker and more cost-effectively. For investors who want immediate returns, a label company can be the optimal target.

4. Labels have (strong) customers in every market. As an industry, we've always strived to have a special capability to support our clients. Based on what we do, our companies tend to understand customers' markets better than any other supplier. And we serve a very broad array of markets. Moreover, we've aligned our services to the goals and needs of customers' organizations and made equipment investments to secure those relationships. This has created both loyalty and barriers to exit you don't find in other industries. For acquirers, this means revenue stability and wellestablished sales channels in which they can immediately sell their own products and services as value-added offerings.

5. Labels show continued growth. Finally, investors want to be in our business because we are still seeing tremendous growth. We have been one of the fortunate industries that have been boosted by many of the dynamics of online commerce, as well as societal issues such as Covid-19 (e.g. tracking, safety, and security enhancements). Plus, there's a wide range of opportunities in many other areas. The ability to grow an acquisition on its own or use it as a platform in so many diverse ways makes labeling a huge draw.

M&A, if done wisely, can be one of the quickest ways to build a business. And as the points above show, you have many directions to choose from. You can buy, sell, merge, or forge a value-enhancing relationship. And you can do so in multiple potential industries. You've succeeded by being bold and making the tough decisions to guide your business to its present juncture. Now's the time to take advantage of your next opportunities.



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Lori Campbell is president of The Label Printers, a converter based in Aurora, Illinois, with 99,000 sq ft (9,200 sqm) across two plants and 55 employees. She is also chairwoman of TLMI. After 39 years in the industry, in roles ranging from receptionist to chief of operations to president, Campbell was awarded the TLMI Converter of the Year in 2019. Interview by Luis Rodriguez

L&L: From receptionist to president, tell us about your history with The Label Printers.

Lori Campbell: After I graduated from college, I just started looking in the newspaper, back when newspapers had 'help wanted' ads, and applied to two places, one being The Label Printers.

Back when I got hired, there was a little more to the role. Along with the typical receptionist duties, I handled some sales and administrative tasks. And as the company grew, people left and positions opened, and I just ended up in the right place at the right time. Now, I'm not trying to degrade myself. I worked hard, I still work hard, but a lot of how I moved through the company was basically me saying, 'Yeah, I'll try that.' Before long, I started to be in roles where people reported to me, dealt with supervisory challenges, and as with many other small companies, I started to wear multiple hats. At one point, I was even handling the company's insurance policies.

As time went on, I decided that I wanted to learn the estimating side of things, even though math is not my strong suit. But at this point the owners would do all the estimating. They wouldn't trust anyone else with that responsibility. After years of trying to break through that barrier, they finally took me under their wing, and I was brought into to the fold.

This is really where I learned about the technical parts of the label industry, like the materials used. And bringing in my sales perspective, I saw that it wasn't just how fast the labels come off the machine but how we make our company seem more interesting to the customer. I try to share this with people in sales and customer service today.

From there I became general manager, then eventually chief of operations. But at the time we had some weird stuff going on with titles, being a privately-owned company and under assumptions that you couldn't have certain titles. In the end, being in the position I am now, my responsibilities didn't really change, much to the chagrin of the owner, who would like me to be less involved in some things, but you got to have some fun along the way.

L&L: What's it like to work for The Label Printers?

LC: It's a great company to work for, and I can't really take credit for that. It's been a small, privately owned company from the beginning. And even as we grow, it continues to have that small, family vibe.

Now, there's some good and some bad that comes along with that cultivating that vibe. You end up learning more about some people than you probably should, but I think that also lets employees know that they have a place to go. Someone to talk to when



Aerial view of the main shop floor at The Label Printers

"Being able to rely on associations like TLMI, to reach out to peers and help figure out the best way to approach certain situations, helped us through the pandemic"

they have a problem.

We do have an awesome human resources department but pretty much all our employees want to be helpful. You see it all the time, from something as simple as helping a coworker with a flat tire to stepping up on the floor and doing a little more than what was expected of them. We take that for granted sometimes but – when you have a moment to step back and take it all in – it's always nice to see.

L&L: How did The Label Printers adjust to the pandemic and stay-at-home orders?

LC: Like for everyone else, it was a challenge. This was something that none of us had ever faced before. And early on, the one thing that stuck out was our business continuity plan and how woefully inadequate it was. We thought it was enough to be covered by fire, tornados, and such, but this was something wholly different. We never thought to look that far ahead, just not really thinking about the industry from a global standpoint. This is something you intuitively know, how interconnected each part of the industry is, but never really think about in the day-to-day. And after talking with industry peers, nobody had this magic answer – everybody was going through the same thing, which was encouraging to hear. Being able to rely on associations like TLMI, to reach out to peers and help figure out the best way to approach certain situations,

also helped us through. I don't know how we would have been able to do it without that peer support.

But overall, the biggest challenge was dealing with the ever-changing local, state and national guidelines and directives. We had our facilities sanitized three times a week, hybrid work shifts where employees work three 13-hour days and then have four days off, and we had half of our administrative office employees work remotely for part of the week and then switch to the other half. But in the end, most people wanted to come back to work. It's those conversations in the hallway that people missed. You can have meetings on Zoom, Teams, or whatever, but it's the off-the-cuff conversations that are really valuable.

L&L: As a custom label printer, how do you provide the same quality of labels and services across your customer base?

LC: When looking at applications, it's basically a label that needs to stick to a thing, and there are only so many surfaces out there for it to stick to. You can have a surface in a consumer appliance and the same surface in aviation, so it's amazing how often you can take what you learned in one application and apply it to another. You solve a problem over here, let's say for extreme temperatures, and when you run into that problem again, it can be for a completely



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Lori Campbell joined TLMI's board of directors in 2008 and now serves as the association's chairwoman

"The people involved are so passionate, and not just about their own companies, but about helping other people and cheerleading for the whole industry"

different industry, but you have that 'a-ha' moment where you take an already-learned solution and apply it here.

With us, everything goes through the same workflow, the same inspections. I think ISO-9001 really helps keep a structure in place, where regardless of what you're doing, you're doing it the same way.

Now, there can be some problems with that, but you have to use some common sense to determine if, internally, you really need to agonize over some little flaw. For example, if you're selling a blank label to somebody who's throwing it on a thermal transfer printer and it's just a basic carton label, that's just going to get pitched. Being able to use common sense and think about the specific customer and ask what this label will be used for are the types of things we bring to the table and ISO-9001 gives us the discipline to do it within this setting.

L&L: What new technology are you considering investing in?

LC: Our next equipment move will probably be a digital inkjet. We're toner-based now. But the problem is that it's a change and for some customers you can't just tell them to trust you, even if you talk to the suppliers and they say that there's less distinction now between an inkjet and a toner-based label. And even if there isn't a difference, if the customer perceives a difference, then you're off to the races.

There are also all kinds of software that you can implement to improve your workflow that we've been looking into. And why wouldn't you investigate that? Those are the kinds of investments that we always trended towards but at some point, you must stop and bring in some equipment too.

L&L: Looking at your customer base, have you noticed any emerging trends?

LC: I see a lot of people needing improved efficiencies, and yes,

there's the part of that which is getting a product to market, but it's also cost containment. That's all you hear about from some customers.

Everybody is looking for ways to take cost out. Customers don't want to pay for eighteen inspection points. Then you think, 'Well how do we make it so we don't need eighteen inspection points?' or, 'How do you improve your processing times?'

In this space, digital continues to show more and more advantages beyond where we've been focused, in short runs and variable imaging. And as speeds and durability of inks improve, digital printers are just going to be more commonplace. People want efficiency on their pressroom floor and digital can drive that. That's just the evolution of technology. Why would you continue to use physical assets when you can drive everything electronically? It just doesn't make sense. Now, it's not going to happen tomorrow, next year, or even in 20 years but you can't tell me that digital is not going to get better.

L&L: What steps has The Label Printers taken to reduce its environmental impact?

LC: We've always measured everything, from our VOCs to what we're sending to landfill. And we're fortunate enough to have enough space in our facilities next door to store our gaylord boxes and we have a truck sitting in the dock. When it fills up, they come and swap it out and drive it up to Wisconsin to recycle it into energy.

We also like to work with our customers to help them change their more VOC-intensive inks, primarily. We've made a lot of progress there. We continue to look for opportunities for improvement, but Covid kind of took the wind out of that sail. The environmental team was still meeting during the pandemic but we, as a company, weren't really talking about it much. But this year, we hope to reopen those lines of communication and get our sales team a little more comfortable with conversations with customers about the circular economy and sustainability.

L&L: Congratulations on being named TLMI Converter of the Year. How does it feel after being with the company for 39 years?

LC: I'm incredibly grateful and humbled, but, at the same time, you can throw a stick and hit fifteen people who are just as deserving or even more-so than me. That's one thing I really appreciate about the label industry. The people involved are so passionate, and not



The Label Printers operates two plants totaling 99,000 sq ft (9,200 sqm)

"These label people are a social group. People are itching to get back out there and are looking forward to seeing their peers and getting back to business"

just about their own companies, but about helping other people and cheerleading for the whole industry. And that's what it's all about. Sharing, helping and chipping in where you can.

Again, I'm very grateful, but I don't feel any more deserving than a lot of people. I guess if you're in the industry long enough, you eventually get an award. It's like getting a lifetime achievement award.

L&L: What are your priorities as chairwoman of TLMI? LC: Luckily, we have a really strong association president in Linnea Keen, who's bringing a lot of organization and follow-through to TLMI. She's got her team firing on all cylinders, which is great because there is so much work to do. But from a strategic standpoint, we're focused on pretty much the same thing as the rest of the industry – sustainability, workforce and such. We want to be a resource to our membership.

On a more micro level, my focus is on making sure our committees become more tied into the association. TLMI has always been a more committee-oriented association, but there was a period where they got lost in the shuffle. People want to work together, and we have so many talented individuals in the association that it would be a crime not to take advantage and give them the opportunity to share their knowledge.

L&L: After a year without in-person events, how important are conferences and trade shows for the industry?

LC: We're planning for the annual TLMI meeting in October, and we think it's going to be a real barn burner. These label people are a social group. We tend to take over properties when we have the event, if not by sheer number, then definitely by noise volume. People are itching to get back out there and are looking forward to seeing their peers and getting back to business.

The Label Congress is coming up too, so the upcoming season is just going to be a whirlwind of label industry events. Label Congress will be a good time because people really miss seeing all that equipment on the floor, especially if you're a production-oriented company.

L&L: What are your interests and hobbies outside of work?

LC: I like to read and I like to cook. I'm not necessarily great, but I do like to cook. Other than that, I just like to spend time with my husband and visit friends. I'd like to get into gardening and birdwatching, which I did when I was younger. And eventually, I'd like to do more for charities, specifically the Northern Illinois Food Bank. I've worked in their packaging facilities where they put meals together and they just do an amazing job. It is incredible. They have it down to a science.



Luis Rodriguez is L&L's new North America editor. Get in touch via lrodriguez@labelsandlabeling.com

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Experts in "What If..."







The entire value chain is turning to new technologies to transform pharmaceutical packaging into a safe and efficient ecosystem. The race is on. Piotr Wnuk reports





he worldwide health crisis has had an irreversible impact on the pharmaceutical value chain.

A report conducted by consultancy Research and Markets in January 2021 at the height of the pandemic suggests that 'future-proof' labeling technologies are set to transform the pharmaceutical industry. The report predicts that technologies such as RFID and NFC will make drugs and medical devices digitally visible, traceable, and well monitored, from the manufacturer all the way through to retail shelves and even to the consumer's home. This trend, in turn, is expected to boost interactive technology applications in pharma, registering an enormous CAGR of 14 percent in the next five years.

'Hospitals, pharmacies and other healthcare providers are looking for ways to manage costs better, increase efficiencies, and ensure the wellbeing of their patients. RFID technology can improve inventory management, ensure quality, and prevent waste,' agrees Cory Keller, senior product manager for the pharmaceutical division of Avery Dennison. 'They can also help save lives by supporting clinicians with vital information. Our RFID-enabled labels can improve inventory accuracy by 99 percent or more. They can help manage costs across the supply chain and prevent counterfeiting. Pharmaceutical companies can also use intelligent labels to track the movement of assets and always keep high-demand items available – something that's critical for the pharmaceutical industry and especially challenging for companies with a global supply chain. RFID provides end-to-end inventory and item tracking solutions for increased accuracy, visibility and security, starting at the point of manufacture.'

UPM Raflatac's senior manager for pharma business, Paavo Sillanpaa, agrees with this opinion: 'The FDA's Drug Supply Chain Security Act is one of the drivers of using this technology. It's a mandate that you must be able to trace the pharmaceuticals to the point of sale and it's tracked through the wholesale pharmacies and all stages of the supply chain. Quite often, the tracking is done by using serial numbers and barcodes, but I think there's an increasing



"Hospitals, pharmacies, and other healthcare providers are looking for ways to manage costs better, increase efficiencies, and ensure the wellbeing of their patients. RFID technology can improve inventory management, ensure quality, and prevent waste"

number of RFID and NFC solutions coming into play now.'

Interactive packaging is rapidly gaining acceptance among consumers, so to extend it to the pharma business seems an obvious move.

'For example, a long-standing debate in the pharmaceutical industry has been what is the best way to include all the information about side effects and other critical information in pharmaceutical packages,' adds Sillanpaa. 'Most commonly, this is a leaflet attached to the package. However, you could easily accomplish this by putting that information in a barcode or an NFC tag on the product and making the same information accessible through your smartphone or tablet.'

Schreiner MediPharm, a leading developer of innovative self-adhesive systems for the pharmaceutical and medical device industry, sees the untapped potential of RFID and NFC technologies going beyond traceability and authentication tools.

'Smart labeling for pharmaceutical products based on RFID technology offers a significant number of benefits, enabling interactive applications for patient support, digital product authentication and inventory management,' comments Gene Dul,

"The most robust anti-counterfeiting solutions combine both overt and covert technologies"

president of Schreiner MediPharm US. 'This enhances patient and product safety, and helps to optimize processes. Patient centricity and growing self-medication has created a demand for medicines that are easy and convenient to administer. Smart labels with an integrated RFID or NFC chip can add value to the primary container or injection device while supporting the digitalization trend. A label-integrated NFC chip, for instance, enables diverse interactive applications to optimally assist the patient during self-medication. Via a smartphone, he or she can easily access additional product information, demo videos or special apps, or perform mobile product authentication.'

Ian Axelsen, business development manager at UK-based converter AA Labels, thinks that improved customer communication will provide huge benefits to both pharma companies and patients.

'The trackable nature of RFID provides huge value by enabling organizations to locate and manage their inventory throughout its lifecycle, making it easier to manage supply chains and improve efficiencies,' says Axelsen. 'Increasing accessibility for consumers is an additional benefit that interactive labeling can offer, providing scannable information for those with visual impairments and offering additional resources and advice for users. Multi-layer labels currently provide improved customer communication, but their life expectancy is often limited by the continual introduction of

Polyart.

the synthetic paper

innovative technology applications, such as encoded inks and NFC.'

Steve Wood, president and CEO of track and trace specialist Covectra, cautions that some pharma companies are voicing reservations about RFID tags, concerned with the risk of contamination of the drug by RF energy. 'Because of this concern, one of our customers, a pharma company, decided against it and used serialized 2D Data Matrix barcodes on the unit dose, primary carton, cases and pallets.'

AlpVision, provider of covert anti-counterfeiting technologies, thinks that RFID will remain a niche market owing to cost implications and other constraints. According to the company, QR Codes or 2D Data Matrix 'are better options, in particular for giving consumers access to electronic leaflets.'

Bart Vansteenkiste, global life sciences business development manager at Domino, explains that Data Matrix and QR codes have significant advantages over linear barcodes in pharma applications. 'QR and Data Matrix codes are much smaller, and they can contain a lot more data than linear barcodes.'

A key use of machine-readable codes is supply chain management. A 2D code can contain a wide range of information including product name, batch number and use by date. This provides an overview of which products are sitting where in the supply chain, which batch the product came from, and how much shelf-life remains. 'This enables manufacturers and suppliers to manage the movement of goods within the supply chain and facilitate the location of products in the event of a recall,' says Vansteenkiste.

Andy Scherz, commercial labels product manager at Epson America, identifies two drivers behind the continued adoption of QR codes. 'First is its potential for counterfeit detection,' he

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says. 'I can see a QR code being effectively used as part of the online verification of genuine products. The second element is the sheer volume of informational content required on a label, which sometimes exceeds the real estate available – even at the 0.1-point font. A QR code offers a way to augment the information on the label by tapping online resources.'

Ian Axelsen notes an increased interest in QR codes throughout the Covid-19 pandemic, proving vital for track and trace purposes and helping reduce contact in public spaces on everything from menus to bus timetables.

Technology fights counterfeiters

According to the World Health Organization, counterfeiting globally costs the pharma industry USD 75 billion every year. Integrating interactive technologies into pharmaceutical labels is currently the most significant opportunity for vendors.

There are already a wide range of label systems targeted at combatting this threat. Avery Dennison's Keller lists the many kinds of protection available, ranging from overt destructible and Void-effect labels to covert solutions, for example those that fluoresce under black light. 'I think the most robust solutions combine both overt and covert technologies.'

Some brands have already begun using RFID technology to authenticate prefilled syringes and track the time and temperature of products during shipping. The next stage for many pharma brands is integration with the Internet of Things (IoT).

Andy Scherz of Epson America agrees that leveraging the internet is the only reliable method for fighting counterfeiting. 'Any unique label feature can almost always be copied,' he says. 'Even things like RFID can be programmed and duplicated by a sophisticated



With UPM Raflatac's tamper-evident labeling, patients can be sure that their pharmaceutical products are authentic and have not been tampered with

counterfeiter. Hence, we must tie a label's content back to some source of truth.

'This means that we cannot label large quantities of products with identical labels printed in bulk. Instead, each label must be unique with some codes or elements that can be scanned and verified by an app tying back to a master data source. A counterfeit

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Together with Schreiner MediPharm and PragmatIC Semiconductor, Avery Dennison is leveraging NFC technology to extend smart packaging to the unit-level for everyday bharmaceuticals



Schreiner MediPharm developed an NFC label as an injection aid that serves as a communication interface between the injector and an electronic pen add-on

"I think mass customization is likely to be on the cards. Is one pill ideal for everyone? Can it be tuned by patient size, age, sex?"

item will either have a code that fails to match any in the database, or it will have a code that has already been used. Either way, the party knows they have a suspect item.'

Domino's Bart Vansteenkiste agrees. 'Serialization combined with tamper-evident labeling is crucial to prevent counterfeiting and ensure patient safety. With serialization, when buying products from a pharmacy, you can be sure the product is genuine. Tamper-evident labeling then ensures that the product has not been compromised in any way and is safe to use.'

Other features which can add further levels of safety include inks containing taggants, says Vansteenkiste. 'These small particles show up when studied under a spectrometer, which can identify whether the ink used for coding a product came from the correct manufacturer. In addition, there's the option of using a software program to make a mistake in a code, such as a symbol with a small amount of deliberate damage. A counterfeit product will typically have a perfect code, as the error is difficult for a counterfeiter to spot.'

Schreiner MediPharm considers the specific threat scenario of a pharmaceutical manufacturer and a particular product.

'To enhance product integrity, there are customized sealing solutions for medicine packs and containers, and which act as the first hurdle against counterfeiters,' says Schreiner president Gene Dul. 'In addition, label-integrated authentication features ranging from overt, covert, and forensic to digital technologies are important in offering effective protection against counterfeiting. Track and trace systems to identify and trace products, and thus indicate gray market activities are available. Ideally, multi-level security concepts should be implemented that are individually tailored to a specific use case, combining analog and digital features, which can be verified by different stakeholders within the supply chain.'

'There's definitely an oversupply of technologies,' adds UPM Raflatac's Paavo Sillanpaa. 'I think the difficult thing is deciding which to use, as well as how many. With anti-counterfeiting, the key is to combine different technologies, not just one. And there's also the question of who in the supply chain needs to detect if the product is genuine? Is that the supply chain? Is that the consumer? So the technology applied really depends on the kind of solution desired.

'Typically, it's a combination of different elements, including cloud software, so you're able to read from the package or label and then verify online that this is a genuine product.'

Covectra's Steve Wood starts from the assumption that variable data barcodes can be easily duplicated, 'and it would take a considerable amount of time to realize that multiple barcodes with the same number have been used.'

'We believe that the best tool and technology is our security product called StellaGuard, which is a label that employs a 2D serialized barcode printed on a highly secure substrate. In order to provide maximum security of the substrate, each label has a number and pattern of visible 3D holograms within the label referred to as "stars." This combination of 2D barcodes plus the unique number and pattern of holographic stars is processed by a smartphone in seconds,' says Wood.

Step into the future

What trends might we see in the near future?

'I think we'll see serialization of overthe-counter medications introduced as legislation in Europe and the US,' suggests Domino's Vansteenkiste. 'At present, this is limited to prescription medicines only, but I expect it will be a requirement on OTC packages within five years and anticipate that it may become a requirement for other products soon after this. We're already seeing this trend in Russia, where the Chestny Znak regulation requires serialization of all prescription and OTC medicines and is now being broadened to cover items such as bottled water and milk.'

'I think mass customization is likely to be on the cards,' Andy Scherz adds. 'Just look at something like airbags - initially introduced as a one-size-fits-all, they now strive to match the force with the size of the occupant. Is one pill ideal for everyone? Can it be tuned by patient size, age, sex? What about a person taking many medications? Would the ideal formulation vary to accommodate the full spectrum of medications the patient is taking? I think yes. This means producers must focus on nimble manufacturing and labeling techniques that allow for efficient production of many unique products, rather than bulk production of identical formulations.'

For more information, read 'Focus on label markets: pharmaceutical and medical' as part of the Label Academy subscription service: www.labelsandlabeling.com/labelacademy/article/focus-label-marketspharmaceutical-and-medical

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SECURING INDIA'S PHARMA SUPPLY CHAIN

India is the world's largest exporter of generic drugs, so rampant counterfeiting has implications beyond its borders. Akanksha Meena reports

he pandemic exposed the many loopholes in India's pharma supply chain that encouraged counterfeiting of Covid-19 vaccines and medicines. Illicit vaccines and medications were being circulated in India, especially during the second wave of the pandemic. The country saw counterfeit copies of the drug Remdesivir circulating in the black market at increased prices.

During a virtual event, Gaurav Bhatia, general manager – supply chain, Reliance retail – pharma, highlighted that the impact of spurious drugs produced in India extends beyond its borders. 'India is a pharma export hub. Figures suggest that 55 billion USD of pharma products are exported from India. US imports 25 percent of pharma products from India and EU imports 40 percent.'

Girish Pai, chief business officer at PharmaSecure, said that counterfeiting of drugs not only impacts the health of a patient but also results in loss of revenue for genuine manufacturers and deters the expansion and development of the pharma industry. It encourages developments in the supply chain and anti-counterfeiting measures to tackle the issue.

Praveen Gedam, IAS, additional CEO, National Health Authority, said the National Health Authority is working on Digital Health Mission to prepare a drug registry of India. 'It should enable us to monitor the supply chain in a much more efficient way.'

He is of the opinion that an improved supply chain will not only provide more choices to consumers in terms of drugs, but should also enable the identification and tracking of the origin of a drug or SKU.

Regulations make it mandatory to add track and trace features to exported pharma products from India, but is left up to brands as a voluntary decision for the domestic market.

The panel agreed that serialization could be a step towards securing the domestic pharma supply chain.

'Serialization could be easy to adopt. Companies with old infrastructure might need additional equipment for existing packaging lines. It calls for complete packaging line automation,' Prabir Das, SME, Pharma Packaging, explained.

'However, it is a mammoth task to enable serialization on each unit of a [pharma] product sold in India. The pricing is mentioned on each strip, and it is not technically feasible to do serialization on each unit. But there are other options available through which we can secure packaging by including features such as tamper-evident, anti-counterfeiting and authentication features.'

Adding to Das' point, Subrato Dey, DGM, Industry engagement GS1 India, said that track and trace could be implemented at the secondary and tertiary level of the supply chain before moving on to the challenges of barcoding and serialization on each strip of drug.

Authenticity

India is seeing the emergence of e-pharmacies and it is a growing segment.

Bhatia is of the opinion that as e-pharmacies deliver drugs directly to the end consumers, they could be instrumental in securing the supply chain. They can help identifying the responsible parties in case of a breach.

Barcodes and non-cloneable codes could further ensure the



India is the world's largest exporter of generic drugs, but counterfeiting is rife in the local market

"Regulations make it mandatory to add track and trace features to exported pharma products from India, but is left up to brands as a voluntary decision for the domestic market"

authenticity of a product.

'India has the highest penetration of smartphones after China. They can scan barcodes and non-cloneable codes,' he added.

Pharma labels and packaging, with details such as name, address, license number of the company dispensing a drug, serial number and details of a drug, could bring transparency to the entire pharma supply chain. Customers could easily authenticate a product by scanning unique codes printed on its label or packaging.

In absence of a salesperson, labels and packaging should be able to communicate the details of a drug and verify its authenticity.

'If the government supports these initiatives, it will be excellent for patient safety,' Bhatia emphasized.

Pai says that the Drug Technical Advisory Board has come up with voluntary guidance for large pharma brands. The guide urges brands to put unique identifiers on the packaging or label that could help consumers authenticate a drug using an SMS. 'It puts the authentication power in the hands of patients. It is a quick and easy measure.'

Concluding the discussion, Prashant K Gupta, country head sales, Shriram Veritech Solutions, said that if product identification, authentication and integrity can be taken care of during the supply chain, consumer safety will be greatly enhanced. There has to be a mix of physical and digital security. Packaging needs to be better equipped for security. And a digital form of authentication could become a verification medium for consumers.



For more from Akanksha Meena on the Indian market, go to www.labelsandlabeling.com/contributors/akanksha-meena



Crowds gather at Landa's stand at drupa 2016

Nanography: the next big thing may be very small

Jordan Hart investigates the past, present and potential future of nanography in the print industry

et's set the stage: the year is 2012, hundreds of people cram into a small auditorium and nestle into their seats just as the lights begin to dim. Dancers start to perform to dramatic music and voice-over as the audience watches, enrapt. Then, Benny Landa, founder of Indigo (acquired by Hewlett-Packard in 2002), emerges from the dark stage. The lights focus on him and he begins to paint a fantastic picture of Landa's new technology that is set to revolutionize the printing industry. That was nearly a decade ago – now it is time to break down what he promised and what has been delivered.

With nanography, ink is printed onto a conveyer belt style blanket and forms a dry film that is then transferred onto any type of paper with crisp clarity. According to Benny Landa, that is the key distinction that sets apart nanoprinting as a method.

'The fundamental difference between inkjet and nanography is that with inkjet there is ink-paper interaction. Wet ink contacts the paper. With nanography, wet ink never contacts the paper so there is no ink-paper interaction,' said Benny Landa during the 2012 drupa presentation.

Part of that clarity is also due to the ink used – Nanolnk. During his 2016 drupa presentation, Landa explained: 'Nanolnk images can be transferred to sheets or webs or any ordinary coated or uncoated paper without any kind of pre-treatment. Since Nanolnk images are already dry, they can be coated in-line with conventional UV or water-based coatings and printed goods can be immediately processed right out of the process, even in the most aggressive finishing equipment.'

According to his 2016 presentation, NanoInk has zero light scatter and just '4-color nanography covers more colors than 6-color offset printing'. Seven-color nanography is claimed to 'cover almost all of the world's leading brand colors'. The high-color payoff of NanoInk is a crucial part of the innovation of nanographic printing as a whole.

The printing method and the ink work hand in hand to create the Landa nanographic printing process and open a new field of printing "The printed results from the Landa are indistinguishable from offset. If I don't tell you, and you don't go out of your way to scrutinize the work, you wouldn't know the difference"

options. As Landa points out, 'Because different papers absorb ink at different rates, inkjet is totally substrate dependent. That means every kind of paper produces a different quality of image.' With Landa nanoprinting, the water-based NanoInk can bond to any substrate, paper or plastic.

Landa claims that the presses promise high speed, a broad color gamut, high optical density, sharp edges, low energy consumption, and low cost per page. In his 2012 presentation. Landa says nanographic printing was designed to cover run lengths between 1,000 and 10,000 that fall in the 'profitability gap' between digital and offset.

While six print models were introduced in the 2012 presentation (see boxout), by 2016 only four were presented (S10, S10P, W10, W10P), and by 2021 only two are in serial production (S10 and S10P).

K-1 Packaging Group

While the world will have to wait a little longer for the W10 models, several S10 and S10P presses have already been installed. L&L spoke to two companies to get their feedback on the presses. First is K-1 Packaging Group, based in California, USA, which finalized its purchasing agreement with Landa at the end of 2019.

'We had already adopted digital printing for our pressure-sensitive label division. We purchased our first HP Indigo WS6000 back in 2011, and we quickly realized the benefit of



digital printing,' says Mike Tsai, CEO of K-1. 'We were convinced digital printing would revolutionize the packaging industry, however, at the time there was no suitable platform for folding carton. We learned about the Landa S10 nanographic press and of course we were intrigued.' Part of the intrigue was the drastically reduced set-up time – from 45 minutes on a traditional press to around 15 on the Landa.

Tsai explains the installation timeline: 'We finalized the purchase agreement at the end of 2019, and we were supposed to begin installation around Q1 of 2020. Because of the pandemic, that put a delay in the schedule. Installation didn't begin until June 2020 and everything was completed around mid to late July. We did not encounter any hiccups and Landa sent a huge team to our site. At one point we had roughly twelve service engineers on site. K1 is one of the first few with a Landa press, so they certainly threw a lot of resources our way.'

However, transitioning to a new technology was not easy, as Tsai explains: 'There is a significant learning curve. The Landa platform does utilize a lot of similar mechanics that are found on conventional presses. All the mechanics for the sheet transport, starting from feeding the individual sheets into the press, the side guiding mechanism, and after printing the delivery – that is all common with the traditional offset press. However, beyond that everything else is totally different. What we have remaining is the print engine and the printing process, the way the ink is deposited, the way it is dried, that is completely different from conventional offset printing. Learning that portion of the operation represented a significant learning curve.

'The training Landa provides is very comprehensive. Even before the installation started, maybe a month out, we started receiving pre-recorded, online instructions covering everything from the theory of how it works, the pre-press operation – as that is a little different – and maintenance.'

Landa continues to have a support presence with K-1. 'After the press is installed, the Landa service engineer stays with us. Because we are one of the first installations in the US, and because Landa is still in the process of building its support infrastructure, the support engineer has been with us the entire time since installation last summer.'

In terms of the work done on the Landa press, K1 Packaging Group exclusively prints packaging. Within that, there are several business divisions. 'The one that adopted digital printing first was our flexographic narrow web division, the division that prints pressure-sensitive labels and flexible packaging. The Landa was acquired under the folding carton division,' explains Tsai. 'We do 100 percent folding carton work on the Landa.' "Some of our customers are already printing labels on their S10, but we have no plan to launch a dedicated narrow web nanographic press for labels alone"

The average run length on the Landa is between 2,500 and 7,500 sheets. 'If we come across a job during the planning process that is a short run, it automatically is considered to run on the Landa,' says Tsai. 'However, just because a job is short run, that doesn't mean it will come out looking good on the Landa. Certain designs, such as if it calls for huge coverage of solids, are not ideal and you may see certain artifacts when you print it on the Landa. Certain substrates may not be suitable on the Landa either, if they are super thick. We print up to 32 point paper board.'

But, Tsai says the printed results from the Landa 'are indistinguishable from offset'. 'If I don't tell you, and you don't go out of your way to scrutinize the work, you wouldn't know the difference.'

The Landa has benefited our operation, increased our throughput, and reduced waste,' Tsai continues. 'The press is a very nice addition to our collection of manufacturing equipment. It cannot do everything for you, though. You cannot expect to have a Landa press and eliminate your conventional offset press.'

Tsai concludes: 'The press delivers the quality and result that we need for the kind of customers we serve, but it took us a lot of work to get to where we are. You definitely have to be committed.'

Bluetree Group

Bluetree Group, located in Wath Upon Deane, Yorkshire, purchased the first Landa press in the UK – an S10P model. Sarah Kilcoyne-Guilliam, head of sales and integration, says: 'We were first introduced to the Landa at drupa 2012 and were blown away with its capabilities. At the time, we were looking to bridge the gap between litho and digital printing. The Landa was the perfect solution. So, we traveled to Israel for a closer look and the chance to speak to their team, and we found that their company values aligned with our own. It was an easy decision to make after that.

'As with any new machine, especially new technology, there was a warming-up period while the Landa S10P settled into our factory. We had ongoing support from the Landa team at all times, particularly when it came to merging the workflow with our



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Technology specifications

S10 – This press is dedicated to folding carton and POP/POS production. It is a single-sided B1 41 inch (1,050mm) format sheet-fed digital press. It prints at 1,200 DPI resolution and up to 6,500 B1 sheets per hour on off-the-shelf substrates in thickness from 2.4-32 pt.

S10P – The sister model to the S10, the S10P is designed for commercial print applications. According to Landa, this press is intended for 'two-sided general commercial printing, including advertising pieces, catalog production, direct mail and high-end magazines.' Similar to the S10, it prints at 6,500 B1 sheets per hour.

W10 – This press is designed for flexible packaging and is currently in the pre-beta stage of development. According to Landa, the press offers high-speed 4-8 color printing and supports 41 inch (1,050mm) web widths. Landa promises 'gravure quality printing with the efficiency and versatility of plate-free digital printing on a broad range of substrates from plastic packaging films to metal foils, from paper to carton.' Like the S10 range, this press also offers 1,200 DPI.

W10P – The sister model to the W10, this model is for the publishing market and is also still in the development phase. The meter-wide (41in) two-sided web press has twin printing engines, each with 4-8 colors.

All Landa nanographic printing presses have Landa's Active Quality Management (AQM). AQM, explains Landa, 'is a fully automatic solution that scans each printed sheet, identifies defects (e.g. color consistency, print uniformity, registration, missing nozzles etc) and initiates corrective action where applicable – all without any operator intervention.'

"With nanography, wet ink never contacts the paper so there is no ink-paper interaction"

existing MIS.'

Bluetree Group had a shorter transition and installation period between purchase and being up and running independently. 'As soon as the press arrived, things moved very quickly. This was largely thanks to the support we had from Landa's team to assemble it. In fact, we had our first sheet printed on the S10P within just a few weeks of the press arriving,' says Kilcoyne-Guilliam.

'Currently, our Landa S10P produces short to mid runs of flat and folded work. This allows us to keep up with the shift from print-to-warehouse orders to a printon-demand service.' Kilcoyne-Guilliam says that their customers are looking for top-notch quality for smaller runs with faster turnaround times and the Landa enables them to meet those demands.

'We've been very happy with our investment,' she concludes. 'The S10P runs very well and fits perfectly within our factory's workflow. Our customers were particularly interested in the Landa's color quality and it has comfortably met that demand. Not only is the press operating well, we have had unrivaled support while working with the Landa team.'

Q&A with Landa's Manuel Schrutt

L&L spoke to Manuel Schrutt, general manager EMEA at Landa, to discuss the feedback received on the presses already installed, as well as any plans to expand on nanographic technology.

L&L: What has been the feedback from the presses that are already installed?

Schrutt: Our customers who have our presses installed report that their Landa press is a real game changer for them and provides a significant competitive edge. For example, some of our customers are producing serialized packaging to support high end logistics with tracking features they couldn't produce before. Others are printing packaging with high-end graphics on low-cost recycled stock that they couldn't print with offset. What's more, we have a customer who retired two offset presses and replaced it with one Landa S10, gaining much higher efficiency, higher productivity and a full digital workflow.

In short, they all report that high productivity, printing on B1 format, implementing variable data, media flexibility and a very wide color gamut as being key attributes that make their Landa press so powerful for them.

L&L: What is the average set-up time for a press from purchase to running it independently?

Schrutt: Our typical lead time for a Landa press is 6-12 months, depending on configuration. Installation takes 4-5 weeks, which is followed by onsite training provided by Landa's global support team. Right after training, the press is operated independently by the customer's team. In addition, each Landa press is connected to our cloud-based remote support infrastructure, Landa InSight, which enables us to support every customer. Furthermore, every installation is also assigned a dedicated local field support engineer too.

L&L: What operator training is needed for the press and how long does it take?

Schrutt: The Landa operator training program is an integral part of the ramp up and consists of understanding the press, its structure and operation. Theoretical learning is combined with hands-on learning in the production environment, implementing the practical side of the training immediately. Our training tools are state-of-the-art. For



Landa's W10 press is designed for flexible packaging and is currently in the pre-beta development stage

"We have significant interest from converters around the world who recognize the benefits that the W10 represents"

example, we use a virtual training room to increase memory retention and immersive learning. The program is flexible and adapted to each customer's needs. The transfer of knowledge regarding technical aspects, troubleshooting and service tools is fast and efficient, and ensures operators are quickly set up to run the press independently on their factory floor.

L&L: At drupa in 2012, Landa introduced several other press models, the S5, S7, W5, and W50 – why were these never

brought to market?

Schrutt: At drupa 2012, we launched the smaller format nanographic concept press and used the show to gather market research. This feedback directed us firmly towards the B1 format for converting existing analog jobs, and this is now our mission. Nanography, deployed via the Landa S10 for the packaging and POP markets and the Landa S10P for mainstream commercial applications, is proving to deliver exactly what the industry needs. With the current installation base around the world, we are delighted to have our B1 format decision validated by our customers and the wider market.

L&L: Are there still plans to produce these presses in the future?

Schrutt: The beauty of nanography is that it can support any format and it is extremely scalable. So, it is possible to deliver a smaller format in the future as necessary – but for now, our focus remains on B1 solutions and our current portfolio.

L&L: If a W10 pre-beta installation is planned for 2021, what is your timeline for beta installations and full market availability?

Schrutt: While it's a little too early to announce the date for when the Landa W10 nanographic printing press will enter into the beta program, what I can say is that we have significant interest from converters around the world who recognize the benefits that the W10 represents. They are all wanting a time-efficient and cost-effective, on demand, short-run printing solution for mainstream flexible packaging applications on any standard plastics, and they believe that the W10 is poised to deliver it.

L&L: Does Landa have plans to produce label presses in the future?

Schrutt: Some of our customers are already printing labels on their S10. However, we have no plan to launch a dedicated narrow web nanographic press for labels alone in the near future.



K-1's Landa S10 press, one of the first Landa presses in the US

Potential market impact of the W10

While converters will have to wait a little longer for a flexible packaging press from Landa, what can be expected from the W10 when it comes to market? Based on the feedback from the current line of presses, it is safe to expect a remarkable press from Landa - however, also expect a significant learning curve with this new technology. Additionally, it is safe to err on the side of caution and expect to see this press as a supplement to existing presses, rather than a replacement for traditional equipment. Only time will tell if the W10 delivers on Landa's promises.



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LAUN

All4Labels adds Italian converter to group strength

Family-owned converter Etichettificio Dany has joined the All4Labels global group. Andy Thomas-Emans reports

he All4Labels Global Packaging Group has added Italian self-adhesive label specialist Etichettificio Dany to its portfolio. All4Labels is a Triton Fund V portfolio company and an international label converting group.

As with the other label converting companies in the All4Labels group, Etichettificio Dany is family owned, in this case by the Olivieri family. Etichettificio Dany becomes a fully owned subsidiary of All4Labels and Marco Olivieri, who founded and developed the business over decades, becomes a shareholder of All4Labels and part of the management team.

Etichettificio Dany had a total turnover of approximately 13 million EUR in 2020 with a facility in Riccione serving local SME customers in the food, beverage, home and personal care markets.

Adrian Tippenhauer, CEO of All4Labels Group, said: 'This new union with Etichettificio Dany marks an important milestone for All4Labels and especially our capabilities in Italy. We are pleased to welcome Mr Olivieri and the Olivieri family as well as the entire staff as new members of the All4Labels Global Packaging Group.'

"Marco Olivieri will make a significant contribution to strengthening All4Labels' position in Italy. We will search for procurement synergies and we will share all our best practices in order to grow together"

Marco Olivieri, founder and owner of Etichettificio Dany, said: 'Becoming part of the All4Labels family provides us with the opportunity to contribute our know-how and capabilities to a global lighthouse in the packaging industry. This will allow Etichettificio Dany to even further improve and grow, drawing on synergies offered through this partnership.'

Paola lannone, head of marketing and communications at All4Labels, spoke to L&L about the reasons behind the acquisition of Etichettificio Dany.

'We have structured a dedicated team for M&A, with the aim to expand our business into new markets or territories, while gaining a competitive edge and acquiring new technologies and skillsets. Italy is a highly fragmented market with 800 label printers and every day we have new companies who want to sell labels and have the same machines as everyone else. So this is a very important step to consolidate the market and offer one point of contact for the main regional brands. With his many years of experience and market know-how, Marco Olivieri will make a significant contribution to strengthening All4Labels' position in Italy. We will search for procurement synergies and we will share all our best practices in order to grow together as our global group.'



Impact

Paola lannone also spoke about the impact of the Covid-19 pandemic on the whole label supply chain. 'The one thing we can be sure of is that there will continue to be volatility, driven by uncertainty about the future. We will have continued disruption, lasting changes in consumer behavior, the threat of returning to lockdown at a moment's notice. This fast-changing scenario suits a rolling approach to segmentation, where small segments are created regularly and refreshed as the situation changes.'

Innovation and sustainability will remain 'industry-shaping trends', says Iannone. 'All4Labels is currently investing in a global hub for innovation because the bar for good packaging design will rise in response to "new normal" imperatives.'

lannone says the priority is face-to-face visits with customers. 'To understand the strategy of customers takes time, and it's not just knowing about their turnover. At the moment, we do not know the brands' plans to 2030, but we did know. Because face to face you have an open agenda and informal talking and go to lunch together and see how the company is running. So we need to cover the gap of the uncertainty and we have to do this together.'

lannone notes that the pandemic has changed the label and packaging landscape in often unpredictable ways. 'The pandemic upended the competitive landscape across all the main brand owners. Changing consumption patterns have led to shifts in market share and opened the possibility of new segmentations, which we were not considering before. For example, food and personal care have exploded, but not wine and spirits. This is the season we usually get lots of orders for fruit juice, but not this year. People are not going to the beaches and drinking fruit juice. It's more than ever strategical to be agile and react with great support to our customer needs.'

Turning to the wider group strategy, lannone says All4Labels is constantly looking at expanding into local markets where it does not yet have a presence. In Europe this means particularly Spain and the UK, and globally it means North America.



For information on converters previously joining the All4Labels group, see vvvv.labelsandlabeling.com/search/ node/All4Labels







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Signite sparks PS technology revolution

A breakthrough coating technology from Actega allows converters to print entire PS label constructions on a standard narrow web hybrid press. Andy Thomas-Emans reports



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Signite decorated candle containers demonstrate high degree of heat resistance

t is rare that new pressure-sensitive technologies can be described as revolutionary, but Actega's Signite surely merits that label. Signite holds out the prospect of *printing* an entire clear-on-clear label construction, with no matrix waste, on an industry-standard narrow web hybrid printing press. Actega's initial focus for Signite will be with smaller brands and glass container packaging in North America.

Actega's patented Signite technology involves printing, in reverse order, a 'face' coating, process colors and adhesive onto a double-side coated PP silicone release liner. The first-down coating layer, printed in the exact shape of the label graphic, acts as the 'face' of the label and at the same time a protective coating for the print. Next, the process colors are layered down, again in reverse order, and only on the graphics area, followed by a high opacity white and then a pressure-sensitive adhesive coating.

When the web is wound up, the top adhesive layer is in contact with the siliconized reverse side of the release liner.

A modified in-line hardware applicator is then required to transfer apply the Signite label decorations to containers. The Signite decorating process is currently commercial for cylindrical, flat walled container shapes such as 750ml Bordeaux wine bottles. Equipment is currently being developed to handle non-cylindrical, asymmetric and tapered glass containers which are more commonly used in distilled spirit glass packaging.

The principle is quite simple: the revolving container surface is brought into contact with the adhesive side and provides sufficient shear force to release the ultra-thin film Signite label construction from its carrier film. Because there has been no die-cutting – the entire label is simply printed to shape – there is no matrix waste.

According to Anthony Carignano, technical director, marketing for Actega North America Technologies, most of the technical development work relating to Signite originates with Actega's Rhode Island, US-based multidisciplinary applications team, which includes formulating chemists and printing application specialists working hand in hand with inhouse mechanical and electrical engineering specialists.

Carignano describes the L3 liquid 'face' coating layer: 'It is like an overprinting varnish, but beefier, with more scratch, impact and solvent resistance. A varnish coating would usually be one to two micron in total thickness. However, depending on the "We have all this expertise in-house from robotics experts and programmers to electrical and mechanical engineers and chemists and business development technologists. It's a true multi-disciplinary approach"

application performance requirements, our L3 layer can exceed ten micron total thickness. This is because the L3 is the print receptive backbone of the printed image, which as well allows the image to consistently release from the carrier film.'

The L3 layer is printed as a spot coating for clear-on-clear label applications. It can equally be printed as a flood coating for a full body wrap.

As well as scratch and rub resistance, the L3 coating has been designed with ice water resistance so the labels will not delaminate from glass in an ice bucket.

Signite constructions also exhibit a high degree of heat resistance. Signite label decorations for candle glass applications have been successfully oven tested to withstand two hours at a 230 deg F/100 deg C ambient, with no yellowing, delamination or picking.

Mark Andy hybrid

Actega has historically worked very closely with Mark Andy on new product development projects. Developing the printing side of the Signite process, testing was carried out on Mark Andy's Digital Series HD hybrid flexo-inkjet press.

'We use a flexo station at the front end of the press to print the L3 coating then piezo digitally apply pico-liter droplets of full process color and spot Pantone ink onto that "island" to create extremely high resolution images,' explains Carignano. 'We then use other flexo stations where needed to add either new performance characteristics, metallic inks or White before the application of a flexo-applied pressure-sensitive adhesive. Think of it as a reverse pyramid-shaped sandwich of films – we're using a PS adhesive on one side and a standard UV cured coating on the other side.'

Actega's Signite product development team has been experimenting with different effects by varying the carrier film construction. Carignano says: 'We have evaluated several transfer film constructions including ablated films which allow for L3 haptic, micro-holographic effects and security features which would be impossible to replicate using other direct or indirect printing technologies.'

Applicator development

Uniquely, Actega also controls the development of its hardware

"It is like an overprinting varnish, but beefier, with more scratch, impact and solvent resistance. A varnish coating would usually be one to two micron in total thickness. Our L3 layer can exceed ten"

applicator which is key to the commercial success of the Signite label decorating process.

As we have seen, the Signite process requires that a rotating container contacts the adhesive side of the printed image construction with enough force to shear the L3 layer away from the release liner.

'The shear forces during transfer to container are quite substantial,' says Carignano. 'Registration is the key. To ensure that both on press and on the applicator the tension is just right. It's like the label decoration waits for its in-motion container transfer bus ride. The printed Signite images are pulled off and away from their bus stop and on to container as containers rotate past.'

The challenge for Actega is that every container surface, whether glass, plastics or metallic, has different surface and contact properties.

During glass container manufacture, for example, a cold end coating is spray-applied or sputtered on to the surface of the glass, creating a network of non-continuous dots. 'The chemistry of the cold end varies based on supplier and sometimes even country of origin,' explains Carignano. 'We have had

Mark Andy to be exclusive distributor

Mark Andy will be the exclusive distributor for Actega's Signite technology, *reports James Quirk*. The press manufacturer will have a global remit, though its initial focus will be on the North American market.

Actega used a Mark Andy Digital Series HD hybrid press for development and testing of Signite, and the press manufacturer is excited by the technology's potential.

'We will need to prove the concept so that the market will take notice,' said Alexander Mercon of Mark Andy. 'But it's like being at Indigo in 2005. We have the current with us – in Canada, the Quebec government has made it illegal to print and apply shrink sleeves on aluminium cans. That's a bonus for this technology. California has new regulations for reusing glass bottles – they must be washed, sent back to the bottler and reused in the market. With Signite, separating the adhesive from the bottle is just a question of washing it off.' to become knowledgeable about cold end coating chemistries to make sure we have good Signite transfer and adhesion. Before any given glass container is label decorated we pass it by a two-station flame treater. The flame treatment surface heats the cold end coating to 140-160 deg F. For most polyethylene based cold-end coatings, this is the perfect temperature to give good transfer adhesion of the thin adhesive layer and image onto the glass.'

Actega is achieving application speeds from 35-40 containers a minute on typical 750ml Bordeaux wine bottles. 'It really depends on the container and the decoration,' states Carignano. 'If it's a full wrap design it runs slower than a spot applied "starburst" design. The size of the glass container also matters. Small micro-glass container vials such as for packaging essential oils can be transfer-decorated much more guickly than 750 ml glass wine bottles 6in (15cm) diameter growlers. The star wheel input area on our hardware applicator is modified to cope with all these different glass container sizes.'

Carignano states that on high aspect ratio glass containers such as religious candle glass, Actega can do a full wrap almost down to the foot of the glass so long as there are no contours or shouldered areas.

'Many brands ask how we address the rounded areas of glass such as shoulders, and we are working this out,' says Carignano. 'A further challenge we have on high aspect ratio glass containers is that they can wobble, so this is something we have had to learn how to control.'

Carignano sees Signite decoration technology as contributing to the overall sustainability profile of glass containers. Signite's pressure-sensitive adhesive is formulated to meet Thermoform Label Test PET-S-04, the recycling protocol adopted by the Association of Post-Consumer Plastic Recyclers for PET plastic recycling in the United States. Under specific pH and recycling bath water temperature conditions, Signite's adhesive layer is designed to dissolve and allow Signite decorations to exfoliate away from glass containers.

What's next?

Actega's Signite product development team has a huge advantage in being able to call on the resources of the entire Altana group of companies. 'We are driven by



big data, for example in analyzing how a bottle wobbles on the applicator,' explains Carignano. 'And we have all this expertise in house from robotics experts and programmers to electrical and mechanical engineers and chemists and business development technologists. It's a true multi-disciplinary approach.'

This approach means the applicator itself will be a smart, Industry 4.0 orientated system. 'We dial in the diameter and type of container along with a lot of information about what we are about to decorate, and the system "understands" what's coming through.'

Actega's new technology incubator in New England is now deploying Signite directly with small brands looking to get new products off the ground. Applicators are being set up at many points around North America to help prove the Signite process in commercial production environments.

To date, Actega's analysis suggest that Signite is broadly cost neutral when compared with thin film plastic prime label technologies.

'Certain areas of the market are ripe for disruption,' concludes Carignano. 'This is certainly a more elegant way to decorate than direct-to-object printing. Next, we will be gathering data to develop a lifecycle analysis. It will be critical for Actega to have hard comparative data to share with relevant brands and co-supplier partners for feedback.'

We at L&L will be closely following the development of this exciting technology.



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IL&P finds success in wide format

The US label converter moved into wide format printing in 2016, but the installation of an Inca OnsetX3 two years ago pushed the venture to another level. Luis Rodriguez reports

onverters expanding into new printing formats is not unknown, but there is always a risk as a successful expansion is never guaranteed.

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In 2016, US converter International Label & Printing Company (IL&P) expanded into wide-format printing, mainly outputting point-of-purchase graphics and signage for retail clients. However, due to an increasing workload and demand for quicker turnaround, the company had some issues keeping up with what customers needed.

'The machines we had could make anywhere between eight to ten sheets per hour and we had about two or three days to produce these products,' says Mark Turk, president and CEO. 'Based on those figures, it made it tough to meet deadlines, so we ended up subcontracting a lot to people who had faster machines.'

Though the subcontractors were putting out quality products, this deal led to a loss of revenue and profit, so IL&P wanted to bring control and accountability back in-house. In 2019, it purchased an Inca OnsetX3 UV inkjet flatbed press with three-quarter automation.

Located in a 5,000 sq ft facility across the street from the company's main 15,000 sq ft plant in Elk Grove Village, Illinois, the Inca OnsetX3 is capable of printing upwards of 9,600 sq ft per hour and features three CMYK ink channels plus white or orange. The speed of the press was, according to Turk, the driving force behind the investment, as it can print virtually ten times faster than IL&P's original wide-format presses.

Capable of printing on a variety of substrates including corrugated, PVC and polystyrene boards, the press has allowed the company to expand into new verticals, opening business opportunities within and outside of its established customer base. It also helped IL&P win awards, including three Best of Category prizes at the Great Lakes Graphics Association in 2020.

According to Turk, the purchase of the OnsetX3 is in line with IL&P's typical method of investment. 'It's typically been that a customer asks us if we can do something either faster or on a different material, for example, and we try to do it with what we have but we figure that sooner or later we will have to invest in equipment to keep up,' says Turk. 'Whatever residuals come with it are of course great, but it's always easier to make the decision on an existing customer's needs rather than buying something and hoping it helps generate revenue.'

Turk says that this business model has been successful for IL&P. For example, after working with a barbecue sauce producer, IL&P was approached by a handful of other barbecue companies to produce its labeling, leading the company to be known as the 'barbecue sauce people' for a while.

Over the years, this has happened a handful of times: new customers coming to IL&P because of work done for an existing customer.

From working with a local craft brewery to help design its bar to using digital presses to print hand sanitizer labels, the company tends to take business as it comes. It figures out how to solve a problem for its customers, while reaping any residual benefits later.



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CEO Mark Turk (left) and press operator Alvin Page in front of the Inca OnsetX3

"It's easier to make the decision on an existing customer's needs rather than buying something and hoping it helps generate revenue"

Supply and demand

IL&P is what is typically referred to as 'generalist': a converter which serves three or more end user sectors.

Outside of wide-format printing, IL&P works with several companies within markets such as food and beverage, consumer goods and industrial labeling, utilizing seven presses – ranging from digital to flexo to hybrid – and printing a wide variety of labels.

According to Turk, the company can print anything that comes in a roll, always looking to accommodate any customer that comes its way. 'You're never really sure about any market. You think something is going to last for a while then suddenly it gets wiped out. Everything can change from one morning to the next,' says Turk, who worked at the Chicago Sun-Times, a daily newspaper in Chicago for 11 years.

Though Covid-19 has seemed to slip into the background – and the label industry has not seen significant dips in many markets during the pandemic – the virus' knock-on effects are still emerging. Take, for example, the supply chain.

For suppliers, supply chain disruption has led to longer shipping times, causing shortages and a higher price point on some of the materials used by converters.

In order to get ahead of the lengthy lead times, IL&P is ordering larger amounts of supplies to ensure it has the right products to keep up with customer demand, and storing them wherever they can fit.

'You can't afford to not have the supplies. If the customer really needs this product, they'll just go out and find somebody who can give them what they want,' says Turk.

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Russia's symbiotic attitude

The European and Russian label industries are benefiting from mutual collaboration and an exchange of customers and ideas. Piotr Wnuk reports

labelsandlabeling.com



Flint Group is opening a new production site in the Kaluga region in early 2022

B oth the European and Russian label industries have proven remarkably resilient through the Covid health crisis. As a natural part of food, beverage and pharmaceutical value chains, packaging and labeling companies have been rightly categorized as essential industries.

The restrictions associated with the pandemic have, however, influenced consumer behavior on both sides of the Urals and brought a range of complications into manufacturing processes.

'Due to the spread of Covid-19 in 2020, the volume of printed products in Russia decreased, according to various estimates, from between 8 and 15 percent,' observes Mikhail Aksenov, international sales manager at Danish anilox cleaning equipment specialist Flexo Wash. 'This decline mainly occurred in the commercial segment. By this, I mean all types of printed products except flexible packaging and labels, the producers of which remained very busy during this difficult period. Some 31 percent of businesses are working without a decrease in turnover and almost 20 percent have either already recovered or reduced turnover only slightly.'

'The pandemic hasn't really affected the market. In fact, there might even have been a small amount of growth if the availability of some materials had not reduced, and there have been two price increases since the beginning of 2021,' notes Marat Batyrkaev, general manager off CCL-Kontur in Podolsk, near Moscow.

Continues Aksenov, 'Complete statistics do not exist, but it seems the Russian segment of packaging production showed moderately positive dynamics. The pace of installation of new printing equipment is in line with the trends of recent years. Digital and flexo presses are installed in approximately equal proportions, with a slight tilt towards digital printing.'

Despite a relatively weak economy, essential industries did manage to increase production, and this ensures that Russia will remain an attractive market for packaging. Industry association NK Pak says demand is growing by between 3-4 percent annually. Currently, two percent of the global demand for packaging is being met by Russia.

Complementary differences

Europe's industrial base has responded rapidly to consumers requesting more operational transparency and reduced waste and carbon emissions. There has been strong collaboration to work towards better sustainability, recyclability and waste collection programs.

The Russian market by contrast is not as agile and certainly less flexible. Most packaging is imported from Europe and comes with the product directly to the shelf. Also, social awareness of sustainability and the impact of packaging on the environment is not strong enough to influence and develop new technologies. However, the strong dependence between Russian and European markets provides opportunities for both sides.

The Russian industrial and consumer packaging landscape is built by significant foreign players such as German company Greiner Packaging, Swiss Tetra Pak or Dutch Weener Plastics. Those companies have a global manufacturing presence and produce packaging for food, pharmaceutical and personal care markets. There are also some significant Russian producers, such as Danaflex, which manufactures 4,000 tons of flexible packaging a month, and



Mondi has invested in its Russian flexible packaging plants in Aramil and Pereslavl

"The pandemic hasn't really affected the market. In fact, there might even have been a small amount of growth if the availability of some materials had not reduced"



thany domestic producers are switching to local suppliers to take advantage of the government's import substitution policy

Polygraphoformlenie-Flexo. Still, the market is strongly shaped by western producers, which mostly come to Russian to service global clients.

The nationalization policy launched by the Russian government has motivated European packaging companies to localize their production in the country. This is one of the most critical forms of interaction between European and Russian markets because it brings technologies, professionals and experience to Russia.

Globally operating Austrian packaging producer Constantia Flexibles has acquired a majority stake in the Russian TT group of companies, rebranding it to Constantia TT. It is the second plant Constantia Flexibles runs in Russia after Constantia Kuban located in Timashevsk.

Mondi has also invested in its Russian flexible packaging plants in Aramil and Pereslavl. 'This is an important region for Mondi, which is why we have integrated the supply between both Aramil and Pereslavl, now called Consumer Flexibles Russia,' says Peter Orisich, CEO of Mondi Flexible Packaging. 'Offering flexibility as well as products that are sustainable by design are a top priority for this region.'

Flint Group Packaging Inks is opening a new production site in the Kaluga region in early 2022. Company president Doug Aldred is bullish: 'As one of the largest packaging markets in the world, Russia holds significant growth opportunities for our business. We're

must be registered in the Chestny Znak system

delighted to announce a series of strategic commitments to the region.'

Most large companies based outside Russia have been quietly producing and selling their goods there for nearly two decades. They run tightly integrated value chains without much participation from local producers and often continue to purchase components from their global partners. In some cases it means that companies are buying their so-called 'Made in Russia' packaging from other localized western companies in Russia. This way, goods 'produced in Russia' get wrapped into imported packaging and go directly to the shelves of Russian stores.

For example, German milk and dairy producer EkoNiva purchases its packaging from Swedish group Tetra Pak. European companies continue to interact with their global partners rather than buy components from local producers because of what they perceive as a lack of quality control and technological development.

Challenges and opportunities

The Russian domestic packaging and labeling industry has been adversely impacted by the difficult economic and geopolitical situation seen in recent years, says Helena Stepanischeva, business development manager for Paritet Systems, EyeC's distributor in the region. 'Unfortunately, purchasing power has been declining over the past few years and is likely to continue to decline. Another challenge is the desire of industrial consumers to save money, from raw materials to environmental issues. Other negative factors affecting the packaging market include problems with the import of raw materials. The industry is negatively impacted by rising costs and declining margins for packaging and label manufacturers.'

According to Marat Batyrkaev, market saturation and competition are obstacles to industry development: 'The labeling market has always been extremely competitive, new players are constantly emerging because it doesn't really cost a lot to open a business – only around EUR 1m of equity. That's why there are a lot of small printing houses producing pressure-sensitive labels in Russia. It also shapes market behavior. Many printing houses behave aggressively when offering prices, sometimes even not considering their production capacities because they want to attract a client at any cost. It impacts the market from both a profitability and clients' payment discipline perspective.'

CCL-Kontur's co-owner thinks that the labeling and packaging market will soon experience a shortage of materials, especially polymeric materials, which will see a rise in prices and adverse

Shedroe Leto (Rich Summer) range of margarine and sunflower was redesigned by Minsk-based Fabula Branding

"As one of the largest packaging markets in the world, Russia holds significant growth opportunities"

delivery conditions. 'This is the new reality we need to learn how to live with. Therefore, printing houses not having enough equity might suffer from a payment crisis,' adds Marat Batyrkaev.

'There's an active rise in prices with all goods around the world,' agrees Aksenov. 'Some types of raw materials have risen significantly and given that in many cases we're talking about futures contracts, we can expect a further significant increase in prices for equipment and materials for printing production.'

Aksenov says prices are rising and most companies are facing a shortage of raw materials. Many essentials are simply impossible to buy. Printing houses may want to pass price increases onto their customers, but this will presumably face strong resistance.

Helena Stepanischeva agrees the industry is negatively impacted by rising costs and declining margins for packaging and label manufacturers. 'However, on a positive note, domestic producers are switching to local suppliers in all production areas to take advantage of the government's import substitution policy. We also see a significant commitment to improving product safety and introducing new materials that can increase the shelf life of products. The industry is being stimulated by the population's desire for a healthy lifestyle and the desire for convenience of consumption: packaging and labels must be eye-catching and easy-to-use. It makes the industry grow.'

Stepanischeva also sees a rising interest in the Russian packaging and labeling market in digital technologies. 'To be competitive, brand owners must target smaller and smaller market segments and are in dire need of timely, cost-effective short-run packaging, and this is the area of digital printing. In this case, it proves to be profitable and economically viable.'

Stepanischeva lists more critical trends surfacing on the Russian market: use of packaging materials that provide an increase in the shelf life of products; improvement of packaging and labeling materials; better design to attract younger customers; improvement of transportation and storage systems for packaged goods; and finally personalization, that packages must be equipped with QR codes or other codes that can be easily tracked.

'It should also be noted that we registered an increase in online trade because of the pandemic. The demand for online orders of goods has grown significantly; therefore, increasing the speed of processing orders via the Internet and personalization is an ideal solution. This trend towards general digitalization fits perfectly with the steady growth of digital printing.

'While on the one hand these emerging economic conditions

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Digital labels produced by Russian converter MDM Flex for a craft brewery

"Only 16 percent of Russian consumers consider sustainable packaging as an important factor when making purchasing decisions"

provide manufacturers of packaging materials and products with specific new opportunities, on the other hand it requires significant optimization of their activities.'

CCL's Marat Batyrkaev notes that smaller runs have been the primary trend for the past few years. 'At some point in time, everyone was concerned just about the price being as cheap as possible, while today the trend has changed towards more sophisticated decoration technologies. Overall, the labeling market is growing but at the level of 5-7 percent annually. Of course, in the future the market might be significantly influenced by the government's regulation on packaging recycling and not by what's best for pressure-sensitive label production.'

Recycling

Manufacturers throughout Russia want to boost their production capacities. When they do this, they must abide by the legal regulations for recycling. There's a set quota of recycling for certain types of packaging. In 2020, 45 percent of corrugated cardboard was targeted for recycling. For wood, cork, cardboard, paper and aluminum-based packaging this rate will be 20 percent and 30 percent for both glass and metal.

The planned environmental taxes for paper and cardboard packaging amount to 3055 Rubles (almost 40 EUR) per ton, but these have been delayed due to constant protests. Consumers are also increasingly refusing to buy single-use packaging made of plastic. One customer in four takes their own bag to the supermarket, for example.

But the Russian packaging industry has a long way to go to meet these emerging demands for package recycling. While in the European Union 42 percent of plastic was recycled in 2018, in Russia this number reaches only 10 percent.

In addition, one should not exaggerate the push coming from consumers. 'Only 16 percent of Russian consumers consider sustainable packaging as an important factor when making purchasing decisions,' comments Mila Novichenkova, marketing director at Ipsos Russia. Speaking at a recent webinar, she said: 'It might seem like a low percentage, but the young generations are now born ecologically responsible, and the sustainability angle is very important to them. However, mass consumerism relies on manufacturers to take responsibility for sustainability.' In the majority of cases, products in smart, expensive packaging end up at the same landfill as cheap plastics. Nevertheless, the impact of European companies on the Russian market is significant. For instance, in 2020 Tetra Pak and Valio launched the first eco-packaged milk product in Russia.

Honest revolution

Russia is currently undergoing a real consumer revolution. By the Decree No. 1957 of the Government of the Russian Federation, approved on December 31, 2019, the labeling of certain products with Data Matrix codes (QR codes) has become mandatory since October 1, 2020. From now on, all products manufactured or imported into Russia must be registered in the Chestny Znak (Honest Sign) system, and their packaging must contain a QR code. Upon recognizing the Data Matrix code by the Chestny Znak application, the buyer obtains all necessary data on the product, including information about declarations and certificates issued for these products.

The main objective is to guarantee the authenticity and declared quality of goods being purchased by customers. Phased implementation began in 2019 and is due to conclude in 2024. The regulations are stringent; consequences of non-compliance are harsh, including exclusion from Russia's market or heavy fines.

'This initiative allegedly aims to improve the traceability of goods from production site to point of sale and the government would like to collect more taxes,' says Marat Batyrkaev. 'However, we don't think there's a huge counterfeit market of undocumented goods for the program to eradicate. Currently, the Chestny Znak track and trace system doesn't work as intended. All printing houses and consumer goods manufacturers are working in "test mode".'

Adds Aksenov, 'Obviously, the Chestny Znak system will help combat unlicensed products and protect the customer from counterfeiting. And the system allows you to control customs payments and is attractive from the point of view of tax collection. On the other hand, several manufacturers are negatively disposed towards it because it requires additional permits for manufactured products and the performance of certain procedures, which entails additional costs. This will impact small businesses.'

Many businesses approached by L&L preferred not to speak about this subject at all; some gave insights but wished to remain anonymous. Several problems surfaced from our conversations. The main ones seem to be a lack of clear guidance both for brand owners and converters, followed by the question of who should bear the implementation cost. Converters also noted that despite the government's claims, there is no straightforward turnkey technology they can turn to comply with the new legislation. Several data matrix service providers have come and gone, and the burden of marking products seems to be pushed onto printers.

Contact pwnuk@labelsandlabeling.com to continue the conversation about the Russian market

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Sustainable label production

Eticod is one of the most modern printers in Poland, heavily investing in new machines, expanding its offering and minimizing carbon footprint. Piotr Wnuk reports

perating for over 27 years, Eticod has grown into a leading producer of self-adhesive labels with a highly diversified portfolio that includes labels printed on foil, paper, structured materials and – in an award-winning project – wood.

"I was born into labels. My first toys were rolls of thermal transfer labels"

Alongside two digital presses, today the company operates half a dozen flexo presses with a total of 46 printing stations allowing its team of 130 employees to quickly produce and develop complex projects.

Thanks to its advanced technology, Eticod can print multicolored labels with various Pantone colors, varnishes, laminates as well as other refinements, and complex multi-layer labels such as peel-off or booklet. Eticod exports around 35 percent of its production, supplying some of the largest food and beverage, cosmetics, pharmaceutical and automotive brands in Europe, and even further afield to places like the Dominican Republic, Taiwan and Nigeria.

The company was established in 1994 by Jacek Huć and his wife Iwona, who began by running a franchise of German packaging powerhouse Etimark. The company grew rapidly and so after a few years the owners decided to break away in order to focus on their own products, rebranding the business as Eticod.

'I remember when my dad started the business back in the 1990s, we had one printing press and the company office comprised one desk in a little room,' recalls Aron Huć, son of Jacek, who helps run the business. 'I was a few years old at the time and I didn't quite comprehend it, but the truth is, I was born into labels. My first toys were rolls of thermal transfer labels.

'At the beginning, we focused mainly on Void labels, and at the end of the 1990s we were supplying all mobile phone networks in the country with tamper-evident labels. We sealed the first mobile phones that entered the market. I also played an important part in this process: as a child, I

Eticod was the first printer in Poland to invest in UV LED technology, adding it to its 10-color Bobst M5 430 press

remember how many seals I got unstuck; I was the first Eticod tester.'

The first color label came out of Eticod's production line about 15 years ago. It was an order for the first Polish mobile phone network.

'Today, it might not sound so special, but back then, it was really something,' he continues. 'We were slowly learning our trade and my dad and I ran the entire company. We printed various labels for industrial and technical applications, and were often challenged by the tricky choice of special adhesives and primers.

'We had to think about how a given type of glue would behave on a particular surface, how to make it stick in difficult conditions, or how to make it detach in such situations. There was a lot of thinking – but that's how our know-how was attained. Such knowledge can only be gained by years of experience.'

Entering digital

In the past, Eticod used only flexo to satisfy demand for medium and high-volume production. However, when an increasing number of its customers began ordering smaller quantities of labels, but more frequently, Eticod decided it was the right time to invest in digital print technology to meet this short-run demand.

'The market forced some changes on us. For a long time, we were considering completing the machine park with digital technology,' notes Aron Huć. 'However, our main concern was print quality. It was still a new technology deviating from flexo. Only HP Indigo presses convinced us it was time to invest in the digital revolution.'

The company, persuaded by the high-quality performance of HP Indigo technology, installed its first 6800 series digital press in 2017. This investment opened a wide range of possibilities. As a result, Eticod was able to tap into new trends such as personalization and increased its ability to print thousands of unique labels for its customers.

'Our satisfaction with the HP device is proven by our recent purchase of a second HP Indigo machine, and who knows – maybe we'll buy a third soon,' says Aron Huć. 'Digital printing provides many possibilities and complements our flexographic offer. Thanks to the use of HP presses, we can personalize printing in terms of text and graphics. We can print several thousand labels, each of which will be unique. An important feature that distinguishes HP is the ability to print on different substrates.'

Eticod quickly adapted printing on a wide range of substrates and took full advantage of this feature. As a result, the company won the overall EMEA Labels category at the Dscoop EMEA event in 2018 for its OX Ris Labels on Wood campaign. The labels were printed on Fasson cherry wood on an HP Indigo press to complement the oak-infused beer. In addition, the varied structure of the substrate made each of the

Expanded facilities were built five years ago to be as eco-friendly as possible

Eticod installed its first HP Indigo 6800 series digital press in 2017

"HP Global has confirmed that Eticod is the only label producer in the world not using chillers when printing on Indigo machines"

1,500 labels unique in appearance.

'We received the international INKSpiration award for labels printed on wood. We were one of the first printing houses in the world to print labels on such a unique material,' says Aron Huć proudly. 'We have extensive experience in this field now, with many unique labels in our portfolio. Thanks to the investment in HP Indigo machines, we're constantly expanding the area of our activities.'

Sustainable label printing

Since its inception, the company's founders have been heavily focused on the sustainable production of labels and minimizing carbon emissions. So, when five years ago the company outgrew its headquarters and began constructing expanded facilities, the founders saw it as an opportunity to ensure the new building was as eco-friendly as possible.

'We used an innovative heat exchange system when building the new production facility,' says Aron Huć. 'We made several surface drills under the factory, totaling around 2,500 meters. We installed several heat exchangers and covered the roofs with photovoltaic panels. HP Global has officially confirmed that Eticod is the only label producer in the world not using chillers when printing on Indigo machines.'

Currently, Eticod runs six modern flexo presses and two digital HP Indigo printing machines. However, what you will not find at Eticod are chillers. Instead, the water is naturally cooled in the earth, fed into the highly efficient water supply of the factory, and thus used to cool the presses and the building during the summer.

To further reduce CO2 emissions and make production even more efficient, Eticod has decided to invest in UV LED technology for its 10-color Bobst M5 430, becoming the first printer in Poland to install UV LED technology on its production line. As a result, the machine consumes approximately 60 percent less electricity, which corresponds to an annual saving of around 50 kWh, translating into 200 tons of CO2.

'Phoseon UV LED ensures constant and efficient curing on all colors and at all speeds. The fact that we do not need any replacement lamps or any other spare parts, as well as the longevity of the Phoseon UV LED lamps with an achievable lifetime of over 60,000 operating hours, give us security and predictability in our production,' says Aron Huć. 'UV LED lamps do not emit any ozone, which means no extraction system had to be installed. Therefore, UV LED is not only good for the environment, but it also has a very positive effect on the finances, sustainability, and health and safety of our company.'

Health crisis turns into bright future

In 2020, the world was hit by one of the most unexpected health crises in years. As Covid-19 was spreading worldwide, businesses were faced with challenges on an unknown scale.

'We were quite scared. We feared the unknown, like many other companies in the world, I suppose,' recalls Aron Huć. 'We didn't know what was going to happen, how long it was going to take or how the health crisis was going to affect the entire supply chain. We only had questions, but we couldn't find answers.'

With the fear of the unknown also came the fear about the availability of materials. Eticod's clients were quick to react to mitigate possible supply chain disruption. The printer has quickly filled its order books from customers purchasing an unusually high stock of labels to accommodate future delays.

'Almost instantly, we saw price hikes and longer delivery dates for the vast majority of materials. It was a typical avalanche effect. Printing houses, including ourselves, were ordering large quantities of ink, substrates and other materials. The first weeks were tough, however, March 2020 was our record month to date,' declares Aron Huć. 'It all slowed down, and the situation normalized itself in the summer, and then at the end of the year, we recorded another hectic period, which exceeded all our expectations. October, November and December were even better than March.'

Overall, Eticod finished 2020 with a 20 percent increase in turnover, exceeding its best year to date. In addition, the company expanded its team by 30 people, installed six additional pieces of equipment, and began development of its ERP system.

'We're going from strength to strength. We are going to keep developing the business and investing in innovative technologies. My parents are still managing the company. We're a typical family business, so as a worthy son I'm stepping up my game and taking some of the responsibilities off my parents' hands, but we are all working together. We are all involved in writing Eticod's history,' concludes Aron Huć.

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Label Tech modernizes manufacturing processes

The installation of a Label Traxx MIS has 'transformed' how the Irish converter uses data. James Quirk reports

anufacturing can be challenging for lots of reasons,' says James Costello, managing director at Label Tech, based in Dublin, Ireland. 'Label Traxx takes the guesswork out of what we do, and simplifies the challenges that need to be overcome.' Label Tech is the largest privately held label manufacturing business in Ireland. Launched in 1992, it supplies prominent international food and beverage, health and beauty, nutrition, retail and logistics brands with self-adhesive labels.

Label Tech uses Label Traxx print production management software, designed to support the specific nuances of label manufacturing, to make its converting business more efficient. The software brings more visibility to everyday processes and streamlines label production workflow.'We wouldn't have been able to grow the business in the way we have, or be able to service our customers in the way we do today without Label Traxx,' adds Costello. 'And it's quite a simple tool to use.'

Prior to installing Label Traxx, the converter used a homegrown MIS system that wasn't developed for label production, behaved clunkily and was outdated. Print production software was always something under review for investment and improvement.

'Label Traxx has transformed how we manage data, and gives us comfort in managing the business with real, live access to our daily sales and margins, stock usages, shipped orders, and so much more,' says Costello. 'The correct data at the right time makes such a positive impact in how we run our business.'

Crucial production workflow management

The system commands strong data collection at the earliest stage with estimating. The more information included in an estimate, the better. Quality input is key to quality output. Once the estimate is loaded into the system, it takes only seconds to move from an estimate into a sales order and job ticket.

Label Traxx connects to Esko Automation Engine with a JDF link to create artwork files based on how the labels will be manufactured from the die record and unwind position. The enhancement also produces the step and repeat needed for flexographic plates or print files for the digital presses. Approval status is communicated in the product section of Label Traxx with the status options of out for approval, approved or edits required.

Every order is tracked, giving high level visibility to converted work, jobs outstanding and what's left in queue for the next shift. The software is installed at each press – two HP digital, and three Mark Andy flexo – along with a vendor encoder wheel to log details for each job, including run speeds, time spent on press, changeover and uptime, material usage and issues, if any.

The MIS provides traceability to the master roll when a single master is used on multiple jobs. This real-time raw material consumption data improves inventory accuracy with minimal personnel intervention.

Label Traxx software is directly connected to the systems of raw material suppliers Avery Dennison and UPM Raflatac for streamlined order placement. When material rolls and other supplies are delivered, they are scanned and received into the converter's database. From that point on, when Label Tech moves rollstock through the plant, the inventory is accounted for with iPod

James Costello, MD of Label Tech

"The Label Traxx system uncovers patterns and trends, for example in material overuse or waste on a job, so we can review the challenges that occurred, address them, and plan more efficiently in the future"

100 percent automated scheduling

Batched is an automated scheduling tool for label printers. It sequences job tickets using an advanced algorithm resulting in the best job, on the best machine, at the best time. Batched connects directly to Label Traxx, using data to create efficiencies that add up to savings in time and money.

'It's an impossible task for a human to consider all the variables necessary to produce on optimized production schedule in real time, that balances customer requirements,' explains Label Traxx MIS president Ken Meinhardt. 'Our collaboration with Batched gives our customers cutting-edge technology to generate an automated and optimized schedule.'

Using Batched, a label converter establishes a set of rules and priorities to tailor the program to the specific manufacturing environment. The converter customizes the machine and labor availability and Batched generates a real time production schedule for each order and machine based on user's priorities. Once the rules are established, generating the complete schedule is automated.

Batched also includes advanced reports providing insight into capacity planning, real-time order status, key business indicators and more, increasing productivity across all areas of your business.

Irish whiskey labels produced by Label Tech

An AB Graphic Digicon 3 at Label Tech

Covid-19 accelerates digital transformation

When the pandemic hit, Label Tech knew the company needed to streamline its workflow and provide online tools for both employees and customer orders. It didn't want to restrict its customers to only working with them during office hours. As a result the company invested in Siteline for Label Traxx, a web portal which the converter's customers can use to order repeat labels, view product specifications, see order history – and now also to approve proofs – from their mobile device, whenever they want.

'End users want to move at a pace that is convenient for them,' explains Label Traxx business development manager Chris Spooner. 'This means they may want to place orders after hours, check inventory levels from their mobile devices, and approve proofs while they are traveling. You cannot afford to burden your customers with having to communicate directly with your customer service staff to get anything done.'

"Label Traxx's collaboration with Batched gives customers cutting-edge technology to generate an automated and optimized schedule"

scanners. The traceability reduces the time required for locating inventory and for validating stock levels.

Ultimately, once a job is completed, the actual job costs can be effectively compared to estimate assumptions for management and users to quickly confirm gross profit actual. Says Costello: 'The Label Traxx system uncovers patterns and trends, for example in material overuse or waste on a job, so we can review the challenges that occurred, address them, and plan more efficiently in the future. This capability helps us ensure we're very efficient, and can maximize our own potential and output.'

Forward momentum via automation

Label Tech intends to convert its top customers to use Siteline, a web-based order placement module. Siteline allows label customers to place repeat orders, that directly appear as a job ticket, and to track order history and job status. While web-based purchasing is not considered a key strategy to Label Tech's business model, Costello believes the capability is critical to have as a supporting tool and benefit for customers that want to have a closer level of engagement to their label orders. 'Siteline offers an easy interface, is a great tool, and is the way the world is moving towards,' says Costello. 'We found it to be very helpful during the pandemic.'

Label Tech will soon automate its scheduling process using the optimization approach to planning with Label Traxx's integration to Batched. Users set rules, and Batched uses an advanced algorithm to tailor planning that's best for the prescribed priorities. The entire schedule generation becomes wholly automated. The converter expects this automation advancement to directly improve profitability with cost and time savings, and increased throughput.

Eventually the converter will have Siteline tie-in directly with production planning, extending its workflow automation to the point where a customer can obtain an immediate order confirmation and shipping date as a standard. The new Siteline artwork approval development will simplify the complexities of artwork approval with a full audit log of amendments cutting out lead time to getting on-press.

'The automation Label Traxx brings to improve the efficiency of our business is impressive,' says Costello. 'Today, expectations are such that as buyers, we expect immediate confirmation on our orders. By adopting these automation tools, the software will immediately classify details of the job, determine how long it will take to produce against the capacity and schedule of our equipment, and calculate when it will be delivered. Time gets brought forward. It's fantastic.'

As a part of moving into a fully streamlined digital workflow, Label Tech will shift away from paper job tickets to digital job tickets including all instructions for operators and team members to complete jobs and pack-out orders according to customer specifications. 'With Label Traxx, we are constantly reducing steps in the process to be more productive in our business and to make us more competitive,' continues Costello. 'There's so much there in the data and the developments keep coming.'

For more information, see labeltech.ie and labeltraxx.com

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Grafotronic's ambitious plans

International expansion, new technology and high-level recruitment – Grafotronic means business. Piotr Wnuk joined its recent virtual event

n January this year, Grafotronic appointed three new staff members who boast a combined 60 years of industry experience (see boxout). Three months later it opened a sales office in Italy, less than a year after setting up a demo facility in Thailand. The company has been busy.

'At Grafotronic, we strongly believe in and invest in innovation, and that's reflected in everything we do: from our unique modular and future-proof concept to our new features and market-leading connected services,' said Morten Toksværd, Grafotronic's new business development director, opening its recent virtual event.

Toksværd might be new at Grafotronic, but he is well known in the industry. He joined in January from GM, where he was responsible for global sales and marketing. He has over 20 years of experience working in manufacturing and graphics, including stints at Konica Minolta and Canon. At Grafotronic he's responsible for the global expansion of the company's connected digital finishing technology.

When Toksværd joined the company, Mattias Malmqvist, vice president of Grafotronic, didn't hide his excitement: 'To drive the market development of Grafotronic, we needed someone with a proven track record of success in professional equipment and services around digital label production technologies. We're excited to have Morten on board, and I'm sure that he'll be a great asset to both new and existing customers.'

Grafotronic is a Swedish/Polish company founded in 2004, with sales and service centers in Chicago, Illinois, for the North and South American markets, Brescia, Italy and Bangkok, Thailand, for the Southeast Asian markets.

Opened in 2015, the company's 2,600 sqm factory in Warsaw houses some 110 employees. Grafotronic has supplied more than 900 machines to companies in more than 60 countries around the world. Last year alone around 100 machines left the factory floor, and the company is hinting at further extension of its Polish facility to double the size of production and R&D space. This will be the third expansion in five years.

Such growth is indicative of the path Grafotronic now finds itself on, having decided in 2015 to redesign its machinery and processes to become a lean and efficient supplier of finishing equipment largely for the digital printing market. Its machines are now fully modular and automated, with short set-up times and high productivity at their core.

'Redesigning the platform in 2015 gave us the perfect opportunity to create the most versatile and future-proof platform in the industry,' remarks Toksværd. 'So that's exactly what we did. Grafotronic's portfolio is now a unique offering of three different concepts: compact SCF, semi-compact CF2 and fully modular flagship concept DCL2.'

Innovator

According to Toksværd, the company believes that being connected is the future, and it insists on being an innovator. 'For Grafotronic, being innovative is in our company DNA. It's our approach in all we do and how we evaluate ourselves, our products and our services,' adds Toksværd. 'We already have a modern company culture, the foundation of it all. The best examples of how we change the world of digital finishing are our groundbreaking innovations. Our semi-rotary die unit is the heart of our machines, and we are very proud of our unique designs. Grafotronic has the fastest system

With Grafotronic Connected, the company's headquarters in Warsaw can monitor all its customers' machines in real-time

"Last year alone around 100 machines left the factory floor, and the company is hinting at further extension of its Polish facility. This will be the third expansion in five years"

in the world, named Gigafast, where we can go up to 200m/min, which is an extreme speed and an incredible advantage for longer jobs. Gigafast is a genuine showcase, demonstrating the heavy duty and solid design of the Grafotronic machines.'

For converters who don't need Gigafast's speeds, Grafotronic is working on a new system that can match the faster inkjet presses but still features short set-up times and low waste.

'As we speak, we're finishing our 120m/min die-cutting system, which will be a game changer,' notes Toksværd. 'The system has some important features beside the speed, of course, such as unique design for an almost no-waste set up, where a trained operator can set up with 30cm waste. With Grafotronic's Compensation System, a converter will be able to use the existing flexible dies and still reach speeds of over 100m/min.'

Another example of Grafotronic's innovative approach is the flexible die loading system with no need for a camera. A magnetic cylinder is set into position and when the new die is loaded it finds its place automatically. When the job is finished the flexible die simply slides out.

'Slitting is also a very important part of the production process and one of the most time consuming during the job change. For some years now, there have been several automatic systems available on the market, but all have limitations. We decided to improve upon them. One of our latest innovations, Sci-Fi Knives, is the fastest automatic knife positioning system in the world. The knives require only 1.5 seconds each to fix into position and

Grafotronic's flagship modular converting system, DCL2

"The Connected+ app collects an extensive amount of production data, such as waste, uptime, daily production and other job statistics"

can slit labels up to 15mm wide. This is the only system on the market offering this combination. The system can even be operated with a sensor that automatically reads the gaps and then sets the knives,' says Toksværd.

Modular and connected

In 2015, Grafotronic redesigned all its machines and developed a 100 percent modular concept. Each module is completely independent of the others. A new module can be installed in an existing machine, onsite, in less than eight hours, giving converters freedom to combine new modules and change or add new functions at any time.

'It's the only 100 percent future-proof machine on the market,' says Toksværd. 'It's fully modular, which means each module has its own tension control and is therefore 100 percent independent. The standard configuration can include large unwind, flower style flexo printing, lamination, semi-rotary die-cut, full contact matrix removal, on-stop buffer, Sci-Fi knives and semi-automatic turret. The DCL can be standalone, as part of a hybrid setup or in-line with any other digital presses available on the market today. The versatility of this machine is second to none. The most advanced machine we have built so far consisted of 11 different modules.

The company offers an extensive portfolio of modules covering different end-user sectors such as food, pharma and cosmetics; different labeling formats such as multilayer and booklet labels; as well as turrets, lasers and numerous automation modules. In the future, all these modules, including hot-foil, embossing and screen printing will be added onsite in one working day. 'Modular has been a mantra in this industry for a long time. But when we say modular, we mean modular for the customer. And not only when owning the machine, but onsite in the future and that's what we call future-safe,' adds Toksværd.

In November 2020, Grafotronic released a new system to increase productivity and efficiency for its customers. With Grafotronic Connected, the company's headquarters in Warsaw can monitor all its customers' machines in real-time.

'We can detect any abnormality in machine functions and can act long before something happens,' says Hubert Stasiński, head

of service at Grafotronic. 'Our service team can take immediate action and guarantee efficient production for our customers. The main idea is that our customers should be in safe hands. We take care of the machine, and they can focus on their business which is label printing.'

Another new feature is the Connected+ application, taking data management to another level. Production managers can find bottlenecks that decrease output from the machines. The application collects data from all Grafotronic machines in the plant, measuring waste, uptime, daily production, overall equipment efficiency and other job statistics.

'With the Grafotronic Connected service we keep track of all our customers in a cloud-based MIS system with a logbook of all machines,' adds Toksværd. 'This allows us to support our customers with various online services. The Connected+ app collects an extensive amount of production data. Supplying this data to our customers means that they're in full control of their performance and can fine tune their workflow. They have all the information they need to excel in their production and boost productivity.'

The company is planning to focus strongly on its embellishment products. 'We have hired Luca Goldoni [formerly of Cartes] to drive our wine and cosmetics embellishment technologies. Right after the summer holidays, we are launching a new platform with a series of new screen and hot foil modules,' says Toksværd. 'We have invested significant R&D resources in developing the software driving the Lasx module, which is fully integrated with our Sci-Fi Laser series. This provides our customers with seamless workflow integration, highly automated production hand in hand with market-leading production speeds. Together with the coming patented Edgeless technology, Grafotronic is taking the laser die-cutting driver seat.'

Thanks to its Connected services, Grafotronic can currently solve 19 out of 20 service cases online. To take the technology even further, the company will use it to maximize customers' productivity and uptime, with online preventive services combined with data-driven capacity analysis.

'We strongly believe that being connected – that's both people and machines – is the future. We insist on being the innovators of this industry and being on the forefront with cutting-edge technology,' concludes Toksværd.

Timeline of recent developments

- May 2020: Grafotronic opens office and demo facility in Bangkok.
- November 2020: Launch of Grafotronic Connected.
- January 2021: Mat Jones, who has 30 years' of experience with Gidue, Bobst, IST and more, is appointed regional sales manager for the US Midwest.
- January 2021: Luca Goldoni joins from Cartes as product and key account manager responsible for the global expansion of its embellishment technologies. He brings more than ten years of experience in the field.
- January 2021: Morten Toksværd joins as business development director, responsible for the global expansion of its connected digital finishing technology.
- April 2021: Grafotronic establishes an office in Brescia, Italy.

For more information, go to www.grafotronic.se

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Workforce development: industry training

Recruiting qualified talent to the label industry is a global problem. Jordan Hart investigates how the US and Europe are attempting to resolve the issue

n the United States, there are nearly 15,000 available jobs for flexo press operators, more than 21,000 jobs for digital pre-press operators, and more than 13,000 jobs for offset press operators, according to career resource site Zippia. Overall, that is approximately 50,000 printing industry jobs available in the US alone – globally, thousands more are waiting to be filled. The big issue is that there are not enough qualified employees to fill those roles.

Regardless of location, workforce development is one of the largest problems facing the printing industry. While no one has a silver bullet on solving the issue, each region has multiple efforts underway to recruit and train new, younger workers. From corporate efforts, education offerings and association initiatives, L&L looks at how several regions are attempting to solve their recruitment problems.

Europe

Before looking at country-specific efforts, L&L interviewed Finat, the European association for the self-adhesive label industry, to discuss the efforts they and their nearly 300 members are making in the region. While Finat has the Young Professionals Network, the YPN is intended to develop talent already in the industry. In terms of recruitment, Finat created the #Labelicious competition to engage young talent aged 18-25 and make them aware of the opportunities within labels. This competition was created to address a key problem in the industry in terms of young people. 'They cannot reach us very well, and we cannot reach them very well,' says Finat. 'On an aggregated industry level, there are currently no existing infrastructures and networks where young talent, education and the industry actors connect.'

The goal of the competition was to increase awareness and to build stronger relationships with educational institutions in Europe. Finat utilized a targeted social media effort to reach their ideal demographic.

Finat's efforts reflect its members' concerns. 'In our Finat Radar reports, the recruitment and retention of young talent is listed among the top three challenges for business leaders,' says Jules Lejeune, managing director of Finat. 'Some label printers are addressing this by recruiting and retraining printers from the declining commercial printing sector, others are collaborating with local schools and universities by integrating internships into graduate programs, or setting up dual learning programs whereby students spend part of their time at school, and the other part in the company.'

Finat members' efforts to recruit talent differ from country to

country. 'In countries like Germany, for instance, the vocational education system of apprentice to assistant to master is strongly embedded in the country's tradition as a manufacturing industry,' says Lejeune. 'In other countries, the infrastructure is more dependent on private and sectoral initiatives. Finally, it should not be forgotten that the decline in commercial printing has also led to a decline in education facilities, as some printing education programs have been shut down.'

However, the biggest problem may not be training at all. 'The biggest challenge, I believe, is about awareness and image,' he continues. 'The younger generation entering the labor market aim to make a difference and aspects like purpose, an inspirational work environment and digitalization are of key importance. In this arena, our industry is competing with other, IT-driven industries that often did not even exist 20 years ago. Although the label industry has proven to be at the forefront of innovation and digitalization in the wider package

printing space, its image is sometimes incorrectly associated with outdated, less sustainable manufacturing sectors.'

Former Finat president Chris Ellison adds: 'Education will only do so much. It is our responsibility as an industry to promote clearly and consistently to the outside world the longer term benefits of a career in labels and packaging – no one will do it for us as all industries and sectors are competing now for the same shrinking pool of great talent.'

Germany

Germany is best known for its apprenticeship programs, which produce well-trained and ready-to-work employees. According to Inside Higher Ed, 'What makes the apprenticeship model so effective is a mix of classroom instruction at a high school, college or university with on-the-job training. That combination is invaluable in a rapidly changing industrial community where extremely specific skill sets are required.'

Aside from apprenticeships, within Germany there are opportunities both at universities and from companies to gain an education in the print industry. In Stuttgart, Hochschule der Medien Stuttgart offers a bachelor of engineering in print media technologies. According to the university, this program is 'the first and only international undergraduate program in engineering dedicated to media'. It boasts a placement rate of 100 percent – showing that there is clearly a market for young, trained print professionals.

Individual companies also offer training options to grow and equip the print workforce. Heidelberg offers training in-house and online for sheet-fed offset (basics, performance, and specialty) and has an international training program for its new employees. This program offers young people training or dual study courses in Germany at one of Heidelberg's four locations within the country. The largest training site is in Wiesloch-Walldorf.

As of 2019, 'Heidelberg currently employs a total of around 340 trainees and students

PMMI Foundation

PMMI Foundation, part of the Association for Packaging and Processing Technologies, is one of many companies helping to fund industry training by offering scholarships to students pursuing printing. Each year it provides over 200,000 USD in scholarships to students looking to have a career in packaging. In June of 2021, PMMI awarded 15 students with

5,000 USD scholarships as part of the PMMI Member Family

"There are currently no existing infrastructures and networks where young talent, education and the industry actors connect"

"It is our responsibility as an industry to promote clearly and consistently to the outside world the longer term benefits of a career in labels and packaging"

at its Wiesloch-Walldorf, Brandenburg, Amstetten, and Ludwigsburg sites,' says the company. 'On account of the company's demographics, almost all graduating trainees are being offered employment.'

England

Within the UK, some educators and companies are attempting to reproduce Germany's apprenticeship program. British Printing Industries Federation (BPIF) offers a dedicated print technician apprenticeship, with focuses on pre-press, press and post-press. The apprenticeship program is focused on training each apprentice for the occupation, rather than just ticking the box of the qualification.

Additionally, UK-based Peter Scott Printers has started an apprenticeship scheme in cooperation with North Lancs Training Group to train up the next generation of printing professionals in digital and litho printing, finishing, cutting, foil blocking and embossing.

According to North Lancs Training Group, 75 percent of apprentice employers say it has helped them cut recruitment costs and 89 percent of apprentice employers say the apprentices make their business more productive.

Joanne Hindley, commercial director of Peter Scott Printers, says: 'Starting an apprenticeship program made a lot of sense. This way we can train up a new member of staff with the precise skills we need. It's great for the apprentice too because they come away with a brand-new career path ahead of them.'

Scotland

Scottish trade association Print Scotland is

also looking to apprenticeships as a lifeline for the approaching workforce succession gap. Scotland's printing sector employs 6,000 people, with participants including small-scale digital businesses and whisky label printers. Experts have warned that the industry will face a succession gap as soon as 2030. Print Scotland wants to see that gap closed by increasing modern apprenticeship opportunities for members – those in the manufacturing side of the print industry - and associate members, which supply the manufacturers.

Garry Richmond, Print Scotland director, says: 'With all the changes in technology, print has been seen as something of a sunset industry. But nothing could be further from the truth. Print is just another communication platform and a highly effective one, and we aim to help our members with apprentice recruitment, a cogent voice in the corridors of power, genuine cost saving benefits, professional guidance on compliance with legislation and much more."

USA

TLMI, the North American association for the tag and label industry, sees the biggest workforce development issue as one of awareness - not just of the print industry as a whole, but specifically the label segment. TLMI offers a scholarship program for students going into the printing industry, but even those students lack awareness of what labels and packaging can offer.

Lauren Walsh, director of operations at TLMI, explains: 'One of the challenges we face with our scholarship program is we get a lot of graphics communication students, and they don't end up in the label industry. They go on to work in print, but not necessarily in labels.'

To increase label industry awareness from an early age, TLMI has developed a program to bring into middle schools and early high schools. They created a custom label – all of the time, labor, and materials for which were donated by TLMI members - that students will be able to scan with a smartphone and the QR code will bring them to a label careers landing page, which is still being developed. TLMI is creating a presentation to coincide with that label, as well as a virtual classroom option for remote learning.

'With this label and presentation we designed, we are looking to do community outreach into schools - that would be middle school or early high school age. The webpage we are creating we want to be a good resource for students, teachers, guidance counselors, or any educator trying to help kids figure out their careers,' says Walsh.

Walsh explains that there is a lack of awareness of how exciting labels can be and the different jobs and nuances within the industry. 'We took that into account when the workforce label was designed. It has all the bells and whistles and there is a bit of something for everyone,' she explains. TLMI is aware that this label education program alone will not solve the workforce development issue and is looking into diversifying how it uses its resources to impact the workforce effort.

Apprenticeships

While apprenticeships are not as common in the US, Dallas-based Koenig & Bauer (US) and Texas State Technical College (TSTC) have tried to establish more printing apprenticeships. Koenig & Bauer (US) collaborated with its parent company's training and HR departments in Germany, along with TSTC, to establish a technician apprenticeship program and recruit qualified students.

Ericka Luneau, Koenig & Bauer (US) human resource director, explains: 'When we speak to college students, we emphasize that we are offering a long-term fulfilling career, not simply a job. This is a huge unique opportunity that they might have never considered before.'

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"It's

important to realize you cannot just hand off equipment and software, you need to work with faculty and mentor the students to let them know they are going in the right path"

However, to qualify for the program, applicants must already have a two-year related technical degree. Considering a key issue in the industry is awareness, that excludes people who are looking to enter the industry with no prior knowledge. After qualifying, the 18-month program encompasses field training with mentors in the US, classes at the German Apprenticeship School located near Dresden, German language classes, work experience in its assembly hall at the factory, and specialized training in its training center.

Apprentices are paid a salary and given a housing and transportation allowance while living in Germany. They will live and train in Germany for a period of up to one year with intermittent field training in the US. Upon completion of the program, an apprentice will resume a service technician position in the field in the US.

University programs

Perhaps one of the most well-established printing programs in the US is at Clemson University in South Carolina. According to Clemson, 'The Bachelor of Science degree in Graphic Communications prepares students for professional careers in printing, publishing, packaging graphics, digital media, content creation, and the greater communication industry.' Their courses cover all major printing process and include two internships. They require students choose a specialty area of study 'to develop in-depth knowledge and skills in specific areas of graphic communications'. In terms of its machinery, Clemson has pre-press and platemaking services as well as actual on-press testing. Additionally, Clemson has corrugated printing and narrow web flexo.

For those looking for a shorter program than the four-year degree at Clemson, technical colleges are a good option. Some technical schools offer pre-press, flexo, digital and offset litho printing facilities. However, for many of these schools the problem is not the lack of equipment, but the lack of students. Enrollment has been a struggle, and the pandemic brought enrollment numbers into an even steeper decline. Soon technical colleges and students looking for training may face a Catch-22 where they don't have anywhere to receive training because too few students want to pursue training for the facilities to stay open.

University and corporate collaboration

To support education facilities, many companies partner with universities. Esko has partnered with Indiana State University to support ISU's packaging engineering students. Esko gifted ISU millions of dollars worth of package engineering software to be distributed over the next three years; the company has now supported ISU's program for two decades. This program has proved to be successful, as ISU can boast a 100 percent job placement rate for its students after graduation from the packaging engineering program.

Melissa Plemen, Esko senior director of inside sales and marketing, comments: 'As technological advances lead to changes within the sector, it's vitally important that the industry supports the education and training of young people as we drive to develop and inspire the packaging experts of the future. We strongly believe in investing in the future of our industry and have supported schools across the country in this way for a number of years now.'

Dawn Nye, manager of solutions and services marketing at Konica Minolta and winner of the 2020 Girlie Award presented by Girls who Print, is involved with many schools to help them develop a hands-on training program for students. She emphasizes the value of continued support throughout the training process.

Upon receiving her Girlie Award, Nye said: 'It's important to realize you cannot just hand off equipment and software, you need to work with faculty and mentor the students to let them know they are going in the right path. We need to keep rooting for them and cheering them on so they can be successful in this community.'

Awareness, opportunities and support

Ultimately no one country or region has solved the workforce development dilemma. Regardless of location, all people in print can work on education and advocating for a career in print. Converters can outsource training to local trade programs to keep those institutions open and give more students the opportunity to train with a formal print education. Companies can continue to offer scholarship programs for students and staff family members who are going to school for printing or packaging to support their education. With the awareness of the industry, the opportunity to pursue an education in print, and the support to succeed, the workforce gap could close one student at a time.

Read more from Jordan Hart on workforce development at www.labelsandlabeling.com/contributors/jordan-hart

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European label volumes surge as pandemic reshapes industry

This year's Finat European Label Forum (ELF) kicked off with a look at Europe-wide trends in the PS labelstock market and wider trends among European converters. Andy Thomas-Emans reports

Finat managing director Jules Lejeune's regular annual review of the state of the European self-adhesive label market understandably focused on the all-enveloping Covid pandemic.

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Ironically, it is largely as a result of the pandemic that 2020 proved such a bumper year for European labelstock growth, which shot up to 4.3 percent in 2020 against just +1.5 percent year-on-year (YoY) over the previous two years.

Total PS label consumption in 2020 was 7.94 billion sqm, with filmic roll label materials continuing to increase market share and now accounting for over 28 percent of labelstock demand against just 15 percent in 2000.

Another long-term trend is confirmed with the 2020 figures, with eastern Europe now accounting for 24 percent of total European label volume – double the figure in 2003.

Overall, Lejeune pointed out, the European market has more than doubled in size since 2000.

Lejeune noted that the Covid-19 outbreak in March 2020 followed a volatile 2019, which had seen declining growth in both UK & Ireland and central Europe. Q1 2020, before the pandemic really hit, was still positive, showing 6.6 percent YoY growth.

The Covid-19 outbreak from Q2 2020 completely transformed the picture. In the first wave, the label industry was faced with lockdowns, transportation issues, retailers prioritizing essential

goods and setting up 'green' lanes for the cross-border transport industry.

But this was more than matched by a surge in demand for labels in essential sectors including food, personal hygiene, pharma/medical and retail and transport, propelled by a spike in e-commerce and home shopping and panic buying from bricks and mortar retailers. The PS signage industry saw a boom in demand for social distancing signs.

Lejeune said the pandemic amounted to a 'stress test' for the label industry, involving a mixture of raw materials supply issues – sourcing, lead times – end-product delivery issues and staff shortages from enforced quarantine. The end of the first wave saw de-stocking in Q3 which saw label volumes decline.

This whole cycle repeated itself through the second and third waves, the last of which was compounded by raw material price increases and more interruptions to trade and infrastructure.

Turning to regional trends, Lejeune noted that against a European growth average of +4.3 percent (against 1.6 percent in 2019), northern Europe (Scandinavia) was the highest performing region in 2020 with growth of +8.2 percent against +2.3 percent in 2019This

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Annual revenue of surveyed converters

"For the second year in a row, the food segment delivered the highest YoY sales growth to Finat converters, followed by household chemicals, pharmaceuticals and health & beauty care"

was followed by Eastern Europe at +6.9 percent (+4 percent 2019), UK & Ireland at +4.6 percent (-1.5 percent 2019), central Europe at +3.4 percent (-1.3 percent 2019) and southern Europe (Mediterranean) at +2.8 percent (+3.1 percent 2019).

White coated paper saw an increase in volume of +3.3 percent in 2020 as sales of packaged consumer goods surged, while direct thermal grades showed a +5.3 percent increase in 2020, driven by intense demand for product identification and variable data labels for online shopping, logistics, process automation, stock and inventory management.

PP filmic substrates grew at an astonishing +10.8 percent in 2020 due to the general need for high-quality product decoration films, while PE grew at +8.1 percent. Together, white coated and direct thermal papers and PP accounted for 72 percent of label volume, up from 66 percent in 2010 confirming the continued shift to higher-end applications. The Covid pandemic was a major accelerator for all grades except PS sheets, which continued their historic decline as end users continued to shift to automated roll dispensing systems.

Radar survey

Jennifer Dochstader of consultancy LPC then introduced this

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Converters' average sales growth per region in 2020

"PP filmic substrates grew at an astonishing +10.8 percent in 2020 due to the general need for high-quality product decoration films, while PE grew at +8.1 percent"

summer's Radar report, which surveys a selection of Finat converter members.

Trends identified in LPC's 2020 Radar survey largely mirror the PS materials trends seen in the roll label report. Converters in central Europe reported the lowest growth and converters in eastern Europe, Scandinavia and the UK & Ireland reported the highest growth rates compared to 2019.

The highest YoY annual turnover growth was among medium-sized converters with sales between 10 and 50 million EUR. Lowest YoY growth was among the largest participating converters, averaging more than 2 percent lower than the medium-sized group. Year-over-year growth for the smallest converters averaged just below 5 percent. The report's authors suggest this could reflect the disruption in trans-national supply chains which would impact converting groups with operations across multiple countries and regions.

While profitability in the sample converter group was mostly down in 2020 compared to 2019 (4.7 percent to 4.3 percent), Scandinavia and central European converters did manage an increase in YoY profitability.

The most dramatic profitability decline was seen in eastern Europe, where average converter profitability shrunk from 7.8 percent to just 3.7 percent last year. The authors speculate that many of these converters were over-buying consumables to counter any potential collapse in the supply chain. 'With the cost of goods increasing in addition to overhead expenses, converters' profitability results would have certainly been affected and we believe we are seeing this reflected in this year's data,' said Dochstader.

The LPC Radar report also compares the first quarters of 2021 with 2020, showing that growth remained stable at an average 3.6 percent. Scandinavia, central Europe and eastern Europe reported better profitability levels over this period, while in the UK & Ireland converters saw just 1.4 percent sales growth for the first three months of 2021.

Radar surveys have now been tracking converter sales revenue for the last seven years, allowing longer term trends to be evaluated. One interesting finding is that Scandinavian converters in 2020 outperformed all previous seven years. Converters in the Nordic region have historically reported lowest growth in Europe.

End user trends

For the second year in a row, the food segment delivered the highest YoY sales

growth to Finat converters, followed by household chemicals, pharmaceuticals and health & beauty care.

Predictably, the top performers through the pandemic were the food and household chemicals segments as consumers stockpiled printed packaged food goods and antimicrobial cleaning products.

Food sectors closely affiliated with the Hotel-Restaurant-Café (HORECA) space were hit extremely hard at the same time as the printed packaging food sector benefited from consumers shifting from eating out to preparing and eating meals at home. Pharmaceuticals and nutraceuticals sectors also delivered significant growth throughout 2020.

At the lower end of the growth curve were consumer durables and automotive segments, two sectors impacted profoundly by the pandemic. The European Automobile Manufacturers' Association (ACEA) reported a more than 25 percent drop in passenger car registrations in the EU in 2020 compared to 2019.

Nearly one in four responding converters reported that delivery times for consumables are still a major issue, with converters in the UK/ Ireland facing the worse problems.

Capital purchasing intentions 2021-2023

LPC sees an increased interest in equipment procurement over the next two years. One in five respondents say they will purchase either a conventional or digital press in 2021, and 27 percent in 2022.

Unusually, and for the first time in a Radar survey, more converters says they will invest in conventional press technology than digital. Interesting also that 8 percent of surveyed companies will be investing in screen printing equipment in 2021 – not a single respondent mentioned screen in the 2020 Radar survey.

While converters believe 2021 and 2022 will be strong years for press and finishing systems purchases, they expect capital equipment investment to taper off sharply in 2023.

Digital toner-based press investment will outpace inkjet among this year's survey participants, with 34 percent indicating investment in a toner-based press within the next three years and 27 percent inkjet. 'It's also important to note that more than one in four participants in this year's survey indicated that their companies would not purchase a digital press of any kind within the next two to three years,' noted Dochstader.

Finat members can access recordings and presentations from the ELF at www.finat.com

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Label appeal

Consolidation among label converters looks set to continue, according to two expert presentations at Finat's ELF James Quirk reports

Nicholas Mockett of Moorgate Capital

n day two of Finat's ELF, Nicholas Mockett of Moorgate Capital looked at M&A in the label industry, while Norman Bremer of IK Investment Partners, the private equity firm behind the Optimum Group, gave an investor perspective.

"M&A activity among label converters seems set to continue apace"

The value of packaging industry M&A deals fell to 14 billion USD in 2020 from 17 billion USD in 2019 – a 17 percent decline – as a result of the pandemic, said Mockett. In volume terms, deals in 2020 fell by 22 percent, the lowest level since 2003, but the value of the transactions was roughly the same as in 2016. But Mockett pointed out that the retail sector had suffered far more. Here, value of M&A deals has dropped by 49 percent and volume by 42 percent. 'Given these are the customers of the packaging industry, ultimately, packaging did not do too badly,' he said.

In the label and packaging industry, there are two types of acquirer: 'strategics' - private or public companies already operating in the sector; and 'financial sponsors'. Among financial sponsors are traditional private equity houses, who either provide platform investments or conduct bolt-on acquisitions.

In packaging, two thirds of buyers are strategics – 35 percent private and 31 percent public. 'This is not a surprise given that so much of the industry is in private hands,' said Mockett. Private equity add-ons account for 19 percent of deals, and private equity platform investments 15 percent. 'Typically, 8-10 percent of packaging transactions are in the label segment,' said Mockett.

So why the interest in the label sector? Buyers, explained Mockett, are interested in predictability of revenue. He showed the strength of the sector by analyzing revenue since 2008 of Avery Dennison and CCL – the industry's largest supplier and converter listed on North American stock exchanges. Both have shown steady growth, with a slight dip in early 2020 quickly reversed.

Analysis of their share prices showed Avery Dennison outperformed the Nasdaq tech index and CCL outperformed the Dow Jones Industrial Average and S&P 500 indices since the beginning of 2020; and CCL has performed better than all three indices since 2008. 'This shows potential investors that these industries can be a good bet in the long run.'

Acquirers have taken note of the sector's growth. Major strategic acquisitions this year alone have included Mactac buying Duramark Products (previously Ritrama USA); Schur Group merging with Interket Group; and Avery Dennison snapping up JDC Solutions and Acpo. Major recent private equity platform deals include

Norman Bremer of IK Investment Partners

Morgan Stanley Capital Partners acquiring AWT Labels & Packaging in December 2020; Triton investing in All4Labels in 2019; and Platinum Equity taking over Multi-Color Corporation (MCC) and merging it with WS Packaging in the same year. Private equity bolt-on deals include MCC's acquisition of Herrods, Fortis Solutions' of Total Label, and Fort Dearborn's of Hammer Packaging in 2021; Fedrigoni's of Ritrama and IP Venus, Resource Label's of Labels West and McDowell Label, All4Labels' of GPS-Rotomet, and Loparex's of Infiana Group - all in 2020.

So why is private equity so prolific? Part of the answer is 'dry powder' – it is estimated that 1.9 trillion USD of private equity funds has been raised but not yet invested, the equivalent of the GDPs of Norway, Singapore, Switzerland and UAE combined. 'You could say it is a seller's market - that's a lot of money looking for good companies,' said Mockett. In Europe alone, the 'dry powder' figure is 300 billion USD.

'This is a robust and defensive industry, predominantly privately owned and still fragmented,' concluded Mockett. 'Financial sponsors, including private equity, will remain potential buyers and consolidators alongside established strategic acquirers.'

Fragmented

Norman Bremer highlighted the appeal to investors of the label sector, which is still highly fragmented, compared to the general packaging sector, which has already undergone significant consolidation. In the latter, price is the main KPC (key purchasing criteria), while large investment is required and capacity utilization is crucial. Packaging tends to be a commodity product. In labels, however, reliability of service, quality and delivery times are key, and focus is on operating efficiently. Low label costs means limited incentive to switch from high-quality suppliers. Investment appeals to the converters, too. Small and medium sized family businesses need a succession plan. External investment becomes appealing when the next generation doesn't want to run the business.

'And there is an increased awareness of the risk of one-site dependency,' said Bremer. 'If your client is growing, you might not have the room to grow with them. If you are part of a larger group, you mitigate part of that risk.' Increased purchasing power and ability to negotiate with suppliers for consumables and equipment is also a benefit to converters who are part of a larger group.

Despite a brief pandemic-induced dip, M&A activity among label converters seems set to continue apace.

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Embracing a circular economy

One of Finat's six strategic pillars, sustainability, dominated day three of the association's ELF. Piotr Wnuk reports

aja Desgrées-Du Loû, policy officer at the European Commission, began the sustainability day at the Finat ELF with an update on the latest plans for revising the Packaging and Packaging Waste Directive in the context of circular economy initiatives. She explained her views on the future role of packaging in the circular economy model and the European Green Deal in a 24-page document that lays out a radical project to make the EU climate neutral by 2050.

'The new Circular Economy Action Plan focuses on seven key product value chains, among which are packaging and plastics. It calls to ensure that by 2030, all packaging in the European market becomes reusable or recyclable in an economically viable way,' said Desgrées-Du Loû. 'To achieve this, we need to update current essential requirements for packaging and set out conditions that all packaging must meet to gain access to the European market. We also consider other measures on waste prevention, to reduce overpackaging, drive design for recycling and reuse, reduce the complexity of packaging materials, and to introduce EU-wide labeling that facilitates the correct separation of packaging waste.'

The recent revision has provided new packaging recycling targets of 60 percent by 2025, increasing to 70 percent by 2030, and obligated all European Union member states to adopt waste prevention and reuse measures. The European Commission has identified high and persistently growing waste with excessive levels of avoidable packaging and a proportional increase in single-use packaging as critical issues.

'We have also identified several barriers to packaging circularity such as an increased use of packaging design features that inhibit recycling, an increase in compostable plastic packaging that causes contamination, as well as inconsistent and confusing labeling,' added Desgrées-Du Loû. 'Our objectives are tackling the negative impact from packaging on the environment by driving the design for reuse and recyclability, and providing clear and enforceable EU level requirements on the packaging.'

Redirecting liner and matrix waste

Finat is part of the European arm of CELAB, the first global consortium specific to recycling in the self-adhesive labeling industry. Its vision is to create a self-adhesive label that's increasingly circular by offering new technologies and providing education that encourages liner and matric recycling.

'There are 27 companies that now belong to CELAB Europe, with new members joining each month. Every business from the label industry supply chain is invited to collaborate in this project,' said Ophélie Gourdoux, project manager of CELAB Europe and founder of Cairn Consulting. 'Our members are raw material producers, labelstock producers, external value chain partners, label users, label converters and Finat, acting as the legal entity for the initiative.'

CELAB's strategic objectives are to establish a representative self-adhesive label value chain organization, develop

CELAB's study estimated that only 34 percent of the liner in Europe is currently recycled

cost-effective solutions, and utilize the value chain to build scale by finding synergies between different stakeholders to advance recycling.

'Europe is responsible for one-third of the materials generated globally, with around 430 tones being mainly paper-based liner. We estimate reaching around 90 tones in terms of a matrix, with only 70 percent being paper-based. CELAB's study has estimated that only 34 percent of the liner is currently recycled,' added Gourdoux, 'meaning this percentage of the material is kept in the economy. We strive to increase this figure to 75 percent by 2025. We work across different workstreams, creating the information and building a network of collecting and recycling technologies to make this possible.

'We believe that CELAB can bring something different, something additional, by having dedicated teams of people to lead the project, by having the advantage of scale, both globally and on a European level. We enable all stakeholders to collaborate, share knowledge and create synergies to deliver the circular economy for labels in Europe by 2025. We'll provide education and communicate clearly that these materials are recyclable, how and who can collect them, as well as who the recyclers are and where they can be found.'

Increasing sorting and recycling effectiveness

An Vossen of AIM, the European Brands Association, and manager at Plarebel, a non-profit organization which is the

"Our objectives are tackling the negative impact from packaging on the environment by driving design for reuse and recyclability and providing clear and enforceable EU level requirements on the packaging" reference in Belgium for information, advice and guidance on all aspects of circular plastics, circular design and effective recycling, updated the forum audience with recent activities in pioneering waste sorting projects.

HolyGrail 1.0, established in 2016 under the New Plastics Economy program of the Ellen MacArthur Foundation, brought together 29 corporations led by P&G. The initiative investigated new ways to improve post-consumer recycling through more effective sorting of materials.

'During the HolyGrail 1.0 project, we were looking at digital watermarks and digital tracers. Based on the results of this pioneering project, we concluded that digital watermarks were the most promising technology,' said Vossen. 'At the end of this project, we were presented with a proof of concept by having a small-scale test sorting line.'

Digital watermark technology developed by US-based Digimarc won support from stakeholders and was ultimately chosen among innovations to improve post-consumer recycling. This technology provides imperceptible codes, the size of a postage stamp, covering the surface of consumer goods packaging. In addition, they can carry a wide range of information such as manufacturer, SKU, whether it's come into contact with food, type of plastic used, and composition for multilayer objects.

Once the packaging enters a waste-sorting facility, the digital watermark can be detected and decoded by a standard high-resolution camera on the sorting line, which then, based on the transferred attributes, can sort the packaging into corresponding streams. This results in better and more accurate sorting streams and high-quality recyclates, benefiting the complete packaging value chain.

In September 2020, under the patronage of AIM, over 85 organizations from the packaging value chain joined together to initiate the next phase of the project – HolyGrail 2.0. The leadership team, which includes Procter & Gamble, Nestlé, PepsiCo and Danone, focused on the ambitious goal of assessing whether a pioneering digital watermark technology can enable better sorting and higher-quality recycling rates for packaging in the EU.

'The next phase of this project is to take the proof of concept into a fully commercial setting. It's a significant step if we will want to build on this technology in the future. The watermark technology opens new possibilities currently not feasible with existing systems. We started the HolyGrail 2.0 with just over 85 companies and now we've grown to a big consortium with over 130 members throughout the value chain,

Looks Like This

Performs Like This

Digital watermark technology developed by US-based Digimarc won support from stakeholders

"We enable all the stakeholders to collaborate, share knowledge and create synergies to deliver the circular economy for labels in Europe by 2025"

all working together for a common goal,' added Vossen.

Digital watermark technology also presents significant potential beyond recycling and can play an essential role throughout the packaging value chain. For example, it can be utilized for a faster check-out process, consumer engagement, and for displaying additional nutritional value on smart devices or instructions of use.

In the first stage, the project has developed a detection unit prototype. This add-on module can be combined with conventional infra-red sorting facilities to improve packaging sorting quality significantly.

'In the second phase, we will program the prototype to make sure it's working according to the specifications of sorting facilities and recyclers. This testing will take place in Copenhagen, Denmark. Finally, in the last phase, we want to put the digital watermarked packaging on the market in Germany and France to proceed with commercial trials at the existing sorting and recycling plants,' concluded Vossen.

Brand intelligence and circular ambitions

The day's host, Noel Mitchell, followed the HolyGrail presentation with a brand owner panel discussion gathering packaging experts including Arno Melchior, global packaging director at Reckitt, Gian de Belder, technical director of packaging sustainability at Procter & Gamble, and Keenan Thompson, global director of innovation at ABInBev. They discussed sustainability and concluded that it is essential to understand the whole supply chain and who holds the key to acceleration to achieve true circularity.

'We have to remember that we are in the hands of consumers. They are making the purchasing decision, and we need to help them make this choice,' commented Thompson. 'We can do that through packaging: the more scientific features that are applied to the packaging, including environmental responsibility, the easier it will be for a consumer to make a fully informed purchasing decision.'

'In my opinion, the acceleration key is with the brand owner. The brand owner decides about the final look of the product and the label,' added Melchior. 'Consumers ask for more sustainable packaging, but often they don't know what sustainable packaging is. So ultimately, the real decision is with brand owners. We decide if the bottle is PET, PP or glass, if we use a self-adhesive label or shrink sleeve. This is our decision.'

'As Finat, we need to educate our members on the optimum design of labeling and labeling systems. On the other hand, we must also educate the recycling community on available technologies. Finally, we must work as an entire supply chain to better understand all the critical points. Over the last couple of years, I've seen a good working relationship, but I think we must do more and find out how to overcome all the critical challenges that we're facing,' concluded Mitchell.

For more information about all Finat's sustainability initiatives, go to www.finat.com/sustainability

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Company culture

The final day of Finat's ELF focused on company culture and the concept of 'new work'. Jordan Hart reports

ay four of Finat's ELF, led by Mikaela Harding, president of Finat's Young Professionals Network (YPN), focused on the future workforce and the concept of 'new work'. The day started with a presentation from Markus Wörner of Einhorn, who discussed what sets apart the company's culture and what elements of that culture could be implemented within other organizations.

To create its unique environment, Einhorn ran a series of experiments for employee behavior. The first was offering staff unlimited vacation. Wörner explained: 'At Einhorn you can take as much vacation as you want - no matter when, no matter how much. As long as you feel comfortable being gone and your tasks are safe and your team is cool with it.' Experiment number two was allowing employees to work whenever and from wherever they want, with no set working hours.

"If you want to build a company on trust instead of command and control, you have to implement those values"

Experiments three and four were to remove hierarchies and fixed job roles; employees can define their own role in the company and change it when they please. Einhorn encourages people to learn something new with every new project. The final experiment was to have a completely transparent salary system, where all employees know what their colleges earn, and allow employees to set their own salary. 'We built a salary system that makes a suggestion of what a salary could look like for you but we give our employees the power to override that system. You can decide your own salary,' said Wörner.

For Einhorn, it all comes down to trust. 'We trust each other so there is no need to control each other,' said Wörner. 'If you treat grown-ups like grown-ups they will act like grown-ups. Trust is really key to having a cool company and having a good working life and having good ways of working together.'

While these cultural elements are quite extreme, Wörner shared three main values from Einhorn that other companies can take away: 'Fug' (fight and hug) - care about feelings and communication; 'Fairstainable' (fair and sustainable) - find your 'why' and question your actions again and again; and 'Unicornique' (everything has to be special in some way) - allow yourself to play like a child, let chaos rule, and have fun within your projects.

Trust

Following his presentation, there was a discussion panel featuring Wörner, Francesc Egea – general manager at IPE Industria Gráfica SLU, Nannette Thomas – CEO at Synthogra, Matthias Vollherbst - managing owner at VollherbstDruck, and Mikaela Harding. Each panelist commented on what they believe is the most implementable part of Wörner's presentation for the label industry, and what areas of concern the industry faces.

Wörner addressed the concern of damaging a well-established company. 'Don't have fear of killing the company. It is not a matter of big company or small company or new company or old company; it is really a matter of what you want your work culture



Markus Wörner of Einhorn



Mikaela Harding, president of Finat's Young Professionals Network

to be. If you want to build a company on trust instead of command and control, you have to implement those values.'

Harding emphasized how important company culture is in the recruitment effort: 'We don't attract people because they want to come and develop ink or learn how to print labels - they just want to come work for the company. They want to be a part of that culture.'

Vollherbst said that while not every company can experiment to the extent that einhorn has, there are measures all companies can try. 'It always sounds like this fancy stuff can only be implemented in start-ups, and obviously I can't give printers the option to take time off whenever they want because we have a production plan. But if we have two shifts, I can let them choose when they want to start work."

After the panel discussion, the day concluded with an interactive webinar about understanding the cornerstones of an inclusive company culture, presented by Mind Gym and led by Hywell Berry. To emphasis the importance of an inclusive environment for recruitment, Harding explained: '83 percent of Gen Z candidates say that a company's commitment to diversity and inclusion is very important when choosing an employer. This is something we all need to be thinking about when it comes to making our industry more attractive.'

Commenting on the day, Mikaela Harding said: 'The day's program really came together as I had hoped and actually exceeded my expectations. The YPN is always looking to bring a fresh perspective to our industry, and we believe we did that with the range of speakers and topics we had during the day."



..... Read more from Jordan Hart on workplace culture at www.labelsandlabeling.com/contributors/jordan-hart

Label Congress 2021 previewed

The first Labelexpo-run live event in more than 18 months takes place in Rosemont, Illinois in September. Luis Rodriguez and Jordan Hart report

line-up of high-profile speakers from across the label and package printing industry are set to take part in the Label Congress 2021 educational program that will run alongside the main exhibition on the first two days of the show.

"We are very much looking forward to bringing the industry back together"

The program includes a two-day conference offering a mix of 10 presentation- and panel-led sessions taking place on 29 and 30 September. A Label Academy technical master class on self-adhesive materials also takes place on the third day of the show.

Day one of the conference focuses on global market trends and key technologies. Among the session highlights is the opening joint presentation providing a global market view, led by TLMI president Linnea Keen and AWA president Corey Reardon. Other day one highlights include Filip Weymans, VP global marketing, Flint Group Digital/Xeikon, and AB Graphic's west coast regional sales manager Jim Kehring, who will present on digital embellishment technology. Other session topics include: a panel discussion examining whether converters should diversify into flexible packaging, with panelists including Matt Bennett, global VP, packaging strategy, Fujifilm; and a further panel looking at the benefits of hybrid printing. Avery Dennison will also present on how to get smarter with the Internet of Things. Participating converters include Mark Wegmann, owner of Wegmann Companies, AWT and Premier Markings.

Day two is themed around futureproofing your business. Highlights include the opening session on data transparency, led by Federico D'Annunzio, founder of transpar3nt.com. Mike Rottenborn, CEO of Global Graphics, Geert Van Damme, managing director at Cerm, and Robert Buongiorno, president of BST North America are among the panelists at a later discussion on Industry 4.0 and automation. Sustainability is the topic of another panel featuring Julian Cass, VP North America NW, Flint Group, Kevin Clunie, VP sales & marketing / CELAB VP, Mactac, and Abby Meyer, research engineer, Belmark. Other topics to be debated include creating a culture of continuous improvement and how to recruit and retain young talent.

Additionally, the master class hosted by the Label Academy on 1 October will cover self-adhesive label materials. Delegates will gain an understanding of the nature and construction of self-adhesive laminates, how they are made, the importance of materials and the need for different adhesives. They will also learn why different laminate constructions are needed, their usage, how to identify them, and different self-adhesive testing procedures. Presenters include Cynthia Frost White, president and CEO, Channeled Resources Group, and Melissa David, product line manager - packaging division, FLEXcon. Avery Dennison will present on paper and synthetic paper face materials, while 3M will guide attendees through some of the adhesive systems and substrates.

All conference sessions will be made available on-demand the day after they take place. Tasha Ventimiglia, Label Congress 2021 event director, said: 'We are very much looking forward to bringing the industry back together at the only event of its kind this year in North America. Industry learning is an ongoing process, so we are delighted to be able to offer an on-site opportunity for attendees to continue this as we move into the post-pandemic recovery phase, with a high caliber of speakers tackling the industry's most pressing topics. What's more, by also making this content available on-demand digitally, we can offer this learning opportunity to a wider global audience that is unable to attend in person.'

AWA's Corey Reardon said: 'I am looking forward to participating in one of the first in-person industry gatherings since the start of the pandemic, and am also looking forward to supporting this event by providing insights, alongside Linnea Keen of TLMI, on the labeling and product decoration market. Together, Linnea and I will set the stage for this premier labeling event, creating an interactive 'offline' exchange of information, thoughts and insights, reflecting the challenges and opportunities in a post Covid-19 label industry.'

Exhibitor focus

Industry suppliers were still signing up to exhibit at Label Congress as this issue of L&L went to press. Here is a round-up of what some exhibitors will be showing.

3M will promote its line of 'press-ready' durable label materials with a new proprietary top coating technology allowing converters to 1) use one material that performs across several print methods, 2) eliminate pre-treatment steps like priming, and 3) consolidate inventory.

Accraply will demonstrate its new machine, the Accraply Revolve Shrink Sleeve Seamer, a configurable system that is said to offer flexibility, customization and scalability for customers.

Channeled Resources Group will feature three product lines including Channeled Choice which offers customers thousands of pressure-sensitive papers and films and features off-cuts and specialty products on 4.5in and wider rolls of 5,000 to 20,000ft. Channeled Value is said to offer the largest selection in the industry of B-grade, reprocessed labelstock. Blank Label Stock gives customers Direct Thermal and Thermal Transfer in 3in and 1in cores, 3in to 16in ODs and fan folded in a variety of sizes, which can allow converters to avoid wasting press time.

Coatings & Adhesives Corporation will show a range of products such as Corban AM Antimicrobial Coatings, Deter BT Bitter-Tasting Coatings and Dual-Cure Energy-Cured Coatings.

Colordyne Technologies will show its 2800 Series AP – Retrofit and its 3800 Series UV – Retrofit print engines.

Durst will promote the Tau RSC Platform, a range of UV inkjet presses. The Tau RSC platform comprises multiple investment levels for a range of speed and width capabilities. All Tau RSC presses deliver 1200 DPI print quality, CMYK plus orange, violet, green and white options.

Fathom Optics will demonstrate its design tools and technology. The company brings printed depth, motion and chromatic effects to a wide range of print applications including prime labels, shrink sleeves and product authentication.

FLEXcon will show a range of products for the packaging and labeling markets. The optiFLEX ecoFOCUS PET & HDPE is designed for sustainable packaging applications like food and beverage and household chemicals, the FLEXcon NEXgen which is a range of durable labeling products including greener vinyl alternatives and FLEXcon PHARMcal, a pharmaceutical pressure-sensitive labeling product.

Flexo Wash will promote its line of cleaning products including its Flexo Wash FW 850 and FW 850-2 laser anilox cleaners, which can clean up to two narrow web rolls in one cleaning cycle.

Flint Group Narrow Web and Flint Group Digital (Xeikon) will exhibit both company's product for label & packaging converters. Demonstrations from Flint Group Narrow Web include the latest announcements on their DualCure inks and demonstrations on sustainable product offerings.

Xeikon will feature its digital presses including the Xeikon Cheetah CX500 digital label and packaging press featuring FDA-certified dry toner; the Xeikon Panther PX3000 UV inkjet press as well as finishing options. Xeikon will feature a digital embellishment area as a complement to its presentation at the Congress conference.

Fujifilm will promote a variety of digital and flexo products for the label and packaging segments including its upcoming J Press FP790, a water-based digital inkjet press for flexible packaging, which is said to achieve more than 90 percent of the Pantone color gamut while also using two white inkjet channels for delivering high white opacity.

The company will also highlight other products including different inks available for a variety of substrates and digital and flexo presses, Flenex flexographic plates and processers, its Illumina UV LED curing system and the company's ColorPath Sync color management software.

Harper Corporation of America will unveil its new, patent pending engraving, the X-CAT. The company also has surprises planned to celebrate its 50 year anniversary.

KOR Engineering will bring its KOR SR4-350 machine. It's intended for small and entry-level applications and requires only one operator and finishes labels in a single pass. It can be customized with performance upgrades including a 100 percent automatic vision system integration and an auto-positioning rotary shear slitter. At the show, the machine will be outfitted with the KOR auto slitter AS2-350.

Label Traxx MIS will showcase several new features included 100 percent automated scheduling through a new integration with batched.io, new online artwork approvals, Siteline web portal for customers, and end to end integration.

MoistTech Corp will debut its new

linear belt driven slide unit, which will allow multiple sensors to be traversed across a production line. MoistTech will also have its moisture measurement technology at the show.

Multifeeder Technology will show its MFT 103hsm+ Labeler, which has three independently powered, synchronized 3-axis servo drive motors for unwind, rewind and drive. Multifeeder will also feature its booklet to web system, which uses MFT's patented lead registration technique. The booklet to web system uses lug belts to square the product on the lead edge for accurate label placement.

Nobelus will display its line of tactile films used in label applications, including Karess and ScuffProof, which is a new antibacterial laminate that uses two technologies to give both anti-scuff as well as germ-inhibiting protection.

Polymount will introduce three new technologies: a new self-adhesive plate sleeves that eliminates the need for sticky back tape, a re-engineered version of its automated plate cleaner with new rotating brushes to double cleaning speed, and the new Polymount film cleaner which allows printers that print on film to remove the ink from start-up rolls so it can be reused.

PPG will show its Teslin label material. This substrate locks in toners and inks, rendering printed information impervious to scrapes, scuffs and other damage for reliable and versatile durability. It is compatible with a wide range of print processes.

Pregis will show its suite of in-house sales services to acquire presses, equipment and plant consultations, and engineering and repair/maintenance.

Quantum Design will promote KTI and CTC product lines with video footage of the latest MTR series turret rewinder. This rewinder has four spindles and is available in web widths up to 22in (558mm), roll diameters up to 16in (406mm), speeds up to 750 ft/min (228 m/min) and can run cores ranging from 0.75in to 3in (19mm to 76mm).

RotoMetrics will feature a new adjustable anvil, new flexible die offerings, narrow web guiding system, and narrow web slitting system among other Maxcess/ RotoMetrics products.

Stouse will feature its label printing capabilities for unique beverage can labels, as well as other prime labels.

Tharstern will showcase its recently launched Tharstern Cloud for Labels and will be demonstrating it for the first time at Label Congress.

printlQ will show its cloud-based management workflow system (MWS) with the new LotTrack module. It will also showcase the new label reordering feature.



Event info

Label Congress 2021 takes place on 29 September to 1 October at the Donald E. Stephens Convention Center, Rosemont, Illinois. For the full program and booking details for the conference or master class, visit: www.labelexpo. com/congress.

An early bird discount rate for the conference is available until September 10. All pricing includes a one-year subscription to L&L's Label Academy online content.



Go to www.labelexpo.com/congress for more information and to register

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Digital transformation

After installing a HanGlobal inkjet press in 2019, Chinese converter Winku Printing talks to Yolanda Wang about its digital transformation

stablished in 2000, Winku Printing, located in Zhongshan City, Guangdong Province, produces electrical labels, fruit labels, special nameplates, variable data labels, color page printing and folding cartons. Among these, label products account for about 30 percent of the company's total business volume.

In 2007, the company moved from the printing hub of Xiaolan Town to the Maohui Industrial Zone in Henglan Town. After business consolidation and optimization, Winku now focuses mainly on labels and carton printing.

'Nowadays, customers require shorter lead times for label orders but with more versions and SKUs. If we still used conventional printing equipment to produce these products, it would not only affect the delivery time but also drive up costs,' says Yuan Zuwang, plant manager. 'The pandemic greatly increased costs of labor, materials and logistics, which has undoubtedly accelerated the digital transformation of the entire industry.'

Winku Printing had begun to pay attention to digital printing technology in the label and packaging industries in 2017, when it invested in its first digital carton printing machine. In August 2019, Winku invested in a HanGlobal Labstar 330 inkjet label press.

Liang Chengqian, GM at Winku Printing, says: 'Before the investment, we spent a long time investigating internationally renowned digital suppliers. For a newcomer to digital transformation, the prices and daily running costs were relatively high. There was pressure for us to invest in digital, but the rate of return on investment did not seem obvious in the short term.'

With the continuous development of China's domestic digital inkjet technology in recent years, printing quality, running speed and stability have significantly improved.

"Digital transformation is not just investment in digital printing equipment"

'During our contact with HanGlobal, we found that although their digital label press is a new product, the wider Hanglory Group's experience in digital inkjet has been accumulated for more than ten years, and it can provide a combined solution from equipment, software, ink and accessories to support and training,' says Liang Chengqian.

'We found that the press perfectly met our expectations in printing quality, efficiency, stability, application range and cost control,' Yuan Zuwang adds. 'The Labstar 330 digital label press can not only shorten the order delivery time but also can quickly handle those orders which require prompt delivery which were being missed before.' So far, the first pass yield (FPY) of products being produced by the digital press and delivered to customers has reached more than 99 percent. And there has been no customer complaint about printing quality.

Digital transformation

'Many conventional label converters misunderstand the process of digital transformation – that it is simply the investment in a new digital press and some post-press finishing equipment. But this is awfully one-sided,' says Yuan Zuwang.

'Digital transformation is not just investment in digital printing equipment. It is a complete transformation all the way from inquiry,



(L-R:) Tony Liang, sales director south China at HanGlobal;Yuan Zuwang, plant manager at Winku; Peng Chongji, press operator at Winku

ordering and pre-press processing, to production scheduling, printing, post-press finishing, warehousing and delivery.'

Winku had already started its preparation and personnel training long before investing in digital equipment. After the installation, it tested printing quality and running speed on different materials such as coated and synthetic paper, film, PVC, PC, PET film, offset paper, white card paper and more, as well as processing time and speed of different types of orders. 'We want to know the maximum speed and the best printing performance in practical applications, so that we can make accurate judgments after understanding our customers' needs,' says press operator Peng Chongji.

Digital is not an alternative to conventional printing but a supplement, says Yuan Zuwang. 'Both digital and conventional have respective advantages. Digital saves on operators but requires higher technician quality. With the experience accumulated in conventional printing over the years, especially pre-press graphic processing and color management, Winku can provide more professional services for customers, which will enable them to unlock the infinite possibilities of digital printing,' explains Yuan Zuwang.

At present, the record production achieved at Winku Printing on the Labstar 330 digital press is 23,000 meters in eight hours. The press is now handling 40 to 50 orders every day.

In Zhongshan City, Guangdong Province, where Winku Printing is located, there are 2,000-3,000 printing enterprises of different sizes, forming one of the main printing industrial clusters in China. 'As peer competition becomes increasingly fierce, the company's profit is being squeezed. We realized that we might be stuck in a dead end if we are still busy with competition based on price,' Yuan Zuwang says. 'Therefore, we developed plans to use the integrated advantages of "digital + conventional" to escape from the price war by differentiating ourselves.'

For each job, Winku Printing evaluates both conventional and digital production routes and makes a choice based on the order quantities, materials, use environment, lead time and other factors.

This has reduced production costs, including costs of materials, labor and time, which significantly raised the company's profitability.

For more from Yolanda Wang on the Chinese market, go to www.labelsandlabeling.com/contributors/yolanda-wang

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Bottleneck buster combo for South African label printer

Meeting increased demand at South African converter ADE Labelling & Barcoding is a savvy combination of an existing Mark Andy P3 press and a newly-installed Rhyguan WON-330 slitter rewinder. Gill Loubser reports

ounded in 1989, primarily to serve the medical industry but over the years diversifying into many other sectors, it was medical sector customers who again beat a path to ADE Labelling & Barcoding's door during the pandemic-induced lockdown

"We're more than ready for whatever 2021 brings"

Managing director Julie Carello comments: 'We benefitted greatly from increased demand for medical products caused by the coronavirus.'

Thus, while many businesses lick the wounds of a painful 2020, and have adopted a cautious view for 2021, ADE has taken an investment plunge, in the form of a brand-new Rhyguan WON-330 automatic slitter rewinder.

Taking over the work of three portable units, it happily co-exists with a perfect partner, a Mark Andy Performance Series P3 press installed at the company's Johannesburg premises in 2016. The P3 is housed in a custom-built, air-conditioned suite named Impulelo, a Xhosa word meaning 'success through working together'.

This latest purchase cements a longstanding relationship

Reverse vending machine – a first in South Africa

Imagined Earth has introduced a reverse vending machine (RVM) to South Africa – paying consumers to recycle.

The world generates at least 3.5 million tons of plastic and other solid waste daily, 10 times more than a century ago. Fortunately, a growing number of people and businesses are moving to a zero-waste program, and this new App from Imagined Earth is helping South Africans to reach this target.

The RVM is an interactive platform that allows both businesses and consumers to contribute actively to solving the problem of environmental

degradation in a convenient and rewarding way.

Using product barcodes, the system processes plastic, glass, steel and aluminum, and rewards users through a mobile e-wallet. Consumers simply scan the barcode with the Imagined Earth App, and it shows whether or not packaging waste is able to be recycled through the RVM.

RVMs are now located at retail outlets and petrol stations in suburbs of Johannesburg and Cape Town. The reverse vending machine rewards



users through a mobile e-wallet



Rhyguan's local distributor, and ADE's MD Julie Carello

between ADE and SArepco, which, as local distributor, was responsible for the sale and installation of both machines.

While the Rhyguan WON-330 may be compact, at 1.8m wide, with a very short web path, it has a host of advanced features that make it ideal for ADE's purposes.

Wim van Eunen, SArepco's sales manager, elaborates on its advantages: 'It's fully servo-driven, featuring shear and razor slitting with turret rewinding for fast cycle times and improved productivity. The change from razor to shear slitting is a quick and simple process. In addition, automatic acceleration and deceleration ensure excellent tension throughout the cycle.'

ADE's WON-330 accommodates finished rolls of up to 700mm in diameter. It also features three different mandrels - 76mm, 40mm and 25mm – and is fitted with a strobe light for early detection of faults to minimize waste and returns.

According to Julie Carello, the machine's three operators are happy with the new purchase, particularly as the training they've received has added another valuable skill to their CVs.

Quality

Carello admits that prior to 2016 and the purchase of the Mark Andy P3, quality and production speeds left much to be desired. 'Now, thanks to the P3 and the WON-330, quality and speed are top notch, and bottlenecks resulting from increased volumes have been eliminated,' she says.

With vaccination now within reach of many of the world's citizens, it's to be hoped that the final hurdle of this pandemic is in sight. The team at ADE expects a continued stream of orders and a return to pre-Covid demand levels.

'We've reinstated our night shift after a short break in the quieter January period, and we're more than ready for whatever 2021 brings,' Carello concludes.

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..... For more from Gill Loubser on the African market, go to www.labelsandlabeling.com/contributors/gill-loubser

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Skanem India set to invest

Skanem India plans to invest both in new technology and acquisitions in the near future. Akanksha Meena reports

n an exchange with Vinod Vazhapulli, managing director of Skanem India, he speaks about the company's contribution to Reckitt's custom label #DettolSalutes campaign in India and lays down the company's plans for the rest of 2021 and the coming years.

The label business provided custom labels for Reckitt's successful #Dettolsalutes campaign in India which saw success on social media. The campaign recognized the efforts of those who contributed during the Covid crisis.

Explaining the motivation behind the brand's campaign, Vazhapulli says that the pandemic is a one-in-a-century phenomenon whose gruesome effects have been felt by people across the world. By telling the stories of those who contributed to India's fight against Covid, Reckitt intended to give consumers a sense of hope and instill faith in humanity.

'Even though it was an act of marketing, it was worth the smiles it brought along.'

Reckitt replaced its popular Dettol green logo on its handwash with the image 'Covid warriors'. This limited edition handwash will be soon available in the market.

'They could have used social media, but a large part of the population resides in rural India and the campaign would not have reached them, rendering it incomplete or rather not fulfilling its entire purpose. They opened the window of marketing through labels.'

Reckitt approached Nalin Gupta, key account manager and head of the north Indian sales team at Skanem in the first week of May 2021. The brand was looking at a campaign of two million labels at first, but then, seeing the resulting success, doubled the order. The launch period was set to be the first week of June 2021. The labels were printed on Skanem India's HP indigo press.

Vazhapulli explains that 95 percent of the time brands come up with designs but do take into consideration the feedback of label providers with regard to technology, special effects that can be recommended (that can be considered as a USP), print easiness and applicability.

'Labels are a window that communicates between brands and customers. Remove the label and the consumers are left wondering what product/brand that is,' says Vazhapulli. 'We make sure to inform brands about anything that augments that window in terms of usage of special colors, special effects, and technology that can uplift the design.'

Skanem delivered the labels in a mere three weeks, which Vazhapulli emphasizes was a challenging task. 'The entire process happened in a record time. We handed over the products before the first week of June so that they could launch the campaign in time.'

Pandemic affects demand

According to Vazhapulli, this was the first time during the pandemic that Skanem India saw a demand for custom printed labels. 'We would love to see digital prints grow, but the digital runs are still low and may remain low for the remaining part of the year. Brands do not want to spend much money on marketing right now. They would probably wait till 2022. Short runs, in general, are used for specialized applications, promotional activities or marketing.'

He adds that during the first pandemic wave, the economy crashed as consumers stopped venturing outside owing to the nationwide lock downs and restrictions of different levels across states for almost six months from the end of March to early



Reckitt's #DettolSalutes campaign has proved a success in India

"They could have used social media, but a large part of the population resides in rural India and the campaign would not have reached them. They opened the window of marketing through labels"

September 2020. This led to diminishing demand with the focus being more on clearing out existing stock. It took some time for brands to liquidate these stocks and, due to the circumstances, their production was down. This, in turn, affected the demand for labels. Despite these challenges, Skanem India did well to end up close to its annual forecast.

Skanem saw a rise in demand for labels in 2021 (up until June 2021). 'We were better prepared for it in comparison to the first wave,' says Vazhapulli. 'We did witness a slight dip in the first quarter and the second quarter until now (June 2021). We are cautiously optimistic that things will pick up from Q3 onwards and we may witness a better second half of the year 2021.'

He warns that if government guidelines are not followed, there is a possibility of a third wave in India which will, again, impact the demand for labels and packaging.

Technology investment

Skanem India is prioritizing technological investments and one of the key areas is digitalization. 'Digitalization for Skanem means the implementation of Industry 4.0, IoT, RPAs, AI, connecting individual presses to the cloud, assessing their performance on a real-time basis and the stakeholders getting "sacrosanct" data without any manual intervention,' says Vazhapulli. 'This will help the company to identify focus areas for improvement and then come up with a clear strategy to overcome them. And there are plans to customize



Vinod Vazhapulli, managing director of Skanem India

"Skanem is now being a bit more aggressive in expansion. We are looking for the right partners. In late 2022 or 2023, the market will hear about the acquisition"

our ERP portals to offer customers an online ordering and approval medium.' He says the company is talking to some leading suppliers.

Vazhapulli believes that India – as a young country – as is open to adopting new technology. But certain technologies that are already prevalent in other sectors are yet to be implemented on a wide scale in the label industry.

'We at Skanem have taken digitalization in product decoration seriously. I want labels to start communication with customers. Imagine a scenario where you can scan a product and it tells you authentic information which is not limited to the knowledge of a salesperson. It would reduce human dependency, running and store costs. Brands can directly connect with customers.'

Skanem is developing interactive labels in collaboration with leading companies in the sector. Plans are being laid out for a trial run of interactive labels after the pandemic subsides.

'It will help brands in three ways – provide brand protection, reduce counterfeiting and create a window of communication with customers. It will help them gather knowledge about customers and design campaigns around this knowledge through direct customer



Skanem India's plant in Mumbai

contact,' he explains.

The company is looking at several leading brands from FMCG, pharma, electronics for the trial run.

Vazhapulli encourages the industry to adopt Industry 4.0 and MIS technologies. 'New technologies can map every data point from your machine which can be stored in a cloud server and can be accessed in real-time. It's an investment but I say it is an investment worth making because you get real-time data to look at pain points and then formulate a strategy to attack them.'

As an example, he mentions that Skanem reduced wastage by 6 percent with data analysis of the last 18 months' production.

The company's digitalization campaign includes launching a new portal where customers can get information on order placement, order details and dispatch.

Another project that Skanem is working on is linerless labels.

'India might soon catch up on ready-to-eat products. The growth of these products is dormant as of now. But in the next two or three years, you will see growth in this category,' says Vazhapulli. 'And they usually come with a linerless label across plastic packaging. Linerless labels provide brands with a 360-degree marketing tool while also being sustainable in terms of waste.'

The company has started propagating it in the European and Thai markets. The rising disposable income of young consumers and their changing lifestyles indicate the growth of ready-to-eat products. A report by Research and Markets indicates that the ready-to-eat market in India is expected to grow at a compound annual growth rate (CAGR) of 16.24 percent during 2019-2024, to generate a revenue of 68.47 billion INR (895.2 million USD) by 2024.

Skanem will start the commercialization of linerless labels in India in the next three years, says Vazhapulli.

Expansion and acquisitions

Vazhapulli stepped into his role at Skanem India in 2019 and has been focusing on expansion in the region. 'Skanem is now being a bit more aggressive in expansion,' he says.

The company is planning to acquire one or more labeling companies in India. 'In 2022, we plan to acquire a reasonably good name in India and expand our foothold in the market. We are one of the leading players and aim to consolidate our position as the market leader.'

Vazhapulli has already submitted his proposal to the board and has received verbal approval. 'We are looking for the right partners. In late 2022 or 2023, the market will hear about the acquisition.'

The company is looking at leading players in the label industry with a turnover of above 500 million INR (6.7 million USD). It is also eyeing neighboring markets including Bangladesh, Sri Lanka and Nepal for expansion. 'We might look at expanding in the Bangladeshi market by setting up a plant there.'

Investment plans also include a new multi-color press with shrink sleeve capability for its Mumbai plant in the first half of 2022. The company intends to expand from pressure-sensitive labels to shrink sleeves.

'I would like to emphasize that brands should look at the technology that goes behind preparing labels, apart from the design,' concludes Vazhapulli. 'We should look at Industry 4.0 and IoT as an investment, provide more value to our customers in terms of giving them a unique opportunity to communicate with their customers directly. If we do that, it will garner respect for the whole industry.'



Akanksha Meena is L&L's new India editor. She is also editor of the Brand Print India newsletter





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Libako invests in new plant

With a new Gallus ECS 340, Libako Packaging plans to expand in premium labels and flexible packaging and supply its products in northeastern and eastern India. Akanksha Meena reports

olkata-based Libako Packaging has installed a Gallus ECS 340 flexo press with UV curing, in-line foiling, lamination and die-cutting. The company has also invested in a 9,000 sq ft (836 sqm) label and flexible packaging plant during the pandemic.

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Established in the 1980s, Libako began as a humble screen printer of footwear and garment labels. As business progressed, Balai Adhikary, director of Libako Packaging, realized the potential of the print industry.

'But it meant investment,' says Ankan Adhikary, son of Balai Adhikary and marketing and sales manager at Libako.'And we couldn't invest in an offset press back then.'

Soon, Balai Adhikary introduced The Ad-O-Graph, a brand communication agency specializing in POP/POSM branding, and diversified into offset commercial printing. With stable growth in the late 1980s and 1990s, the company bought a second-hand 2-color offset press.

'Initially, my father started the business for local industries in Kolkata. Back in the day, there were several big converters and competition was high, yet there was still a scope for start-ups like ours,' Adhikary explains.

In 2011, the company purchased what it believes was the first HUV Komori sheet-fed offset press in eastern India.

Adhikary says that his father never intended to expand into labels and flexible packaging. But that changed when he visited drupa in 2012. 'We were producing labels on offset and comparatively the quality was superior. When he saw the flexo press at drupa, my father felt the need to invest in it. In 2016, he revisited drupa and was impressed by the improvement in flexo print quality and the way the industry was evolving. 'We knew commercial print volumes would drop because of the rise of digital media. A product has no identity without packaging, and we wanted to diversify.'

Libako was initially looking for a CI flexo press for wide web packaging. However, in the middle of the pandemic in 2020, Adhikary came home from Italy where he was pursuing product design and with his father decided to invest in a new flexo press and a dedicated label plant.

'The narrow web flexo industry is not a cluttered market in the east. The packaging industry requires specialization, quality management, accountability, traceability, science and creativity.'

The converter started looking for the right press. 'Being from the offset background, our mindset was that flexo cannot compete with offset prints. But we were mesmerized by the print quality of the Gallus press.'

He says that investing in an offset press with 8-10 color stations, chill drums for flexible packaging and die-cutting stations would have been a big investment along with limitations. However, flexo presses are modular and can be customized.

Local presence

'The most important aspect of the investment was the presence of Gallus in India,' says Adhikary. 'Gallus has a huge stake in India. Their service, print quality, proven technology and brand value are the things that we prioritize.

'The best thing about this press is that it has the shortest web path resulting in minimal wastage producing exceptional print quality. And, this machine has the best stability in the industry. It is mounted on a granite base making it a vibration-free machine offering on-point registration. It comes quite close to the offset



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(L-R) Balai Adhikary, director, with son Ankan Adhikary, marketing manager of Libako Packaging

"Being from the offset background, our mindset was that flexo cannot compete with offset prints. But we were mesmerized by the print quality of the Gallus press"

prints which met our expectations.'

The company intends to add three more flexo presses and post-press machines.

The new factory is located 8 kilometers away from the city in an open and green space called Janpath. The factory was constructed in 2020 during the pandemic. The new site has more than 200 trees around it.

Libako plans to equip the plant with a rainwater harvesting system and solar power unit for at least 40-50 percent of the electricity consumption.

The pandemic posed several challenges for Libako. 'Production volumes dropped due to issues related to drastic increase of raw material prices, supply chain delays and lack of manpower. We started working when the lockdown lifted. My father and I worked alongside our staff on the construction site.' But he is confident that the market situation will improve.

With the investment, Libako intends to supply labels to leading and local brands primarily in northeastern and eastern Indian, as well as other states. 'We want to consistently deliver premium prints at a competitive cost and at better turnaround time. We aim to be one of the top label converters and an environmentally responsible company in India,' he emphasizes.

The new plant and machines are designed with automation in mind. The facility is equipped with slitters running at a speed of 350m/min and an inspection system. Conveyors are used to collect and transfer die-cut labels into cartons.

'Some brands in east India are procuring labels from other states. Our objective is to supply prints and develop an overnight delivery system to these brands.'

For more from Akanksha Meena on the Indian market, go to www.labelsandlabeling.com/contributors/akanksha-meena

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MLJ sets up self-adhesive and silicone coating plant in India

MLJ Industries has set up a new plant in Greater Noida, India, to produce self-adhesive labelstock and silicone liners. It has ambitious plans to ramp up production and investment in the next four years. Akanksha Meena reports

LJ parent company MLM (Mitthan Lal Marketing) is a family-run paper raw material business established by Mitthan Lal Jain in 1933 – before India's independence. In 1948, he registered the company. In 1996, MLM began importing and supplying paper, paperboard, pulp and newsprint in India.

Now in its fourth generation, the family has diversified into labelstock and silicone liners through a new venture, MLJ Industries, to be headed by young entrepreneurs Siddharth and Chirag Jain, the sons of Vinay Jain, managing director of MLM.

'The legacy came from MLM and MLJ is the new brand,' says Vinay Jain.

MLM's main business is in North America, South America and Europe. 'We have very little business in Asia. But in India, we handle close to 150,000 tons of paper a year,' he adds.

Last year, MLJ decided to add self-adhesive and silicone coating lines in its three-acre plant in Greater Noida. The plant was already equipped with poly extrusion lines, one siliconizer, and two combination coating lines for silicone and hot melt adhesive to create pressure-sensitive adhesive labelstock.

The company intends to install seven coating lines in total by the end of 2021. 'Currently, we have combination units for silicone and adhesive. But soon we will have dedicated lines of 63in high-speed silicone coating with multiple coating heads.

'We have an advantage of having poly extrusion in the same premises. Paper absorbs silicone and when you do poly coating on it, the silicone penetration reduces. It saves silicone while retaining the same effect.'

In terms of capacity, MLJ aims to produce five million square meters of self-adhesive hot melt and five million square meters monthly of water-based acrylic adhesive labelstock in the next six months.

The factory is also equipped with an IOT-based data acquisition system to monitor plant activities. A system for in-house composting and disposal of hazardous waste is also being developed.

Chirag Jain adds that the company is investing in automation and making its products traceable back into the supply chain.

In the next four years, the company will expand the plant to 10 acres. The plans were outlined for March 2021 but the second wave of Covid delayed the process.

Scalability

Vinay Jain explains that paper is being replaced by digital media in segments such as commercial print but there is no replacement for labels, which is why MLM decided to diversify into labelstock. It was already providing raw material to the label industry through MLM.

There will be several brands within MLJ for labelstock in different price ranges.

'But it will not affect our core business in any way. We will continue to provide raw materials and at the same time start our production. Our motive is to create different verticals and then scale them,' Vinay Jain explains.

The manufacturer plans to export 60-70 percent of its labelstock to Africa and the Middle East. It will be distributed through a



(L-R) Siddharth Jain, MD of MLJ Industries; Vinay Jain, MD of MLM; and Chirag Jain, director of Supply Chain, MLJ Industries

"We are passionate about it. We understand paper. If you cut my hand, you will see that I bleed paper. And now my sons, as the younger generation, bring new thoughts and energy to the business"

distributor network of its sister company and directly to end users. MLJ has also acquired 10 acres of land in Gandhi Dham in

Gujarat near Mundra port for easier exports and plans to expand it to 25 acres. Mundra Port is India's largest private port, located on the north shores of the Gulf of Kutch near Mundra, Kutch district, Gujarat.

Vinay Jain explains that the family is in this business because of its strong control over raw materials. 'We work directly with mills and have roots in the paper industry. We have a strong network for the procurement of raw materials.

'And scalability is not a problem in the paper industry. But our business through MLM has come to a scale and cannot go further.'

The trading business' profitability has been minimal in the last few years.

'There are four stages of a business – start-up, growth, maturity and decline. Our old business is now declining. The operating cost is increasing but profits are not. We want to enter a vertical where we can grow with investment. Once our product line is set then the volume is not a problem,' he adds.



"It will not affect our core business in any way. We will continue to provide raw materials and at the same time start our production. Our motive is to create different verticals and then scale them"

When it comes to the paper industry in India, Vinay Jain comments that others may be richer but are not as knowledgeable as the Jain family. MLM imports 100 grades of paper.

'We are passionate about it. We understand paper. If you cut my hand, you will see that I bleed paper,' he adds.

'And now my sons, as the younger generation, bring new thoughts and energy to the business. They have studied in the US and are taking a course from Harvard for business development strategies.'

Siddharth and Chirag Jain are getting acquainted with the new products and do not expect too many challenges in terms of marketing and buying.

MLJ had recruited over 100 employees for its operations on a global scale and is planning to hire 150-200 more. 'We are hiring experts in the field from all over the world across production, maintenance, marketing and sales,' highlights Siddharth Jain.

The production will begin in September 2021. The first trial runs of the new products will take place in July and will be launched after they are qualified. The company will then increase production and investment.

MLJ plans to set up subsidiaries for converting and a corporate office in Africa.

Vinay Jain forecasts that in the next three to four years, the company will convert 8,000 tons of paper monthly in different verticals of coating and converting. Approximately 3,000-4,000 tons of the total volumes will be dedicated to self-adhesive and silicone coating. In total, MLJ plans to set up 20-25 coating lines across different verticals including labels. The manufacturer is looking to target Middle East, Africa and South America. 'I have a habit of working 10 years ahead of time. We are targeting these regions because they are growing economies,' Vinay Jain highlights.

Paper industry trends

Highlighting major trends in the paper industry, Vinay Jain says that the e-commerce segment will switch from plastic to paper. National Green Tribunal (NGT) has banned plastic 'which means paper will boom'.

Flipkart, India's homegrown e-commerce marketplace, has eliminated all single-use plastic packaging across its fulfillment centers in India, delivering on its public commitment to move to plastic-free packaging in its own supply chain by 2021.

The e-commerce giant has eliminated single-use plastic packaging by introducing alternatives such as paper shreds, replacing poly pouches with recycled paper bags, replacing bubble wraps with carton waste shredded material and two-ply roll to name a few.

Siddharth Jain adds: 'We also plan to include thermal labelstock for barcoding. Today everything is sold online, and thermal barcode labels are used in every shipment. We are working to supply thermal labelstock to large e-commerce companies.'

He adds that with the issue of counterfeiting rising in India, the demand for tamper-proof and anti-counterfeiting packaging will increase – which means more opportunities for labels.

And the rising concern of sustainability will further propel paper products. 'Everything is going to convert to paper. A leading e-commerce business is shifting from printed plastic tapes to paper tapes and MLM is one of their major suppliers.'

Chirag Jain comments that the self-adhesive label is the future. 'And now there's a talk of biodegradable label materials. We are also working on biodegradable coating lines and linerless labels.'

Vinay Jain concludes by saying that the world is changing rapidly. 'In the early 1990s, there was a revolution of globalization in India. Now, the revolution is AI and digitalization. There will be disruptions and whoever can adjust to it early will survive. Chirag and Siddharth are studying future market circumstances.'

Taking the example of how the pandemic has been tough on 'relatively safe businesses' such as hospitality, education and rental, he says that businessmen need to work keeping in mind the future. 'We work ten years ahead in time.'

MLJ at Gulf Print & Pack

MLJ will participate in the upcoming Gulf Print & Pack 2021 exhibition, which takes place on December 14-16 this year at the World Trade Centre in Dubai. 'We are excited to introduce MLJ to the industry at Gulf Print & Pack,' says Siddharth Jain. Go to www.gulfprintpack.com for more information about the event.



Akanksha Meena is L&L's new India editor. She is also editor of the Brand Print India newsletter





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New UAE label converter Paramount installs Lombardi Flexoline

UAE-based converter Paramount Label Printing Press, recently founded by industry veteran Saqar Ali, has chosen a Lombardi Flexoline 430 to kick-off its operations. Shradha Mishra reports

Paramount Label Printing Press has recently entered the United Arab Emirates' printing market as a roll-fed self-adhesive label converter. The company operates from the new Ajman industrial area in UAE and manufactures multiple types of labels including pharmaceutical, sequential, barcode, weigh scale, industrial and clothing tags.

The company also prints variable images and text to create compelling personalized marketing messages.

Saqar Ali, owner of Paramount Label Printing Press, says that having accumulated 28 years of commercial experience in the label printing industry, the move to set up his own label converting business was inevitable. 'The label industry is growing at a healthy rate, and I believe it is an evergreen field. Hence, venturing into the label printing industry as a label converter was undoubtedly the next stage of my career.' Prior to his own venture Paramount, Ali worked for UAE-based converter Labelco International.

The name Paramount signifies the standards the company seeks to maintain in its manufacturing processes and with its clients. Ali has spent approximately 680k USD (AED 2.5 million) in setting up Paramount's factory.

Quality

The label converter has started its operations with a Lombardi Flexoline 430 installed by printing press manufacturer Vinsak, which distributes Lombardi presses in the region.

Lombardi claims the print quality of this flexographic press is 'almost up to offset printing' with fast changeover of plate cylinders and anilox rollers. The press has the capability for reverse printing, cold foiling and up to 9-color printing.

'After adequate research and analysis, we settled upon this machine due to its high printing speeds, quality and reliability. We have also invested in flatbed die-cutting and slitter rewinder machines,' shares Ali. 'Vigeak has been highly supportive and

'Vinsak has been highly supportive and



Saqar Ali, owner of Paramount Label Printing Press, with the Lombardi Flexoline 430

"The local label market currently revolves around the retail and industrial sectors. Since the retail market is flourishing, we intend to align our services to it"

instrumental in helping us to finalize the Synchroline flexo machine and then install and begin production even during the pandemic,' he continues. 'Their technical expertise and after-sales support are highly regarded in this part of the world.'

Paramount will primarily print pressuresensitive labels, including BOPP, semigloss labels, freezer labels, thermal transfer labels, barcode labels, piggyback labels, booklet labels, and specialty labels that are suitable for both retail and industrial applications.

The company's factory has a surface area of 4,000 sq ft (372sqm). Labelstock is mostly purchased from Stick-on and SMI, based in India, and from Dura Printing Materials Trading locally.

'Most of our clients are from the retail and manufacturing industries. We will also serve the petroleum, pharmaceutical, medical, chemical and logistics industries. The local label market currently revolves around the retail and industrial sectors. Since the retail market is flourishing, we intend to align our services to it,' says Ali.

'We are currently a team of 22 members. While hiring we have looked for specific skill sets like good communication, teamwork, problem-solving attitude, critical analysis and creativity. This not only helps create an efficient environment but also promotes positivity and a sense of continuous growth amongst our employees.'

Ali says the company's next purchase will be an intermittent offset press, given the market trend towards short runs of labels. 'We plan to procure it by the end of the year. As far as package printing is concerned, we aspire to lay a foundation in this sector soon,' shares Ali.



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Hexxa Flexible Packaging prepares for growth

UAE-based Hexxa Flexible Packaging plans to invest in a new facility next year, following an expected 25 percent jump in sales in 2021 thanks to the installation of a new rotogravure press. Shradha Mishra reports

t was in the year 2006 that label and flexible packaging converter Hexxa Flexible Packaging started its operations from a rented warehouse in UAE's Jebel Ali free zone. In 2010 the company invested in a factory of its own in the Emirate of Ras Al Khaimah in UAE.

Raja Kumar Gandhi, managing director at Hexxa Flexible Packaging, says that 2021 marks the fifteenth year of the company's production in rotogravure and narrow web UV flexo printing.

'We've had an excellent journey so far as we have continuously grown over the years after investing in the new factory in 2010. Every year we make a new investment in machinery and technology, except for last year due to Covid.'

Hexxa invested approximately 2 million USD (7.3 million AED) to construct the factory back in 2010.

Gandhi says that the current state of label and flexible packaging market in the Middle East is 'decent and growing'. However, with travel restrictions the consumption of packaged food has reduced from 2019 levels, impacting the packaging sector. But he is optimistic about an increase in business of this segment once tourism in the region reopens.

The company's fastest selling product is traditional laminates, mainly used for food packaging.

'20 OPP and 20 BOPP laminates are used by the snacking industries and PET + PE films are used by the meat industry,' he says. 'Both substrates are fast-selling for the company. A lot of mineral water companies use wraparound and shrink sleeve labels, which again are fast-selling products for us.'

He sees a shift in UAE's label industry: the market is demanding shorter runs as FMCG companies are launching multiple variants in their product segments to attract consumers. 'The number of SKUs is increasing rapidly, and the average run of printing jobs is getting shorter. We are gearing ourselves for that.'

There is an increasing demand for flexible packaging, labels, stand-up pouches, PVC shrink labels, and OPP wraparound labels in the UAE market.

Gandhi encourages the industry to adopt a mix of different technologies to cater for all these business segments. 'At Hexxa, we produce long, medium and short printing runs so we cater to all the segments of the market.'

Hexxa Flexibles has recently installed a 9-color rotogravure printing press from China-based Lida in its factory in UAE.

Pandemic impact

Hexxa Flexibles did not see any significant drop in its sales due to the pandemic last year. However, there was no upswing in sales either.

'We did go through a hit in our profitability levels. Even though sales were consistent, gross profit fell in 2020. This year is comparatively better than last year. The issue that we saw in 2020 was the tumbling down of profitability. We are trying to enhance that and get back to 2019 levels,' says Gandhi. 'We are trying to be more efficient by looking at pre-press and post-press costings and by taking a better grip of our factory production.'



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Hexxa's new 9-color rotogravure press has added significant capacity

"This year we are eyeing a 25 percent jump in sales. Now we have extra capacity with less lead time"



Raja Kumar Gandhi, managing director at Hexxa Flexible Packaging

The hike in raw material prices from March impacted Hexxa Flexibles' gross profit level but the company was able to transfer some of these increased costs to its customers and will bear the other half for the remaining quarters of this year.

Gandhi explains that the marketing of Hexxa's products and services is both through its own sales team and agents. Currently Hexxa Flexibles operates in the ME region with a dedicated sales team that travels to nearby countries like Oman, Saudi Arabia, Kuwait, and many east and west African countries. The converter is also looking at agents in countries like Jordan, Ethiopia, and Nigeria to connect directly with local customers.

'Hexxa Flexibles will target social media platforms to reach out to its potential customers. We believe that through social media we can increase and expand our business.'

The company's website is under development and will be ready soon. 'Once the website is ready, we will spend on SEO and digital marketing. We have hired an expert consultant in this field who

Mahara Printing invests in Konica Minolta equipment

Konica Minolta Business Solutions Middle East and its Saudi Arabian distributor Hoshan Group have installed an MGI JetVarnish 3DS, AccurioLabel 230 and AccurioPress C 6100 at Riyadh-based Mahara Printing. Mahara Printing is based in Al Malaz, Riyadh, Saudi Arabia and is owned by Mohamed Al Shamari.

Nayyar Ansari, marketing manager at Konica Minolta, said: 'The full machine set-up is a combination of production print, label and embellishment. AccurioPress C 6100 is KM's high-end digital production printer for short run commercial applications. Accuriolabel 230 is KM's digital label solution for short run labels. It is a perfect complement to flexo, providing additional opportunity by covering those areas of short-run labels which are not possible to achieve on flexo.'

The MGI JetVarnish 3DS adds digital embossing and other tactile effects as well as holographic effects and in-line digital foiling. These effects are achieved in a single pass. The high build-up to 232 micron can be achieved by multiple passes through the machine.

Edale appoints Middle East agent

Edale has appointed Phoenix Colour Technologies as its exclusive distributor in the UAE, Pakistan, Saudi Arabia and Qatar.

Darren Pickford, sales director of Edale, said: 'We are delighted with the appointment of Phoenix Colour Technologies for the Middle East to ad to our growing and market-leading agent and distributor network.'

Afsal Kottal, CEO of Phoenix Colour Technologies, added: 'Phoenix will bring the concept of standardized and profiled color-managed workflow from pre-press to the flexo printing process and eliminates the trial-anderror method to achieve customer expectations. Our color-managed workflow combined with Edale's state-of-the-art flexo presses will help printers to achieve optimal equipment efficiency by way of minimum wastage of materials, operational time and will provide the highest levels of quality and repeatability to meet the customers' needs.'



The company runs a 10-color MPS narrow web UV flexo press dedicated to label printing

will be helping us with activities on digital platforms.

'This year we are eyeing a 25 percent jump in sales as our 9-color rotogravure machine has started functioning from May. Now we have extra capacity with less lead time which will help us generate the sales. Our focus will be to get business for our recently installed machine.'

Inside the 30,000 sq ft factory Gandhi has installed pouching machines, center seal machines, zipper insertion machines, three side seal machines and PVC shrink sleeve forming machines.

The company also has an MPS 10-color narrow web UV flexo press dedicated to label printing, 8-color rotogravure printing machines from Long New in Taiwan, the new Lida 9-color rotogravure printing from China and a range of converting and finishing equipment. 'We also have two lamination machines from Italy,' shares Gandhi.

Gandhi explains that these presses print on a variety of substrates. 'On our rotogravure machine we print on BOPP films, PET films, LDP films, paper and PVC shrink films. On our narrow web UV flexo we print labelstock, BOPP, polyester films and LDPE.'

The company has plans to establish a new factory in 2022. 'Our factory area is not sufficient for the business growth and expansion plans that we have,' says Gandhi.

He adds that the company will invest in a digital printing press and flat bottom pouching machine for the new factory which will open in 2022. 'We will also be investing in multiple print defect detection systems.'

Other than this, the company is looking at producing breathable films for fresh and organic fruits and vegetables market.

Temporary challenges

Gandhi says that because of the pandemic, banks in UAE are less prepared to lend for investment in new machinery, working capital and construction finance. 'Banks have their own reservations at this point in time, so we are looking to increase our profitability, have a healthy balance sheet where we can sit with our banker for any needs-based finance we require next year.'

"There is growing competition from commercial printers entering the pressure-sensitive label segment"

Other challenges include growing competition from commercial printers entering the pressure-sensitive label segment. 'It is increasing the competition among label converters which puts the pressure on price, and one does stand a chance to lose clients as there are multiple new options to choose from, especially if new entrants provide their service at lower prices.'

Competition has also increased in UAE among established label converters, who are all investing in the latest technology. 'We are on our toes all the time. Investments are happening and we have seen many narrow web and UV flexo presses being installed in UAE in 2020 and 2021. Companies are making investments to stay on top. This influences the business of converters as we all try to stay ahead of our competition, which further influences our purchase decisions as well.'

Because of travel restrictions, converters in UAE are not able to call on machine operators and other workers from India, Pakistan, Nepal and Sri Lanka, which is impacting the team strength at the factories.'We want to hire more people, but we cannot because of the pandemic,' admits Gandhi.

Key strengths

Gandhi believes that Hexxa's strength stands on three pillars, one of which is fifteen years of goodwill created by providing quality service to regional and local brands in the UAE. 'Our investment in the latest technologies is our second pillar of strength. Thirdly, we also have an efficient marketing and production team.'

UAE's premium brands in the food, beverages, cosmetic and toiletries sectors are among Hexxa's key clients – Alacozeti, Lacnor juices, Emirate's water, OSS, Masafi to name a few. A major percentage of Hexxa's sales come from UAE, but other important countries include Oman, Saudi Arabia, Bahrain, Kuwait and Qatar. Gandhi targets a strong grip on those markets too.



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Omet promotes offset

With the appointment of a dedicated development manager for the offset printing process, Omet demonstrates its faith in the future of this niche high value print process. Andy Thomas-Emans reports

he narrow web label printing industry has been dominated since the 1970s first by letterpress (everywhere except the US) and then flexo, with digital mounting a challenge over the last 15 years.

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But throughout this time, offset has remained an important technology in both intermittent and rotary formats. Its niche has been at the high end of the print and decoration market, usually for toiletries and cosmetics and high value wine and spirits.

The key advantages of offset in the narrow web industry are superior print quality, cheaper plates, a ready source of skilled operators and industry-standard color matching.

"There are market niches that still need offset, first of all the wine and spirits industry. They have to print the rough and textured papers that the market requires today. We also see offset playing in the flexible packaging market due to the trend towards shorter runs and multiple SKUs"

In recent years the position of offset at the top of the print quality chain has been increasingly challenged by UV flexo, which with modern plate, anilox and automated press technology is certainly coming close to offset quality – although true fades to zero remain the exclusive domain of offset.

So it was interesting to hear that Omet has appointed a dedicated offset business manager, and this seemed a useful opportunity to discover from one of the leading narrow and mid-web press manufacturers where offset sits in its press hierarchy and how it sees the future development of offset technology.

Offset manager

Omet clearly demonstrated its view that offset needs a dedicated business development manager when it appointed Roberto Speri as key account manager and offset business development manager for the Italian market, with particular reference to the Varyflex V4 and X6 offset machines. He will also work at a global level to support the offset sector with Omet's area sales managers.

The decision to create this role within the company's Label and Packaging division represents 'a response to development strategy in the flexible packaging, wine, spirits, and parallel markets where offset combined technology is required,' said Omet in a statement.

The company is focusing on combining the offset and flexo processes on both the new Varyflex V4 and the XFlex X6. The Varyflex V4 is dedicated not only to flexible packaging, but also in-mold labels, shrink sleeves and folding cartons. The XFlex X6 is targeted at label applications in the wine and spirits market as well as high-quality printing on special substrates such as laid paper and unsupported films. Another targeted application is security printing



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Rotogravure unit in-line with Varyflex V4

with the use of special inks and dedicated machine configurations.

'In recent years Omet has heavily invested in the development of offset technology because we strongly believe in its future,' Speri tells L&L. 'The machines currently in production, the X6 at 430-530mm and Varyflex 670-850mm, both have the potential to serve a wide range of end use sectors.'

Speri confirms that both lines were specifically designed to be modular. In addition to offset printing units, the configuration can include flexo and rotogravure, and a range of finishing units including cold foil, rotary screen and flatbed hot foil.

'In practice these presses are always highly customized depending on the product sector,' says Speri. 'For example for wine and spirits labels we usually have 1-2 flexo units, six offset, one flexo, one flatbed hot foil, one flexo, and one die station combined with at least one and possibly two screen units. For packaging we usually have one flexo or one front and reverse rotogravure, six offset units, one flexo EB plus a flexo or rotogravure coating unit. The last flexo group is usually used for matt or gloss varnish or for opaque white, rarely as a spot varnish.'

Speri concedes that flexo technology has taken great strides forward in terms of print quality, fast job change and cost reduction. 'Even inside Omet, flexo machines are the most requested, but there are some market niches that still need offset machines, first of all the wine and spirits industry. They have to print in a suitable way the rough and textured papers that the market requires today. We also see offset playing in the flexible packaging market where it could become a truly winning weapon due to the trend towards shorter runs and multiple SKUs.'

Talking about the specific advantages of the offset process,

Speri cites 'first the superior print quality – specifically with the Varyflex V2 and V4 we can print wet-on-wet. This way, beyond the superior quality, we drastically reduce paper passes and therefore waste, we reduce other costs thanks to very cheap plates compared to polymers and even more if compared to rotogravure cylinders, and do a faster job change. Now we are talking about less than two minutes per offset unit. Other savings come from modularity, reduced CO2 emissions into the atmosphere thanks to the E-beam drying, and the very wide range of workable materials.'

Speri notes that offset technology has continued to advance. 'In recent years we have seen many improvements on offset machines from both a technical and practical point of view. To list the most important ones: the increased production speed to 400m/min; the increased print stability on different types of materials; the possibility of transforming the offset unit into a flexo one; and the reduction of set-up and job change times. Over the next five years, our R&D will certainly continue to work to define and optimize set-up times, to reduce even more waste and to balance offset print quality from machine start-up, increasing energy savings and sustainability.'

Automation

Speri also notes the extent of automation in today's offset print process. 'Our offset X6 and Varyflex lines have next-gen electronic drives and interlocks. On request, we can also install automatic blanket and plate washing systems, and as a further possibility, the offset unit can be converted into a flexo unit in just a few minutes. Obviously our machines are fitted as standard with all the standard automatic controls, including those for water dampening levels, automatic inking curve, management of the dampening curve, and with CIP3-4 sending PDFs directly from pre-press to the machine, for saving jobs and quality control.'

In terms of possible alternatives to ink/ water systems, such as 'short' inking and waterless, Speri does not see any particular advantages for rotary presses. 'Waterless system could be interesting, but it's limited to the semi-rotary offset machines. Basically, for us the flexibility of machine management – color curve, dampening curve and elimination of ghosting – are key pillars in ensuring overall quality with any image and with any material.'

Turning to flexible packaging, what does Speri see as the advantages of offset compared to central impression flexo, gravure and in-line UV flexo? And what is the preferred web width for offset flexible packaging?



Varyflex V4 offset combination press

"In recent years we have seen many improvements on offset machines from both a technical and practical point of view: the increased production speed to 400m/min; the increased print stability on different types of materials; the possibility of transforming the offset unit into a flexo one; and the reduction of set-up and job change times"

'The advantages of offset technology compared to CI in terms of construction and machine configuration are clear: first of all a more developed and structured ink train, especially on the Omet Varyflex, which allows excellent performance on any type of material at high speeds. Secondly, all printing units are independent and easily reachable by press operators, with extremely simple access to each unit both for format change and for any kind of maintenance. Last but not least, different printing technologies can be inserted along the machine including flexo and/or rotogravure units for a multi-process hybrid platform. The latest generation of offset presses, if correctly configured, are the keystone for the medium-small runs where today the big players face handling huge and expensive plates and cylinders.

As for the 'perfect' mid-web width for flexible packaging, Speri says this depends a lot on the market segment and on the presses already serving the production site of the potential customer. Omet has developed two different widths for its Varyflex V4, 670 mm and 850mm, 'and even if the most popular width for all CI flexo is 1,200-1,600mm, in my opinion the most correct width is the 850mm which contains many of those machine sizes that currently prevail on the market.'

Potential ink migration in food contact

applications is a key issue for flexible packaging converters using UV inks. How does Omet's offset technology respond?

'Firstly, traditional UV inks are used in all those sectors where there is no contact between ink and food – which is the case for PS labels in general. Wherever inks are in contact with food, we have two alternatives: the first is low migration UV inks, now widely used but not always compliant with current regulations; the second is EB inks with an Electron Beam curing system which is totally green and approved for human food contact, as they are totally free of monomers and oligomers.'

Finally, does Omet plan to launch any new offset or combination offset technology at the next Labelexpo Europe?

'We have not decided in detail what we will exhibit at the next Labelexpo yet, but we will certainly have some news,' remarks Speri. 'I can only say that we are concentrating a lot of efforts on the new headquarters in Molteno and on the Innovation Park demo center.'



For an in-depth introduction to offset printing technology in narrow and mid web, sign up to L&L's Label Academy subscription service at www.labelsandlabeling.com/ label-academy



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Automated ink logistics

Maarten Hummelen, marketing director at GSE, explains why managed ink logistics using Lean and Smart principles is crucial to competitiveness

ow to protect margins has long been a concern for label and packaging converters, squeezed by customers' high quality and service demands at one end, and rising raw material prices at the other.

"Lean' is a way of collective thinking to methodically stamp out waste while simultaneously maximizing value creation"

Thriving in a service-oriented environment where the ability to assure repeatable quality is a given requires a culture-change, not a cost-cutting exercise, that comes in two stages. The first is to adopt the 'lean' mindset of waste elimination and continual improvement; the second is to become 'smart' by exploiting software advances and the internet to accelerate processes and make better, faster decisions.

Lean – as neatly defined by business coach Andy Brophy – is a way of collective thinking to methodically stamp out waste while simultaneously maximizing value creation. People are at the heart of this transformation: employees be motivated to performing their work better every day, thinking deeply about it to understand the shortfalls and develop improved methods.

Lean delivers a strong competitive advantage because the changes it brings directly improve the bottom line. According to management consultants McKinsey & Company, EBITDA margins in the packaging sector are about 10 percent. Imagine a year's savings of 100,000 EUR because of a Lean waste reduction program: this is equivalent to improving turnover by more than 1 million USD – and even that assumes the extra revenue is generated 100 percent waste-free.

Overhauling ink-related processes is a good place to start your company's Lean journey. First, ink takes a complex journey through the printing house with costly consequences when mistakes happen. Second, because color accuracy is critical for doing business with brands, there is literally no time or space for mistakes or remakes, especially when delivering short runs 'just in time'.

For all the concern about ink price hikes in the first quarter 2021, brought on by global supply chain difficulties, the price is the tip of a large cost iceberg, with indirect costs of managing, processing, production, shipping and – for some sectors – batch tracing, hidden under the waterline, and only revealed by failures in your system. Examples are scrap resulting from printing an inaccurate color, an idle press waiting for a color shade to arrive, or, at worst, a product recall.

The lean and smart ink logistics program

A tailored Lean ink logistics program starts with understanding what customers value – what they are willing to paying for. They may want labels and packaging but these are a means to an end: increased sales, or compelling, identifiable and consistent point-of-sale branding, for instance.

The trick is to look at the processes and identify which costs provide value, and to reduce as much as possible the costs and tasks that do not end up providing value.

We understand waste to be the use of any excessive time, materials, tools, techniques, people and space in order to offer added value to the customer.

There are eight types of waste – and they relate to ink in label converting as follows:

- Overproduction: producing more ink or labels than the customer will pay for.
- Inventory: stockholding costs rise without effective management – overstuffed stocks, cluttered with returned inks that are out of date; colors running out of stock.
- Waiting: job change-over times

become a greater threat to profitability in an age of shorter production runs. Imagine a high-performance press standing idle because of delays mixing an ink recipe.

- **Transport:** the cost of shipments. It is cheaper to buy base inks in large containers rather than multiple small-volume orders.
- Motion: the cost of internally handling and moving inks within the factory – excessive walking.
- **Over-processing:** administrative costs of purchasing, storing, monitoring, providing or relying on unnecessary services such as ink mixing by the supplier.
- **Rework/rejects:** the cost of not meeting quality expectations in terms of wasted materials, manpower, downtime and production time.
- Human talent: excessive manual intervention – from administration to manually mixing inks – means that employees are less likely to fulfil their productive or creative potential.

Workplace reorganization with the 5S Program

Reorganization of the workplace is necessary, to create the conditions that enable waste to be eliminated or problems to be resolved as soon as they occur. Implementing what is known as the '5S Program' results in pristine premises that a customer would find a pleasure to tour, and is the basis for 'pit-stop' conditions in which makeready is just a matter of minutes.

- The five elements are:
- **Sort:** remove all items in the ink room that are not used in the work area.
- Set in order: arrange all items so they can be found when needed within 30 seconds. Clean buckets for ink, rolls of labelstock, ink stocks should all be in their assigned places for easy, fast retrieval. Items most often used should be the most accessible.
- Shine: clean and inspect tools, equipment and surfaces, to discover problems as soon as they arise.



"The trick is to look at the processes and identify which costs provide value, and to reduce as much as possible the costs and tasks that do not"

Regular cleaning of ink chambers or containers will identify leakage and damage. Clean the equipment at the end of every shift and clean ink room thoroughly each week.

- Standardize: make an organized workplace an expectation. This requires leadership and clear communication with the workforce, to set best practice standards, so that everyone knows their responsibilities and appreciates the importance of meeting them.
- Sustain: once the previous four 'S' procedures have been established, they must become habits. To prevent any 'backsliding' or gradual decline to the old ways, conduct regular audits to ensure continuous improvement, and create a culture of constantly looking for improvements.

The automated ink kitchen

The solution for eliminating ink-related waste and achieving color on demand is a dispensing system, spectrophotometric color measurement and, for flexo process users, tabletop proofing.

Ink dispensing performs the preparation of special color shades, eliminating the need to buy ready-mixed colors from the ink supplier. The dispenser doses the exact ink quality and volume, by calculating and mixing the recipe from barrels of base components. The operator enters the target color and volume requirements into the interface; a computer calculates dosage volumes and activates the process. A batch can be prepared from a number of base colors in just minutes.

Typically, the dispenser comes with software to formulate the recipe, and store it for instant recall, when the job is repeated, and to handle inks returned from the press – booking them methodically into storage and calculating them into new recipes. The recipe software uses digital color data as targets that are typically generated when measuring color by a photospectrometer.

Tailored dispensing systems are available for all label and packaging applications. They are modular in design, so any number of base components can be specified or added later, for example for managing two ink sets. For solvent inks they may be specified with safe grounding devices.

A tabletop wet-proofing system measures a flexo ink's color at the same dot gain as it will experience on the press. This provides precise color predictability, without fingerprinting, and without the need for color adjustments during job changes at the target press. Without spending money on a new press, an ink proofing system normally adds thousands of euros of new press time to an average flexo plant.

Installing these three pieces of equipment, the process of making and measuring color is automated and accelerated, resulting in a number of benefits: standardized processes for color measurement, dispensing and proofing provide assurance of predictable, repeatable quality, with colors prepared faster and accurately; reduced ink usage - dispense exactly what is needed, instead of ordering more expensive ready-mixed ink or excess inks from the supplier 'just in case'; reduced ink waste - press-return inks easily reused in new computer-generated ink recipes for new jobs; organized ink stocks make it easy to locate and retrieve press return-inks for reuse; ordering base inks less frequently and mixing your own inks saves transport, warehousing and administration costs; reduced material waste - especially in the start-up phase; faster color-making process, less prone to delays means potential for increased uptime; processes are faster, the workplace is cleaner - improved use of operator's time.

Given the advantages listed above, a dispenser can result in ink-related cost reductions of up to 30 percent.

Smart ink logistics: integrate software

More recently, software advances and the arrival of the cloud have brought opportunities for speeding up processes





Maarten Hummelen, marketing director at GSE

plus better cost savings, stock control and forecasting.

Indeed, these advances have enabled a new era of 'smart manufacturing' – a term for digital technologies that ensure transparent, integrated and intelligent production processes. Examples of these technologies are 'work-on-screen' applications (replacing paper by digital information), product tracking (digital tracking of products in the workflow), information systems (like enterprise resource planning (ERP), management information systems, press controls) and flexible automation (like robots and automated guiding vehicles).

However, for managing inks, an all-purpose ERP software is insufficient. Existing ERP systems are only good for tracking raw materials that follow a 'linear' route through the workflow without being returned to inventory after production. Ink doesn't always have a linear passage: base inks are mixed into spot colors and the re-use of inks in new jobs is – or should be – a relatively frequent activity, especially for a flexo printer. For label and packaging printers, then, a dedicated software for managing ink in the workflow and feeding back activity-based costing information to ERP is necessary.

A modular software package, GSE Ink manager is a response to that, offering greater connectivity, the capability to store, share and analyze more data, and functionalities that enable greater waste reduction, ingredient traceability, faster decision making and strategic planning.

Users can choose the combination of packages to suit their needs, for functions including: managing 'press return' inks in focused ways, including 'clustering' into one component connected to the dispenser for processing, or reserving for specific jobs; integration with existing ERP software and the cloud; performing color corrections and adjustments; creating new colors on the database, by integrating with color formulation software (this process can be supported with the help of a spectrophotometer); management reporting – providing real-time stock level and consumption information, and per-job ink costs; purchasing – generating purchase advice automatically when base color stocks are low; and ink batch traceability – tracks ingredients through the supply chain by storing ink batch data about every job, including reused return inks.

ROI: quantifying the added value of automated ink logistics

It is possible to calculate the returns delivered by ink dispensing, proofing and software, by subtracting the cost of the investment and its maintenance from the financial gains generated from lower costs (direct and indirect), and uptime increases.

Lower costs of ink, transport, consumption, substrate waste, stocks, and ink containers must be considered. There are also indirect administrative cost reductions.

The ink price rises hitting the industry as this article goes to press in August 2021 leverage the value generated by an ink dispenser that reduces consumption. Consider these examples.

Assume that a label printer, originally using 4,000kg ink a year, reduces consumption by 20 percent, through dispensing exactly what is needed and reusing and recycling returns. Savings: 20 percent of 4,000kg, assuming a price of 17 EUR/kg = 13,600 EUR on a yearly basis.

Before investing in a dispenser, the converter placed purchase orders of ready-mixed colors per print run. A job for eight print positions was 8 x 5kg = 40 kg. By investing in a dispenser, the printer places only one monthly order for all printing requirements (4,000 / 12 = 334 kg), resulting in 12 purchase orders per year instead of 100. Assume that each purchase order will take approximately one hour's work, costing the business 30 EUR. Overall administrative savings to the business are $(100 - 12) \times 30$ EUR = 2,640 EUR per year.

The current economic climate and volatile ink prices mean it is



"A dispenser can result in ink-related cost reductions of up to 30 percent"



Dispensing equipment in a clean, organized ink kitchen at Pharmalabel in the Netherlands

vital for label converters to look for improvements in processes, workplace organization and ink consumption.

Automated ink logistics brings enormous benefits, but simplify your existing processes and eliminating waste first, before adopting the 'smart' software systems. You need the dispensing and proofing equipment for achieving repeatable, accurate quality in place in order for software to provide useful information. The 'smart' element of ink logistics complements the 'lean': accelerating decision-making, facilitating the Quick Response Manufacturing that potentially transforms the converter into a preferred partner.

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Perfect storm drives IML growth

IML is seeing growth rates of up to 8 percent as new molding technologies open up short run possibilities and buyers see sustainability and performance advantages. Andy Thomas-Emans reports

he in-mold label (IML) sector represents around 2-3 percent of total global label production and is growing at a healthy rate as end users recognize the technology's functional and sustainability benefits.

.....

In-mold labels can be applied to injection molded, blow molded or thermoformed plastic containers. The IML process involves placing a pre-printed paper, synthetic paper or filmic label inside a container mold before the plastic is blown, injected or thermoformed to produce a plastic bottle or tub. The label becomes an integral part of the container without any label edge visible and there is no subsequent requirement for a secondary label application process.

Most IML applications, around 40-45 percent, are in the food and beverage market, particularly injection-molded cheese, yogurt, ice cream and yellow fats containers. Other important end use sectors are industrial (paint, detergent, powders), household (storage containers, lunch boxes), cosmetics (creams, lotions), gardening (flower seeds, fertilizer), pet food, confectionary and toys.

Growth profile

In-mold decoration (IMD) grew globally at a healthy average of 4.5 percent in 2020, with the market worth around 3.23bn USD. Europe accounts for more than 60 percent of the total IMD market, a long way ahead of North America at 22 percent and Asia-Pacific at 11 percent).

Different continents have focused on different IMD technologies. In Europe, some 80 percent of IML is for injection molded or thermoformed tubs, while in the US, IM labeling of blow-molded containers dominates.

But there is a growing demand in the US for injection IML, and this is driving overall market growth to upwards of 8 percent compared with 4-6 percent in Europe. This growth has attracted converters skilled in injection IM to enter the US market.

One interesting example is Verstraete IML, one of Europe's leading injection molding IML specialists. The company was sold by Constantia to Multi-Color Company in 2017 and a year later opened a US production plant in Batavia, Ohio. In Spring last year, Verstraete IML was fully integrated into the MCC operation with a new name, MCC Verstraete.

Injection IML growth also featured in the



.....

IML Performance Package for the Heidelberg Speedmaster XL 106

"In Europe, some 80 percent of IML is for injection molded or thermoformed tubs, while in the US, IM labeling of blow-molded containers dominates. But there is growing demand in the US for injection IML, and this is driving overall IM market growth to upwards of 8 percent compared with 4-6 percent in Europe"

decision of one of the US' leading sheet-fed label converters, Inland Packaging, to open a new manufacturing facility in La Crosse, Wisconsin, this year. The plant is focused on producing for both blow mold and injection mold processes for the major CPG customers Inland serves. The investment includes another offset press.

Brand impact

IM labels provide excellent branding opportunities for end users. The labels follow the contours of the molded part and can extend over all sides of the container, opening up 360 degree decoration possibilities otherwise only possible with shrink sleeve labels. Depending on the material structure, these large-area labels can also act as a barrier layer that increases durability of the package contents.

An interesting development is double-side printed IM labels, allowing promotional campaigns or consumer protection information to be displayed on the reverse side of clear walled containers. Depending upon the injection machine, '3D' print tactile effects can also be added to the label. A wide range of specialty materials can be used to increase shelf impact such as lenticular and metalized films.

On curved or non-parallel surface plastic containers such as yellow fats tubs, IM labeling delivers higher quality decoration than direct decoration methods such as tampo/pad printing, which are limited to flat surfaces.

The sustainability benefits of IM labels are increasingly appreciated by end users faced with reuse and recyclability mandates. Where a polypropylene IM label is used on a PP container, the whole package can be recycled in a single process without having to remove the label. And, of course, compared to PS labels no release liner waste is generated and no adhesives are required.

IML has also taken some market share from shrink sleeve labels on sustainability grounds, for example shrink wrapped thermoformed containers replaced by thermoform IM containers specifically to increase recyclability and decrease costs.

In markets like India, IM labels have the proved effective as part of a brand

protection strategy, since the label along with any anti-counterfeit elements cannot be removed from the pack.

IML can outperform PS labels where there is regular exposure to liquids such as chemicals and detergents. Shampoo bottles were one of the first packages to use (blow mold) IML because of the requirement for a high quality image, resistance to moisture and squeezability.

IML is also ideal for FDA-approved direct food contact applications including decorated plates and cups.

Ink and coating specification

Turning to the technology aspects of IMD, the first thing to note is that multiple elements through the supply chain need to be perfectly aligned to guarantee a successful outcome at the molding machine.

One element is the ink selection. Injection, blow mold and thermoform IM each require ink with specific characteristics, including zero shrinkage and resistance to temperature, cracking, washout, discoloration and delamination during molding. The labels might also need to need to be stored in deep freeze environments.

Low migration UV inks need to be specified for tubs which will contain foodstuffs, while many converters have invested in Electron Beam curing technology where there are no photoinitiators to migrate, less odor and better curing consistency than standard UV curing. It should be noted that IM labels have the same requirements for indirect food contact testing and approval as any other label technology.

Correctly specified coatings are critical to the correct performance of the IM label throughout its lifecycle. A recent technical seminar from Actega Coatings, one of the leaders in the field, saw Andre Soterio, head of sales, Labels EMEA, and Frank Kamphuis,

"Narrow/mid web label converters can also play in the IML market"

head of R&D, Water-based coatings & adhesives permeable substrates, discuss the technical features of IM label coatings in depth.

Coatings can be either water- or UV-based. When using water-based coating with the press infra-red dryer, airflow becomes an important factor as excessive heat can damage the IML substrate. After printing and coating, labels must rest for at least 24 hours or longer – depending on the type of inks used – before the printed sheets or rolls can be converted to final labels.

Similarly with UV coatings, converters are advised to wait at least 12 hours between printing and die-cutting, as humidity, shrinkage of the film and other factors can influence the flatness of the final IM labels.

Coatings also play a key role during die-cutting, not only protecting the ink, but reducing the static charge for a faster die-cutting process. If the labels are punched, the coating will prevent the labels from blocking.

At the injection molder, the coatings have several functions. First, the labels must lie flat. This is achieved through the coating in combination with the substrate and the correct storage and acclimatization of the labels. Second, the labels should not generate any static during picking at the magazine, but at the same time, they must charge with electrostatic when placed inside the mold.

During injection, the mold will be filled with hot plastic at more than 400 deg F (204 deg C) and a heat-resistant coating is needed. At the same time, there might be condensation inside the mold and the coating must be water-resistant as well. After injection, the containers will be stacked and transported to the filling line. Again, coatings should resist abrasion. And as most IML applications are for food products, the IML coatings must not migrate or transfer into foodstuffs.

For this reason IML coatings are extensively tested for migration, transfer and extraction into different types of foods.

At the filling line and packaging line, the coatings must again resist scratches during transport on the conveyor belts. Sometimes the packages are submitted to a pasteurization process or a hot water bath before filling – another resistance issue for the IML coatings. Some products are hot-filled. After the filling some products are stored in freezing temperatures, and some products are quite aggressive (for example detergents or cleaning products). The coatings should be resistant to all these substances.

Print processes

In-mold labels are mainly printed by sheet-fed offset or gravure, although there is a growing niche for narrow/mid-web roll-to-roll presses both conventional and digital.

Sheet-fed IM labels have been gaining ground at the expense of gravure as advances in

molding technology allow the label to be changed more quickly during production, creating a demand for shorter print runs.

Frank Steigleder, senior global account manager for labels in Heidelberg's sheet-fed business unit, says: 'With the increasing demand for shorter runs, we are seeing a strong movement from gravure to offset due to the far lower cost of offset plates compared to gravure cylinders. Offset can more than match gravure quality and is more productive on short runs, particularly when used with rotary die-cutting.'

Sheet-fed presses require key modifications to reliably process thin

Case study: Ice cream rebrand shows off metallic IML

Luxury ice cream manufacturer English Lakes, based in north-west England, recently updated its product packaging, shifting from PS labels to a metallic in-mold label. James Stephens, managing director at English Lakes, worked with Parkers Packaging and Verstraete IML on the new style for the company's classic ice creams.

'This allowed all sides of the tub to be printed, not just the lid. Consequently, you can fit in more information without crowding the label. IML also offers a greater depth of color that really makes products pop,' says Stephens. 'Under supermarket lights, the gold foil really sparkles, even from a fair distance away. That shiny sparkle really makes a difference. With the new packaging, our ice cream stands out, even on shelves that are filled with competing products.'



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Technology has brought more control, automation and sophistication to every stage of the label and package printing process – from a customer placing an order to receiving it. This is creating vast opportunities for converters, as well as adding complexity to project management.

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Promotional packaging from Superfos, part of the Berry Global Group, decorated with labels by Verstraete IML for a Valentine's Day special edition for dessert specialist Michel et Augustin

"In-mold labels are mainly printed by sheet-fed offset or gravure, although there is a growing niche for narrow/mid web roll-to-roll presses both conventional and digital"

films at high speeds. In 2020 Heidelberg, for example, developed a specific IML Performance Package for its Speedmaster XL-106 press, which includes modifications to the feeder and delivery, modified sheet transfer, and anti-static devices. An integrated corona unit improves the wettability of plastic materials for enhanced ink adherence.

The press can then reliably process 50 micron films at speeds of up to 14,000 sheets per hour (though 11,000sph is a more realistic speed for IML sheets).

Heidelberg's DryStar UV LED curing system along with new low migration LED-curable inks brings additional benefits to IM label printing by taking away heat from the press.

Another part of the IML Performance Package is the XL 106-D rotary die-cutter, designed for die-cutting large and nested label shapes. Pressure can be adjusted in 1 micron increments with corrections both parallel and diagonal to the cylinder axis, allowing the rotary die-cutter to accurately cut these thin unsupported IM labels.

Roll-to-roll production

Narrow and mid web label converters can also play in the cut and stack magazine-fed IML sector using specialist off-line rotary die-cutting machines. This technique is optimal for smaller footprint labels, while the offset sheet printing process is advantageous for larger high grammage IM labels.

An example of these high spec converting lines is the Schober RSM-IML reel-fed cutting system, available in a range of configurations up to fully robotic stacking delivery with a bespoke antistatic device.

In the roll IM label process, the material is printed and wound up, and after the recommended rest period the printed roll is fed into the roll cutting machine and cut to shape. The cut labels are separated directly after cutting and the waste matrix removed. The cut labels are stacked and counted as part of the same converting process.

Previously, nested impositions could only be printed on rotogravure presses, but the development of seamless printing plates for web offset and roll flexographic printing, allows a continuous printed motif on a web.

Rotary die-cutting onto these thin unsupported materials must

be precise. An irregular cutting clearance can lead to products getting stuck in the waste matrix or to blunt cutting tools, which subsequently leads to dust formation.

Cut-in-place

Narrow/mid web label converters can also operate in the IML market by sending printed rolls directly to molders equipped with their own rotary or guillotine cutting systems. Cut-in-place equipment at the molding machine reduces costs by allowing use of very thin films with little or no requirement for anti-static additives.

In the Cut-in-Place workflow, labels are pre-cut to shape at the converter, but a small tab is left which retains the label on the roll. The roll is then rewound and sent to the molder, where a robotic tool separates the labels on a vacuum table and places them directly into the mold.

This ability of molding machines to change label designs more quickly during production is also driving the adoption of more digital printing in the IM label sector.

This potentially allows IM labeled containers to be serialized, with individual barcode ID or individual security features in the graphics, or embedded digital watermarks which can act as web triggers. Track and trace functionality combined with IML permanence is effectively addressing the growing need for product safety.

IM label substrates

Initially, the blow mold IML process involved placing paper labels coated with a heat-seal back layer into the mold before blowing. This layer must fuse to the bottle during the blow molding process. More recently, for recycling and performance purposes, synthetic paper materials have become more common. Synthetic paper shrinkages nearly match those of the container, which assists in eliminating defects. Furthermore, synthetics exhibit identical chemical characteristics as the polypropylene (PP) and high-density polyethylene (HDPE) packages and can be processed as one.

Moving to filmics, common choices for blow molding are HDPE, cast PP, or other co-polymers, which all are very heat sensitive. For injection molding, the preference is oriented polypropylene (OPP), which has better heat resistance features. OPP of course is an excellent medium for high resolution, photo-realistic image reproduction, and a wide range of options are available including matt or high-gloss, partially-transparent, smooth or textured surfaces. PP now accounts for just under half of IM label volume, with a growth rate of 5.7 percent

We have seen a trend towards downgauging of IML substrates. A typical PP IM label today will be 50 micron thick, while the Coveris group recently claimed to be the first company to offer a 40 micron IML. This kind of downgauging has helped the development of lighter containers and reduced both transport costs and injection molding load times. Note that labels for blow molds will generally be slightly thicker.

Applications for IM labels with light, moisture and/or oxygen barriers continue to grow in food markets, particularly as consumers shift to internet purchasing. E-commerce-sourced products typically spend more time on the shelf in distribution centers before reaching the consumer.

So the future for in-mold technology looks bright. It seems well positioned to take advantage of trends towards sustainability, both in terms of ease of recycling and reusability, while developments in molding technology have opened the door to shorter runs and the use of digital print and embellishment techniques.



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Label trends

While some areas of the printing industry suffered during the Covid-19 pandemic, Smithers' latest report shows that the label segment remained strong



By 2030 online ordering will be the norm for print and printed packaging jobs

Increased demand for shorter turnaround times will push workflow efficiency and automation

Shorter turnaround times will encourage shift from analog to digital printing

Diversification

Printers who suffered during the pandemic may diversify into other print segments

Some will expand product ranges while staying in current segment

Customized print of direct-to-consumer products will be growing revenue stream for PSPs that can diversify offerings into this area

Sources: WhatTheyThink: How will the print industry change in 2021 - and beyond?; Smithers: Global printing market to top \$821 billion by 2022



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